FINAL

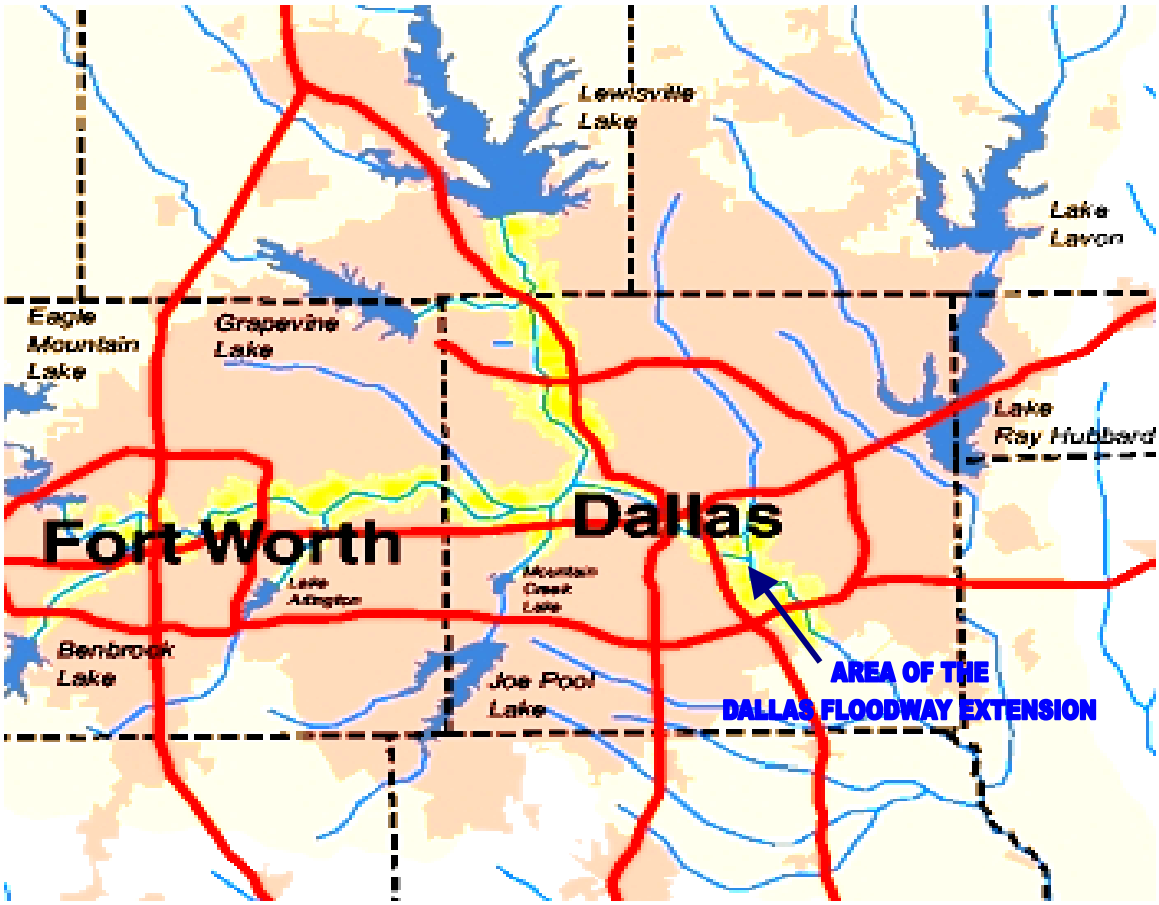
Supplement No. 1

to the

Environmental Impact Statement

for the

Dallas Floodway Extension
Trinity River, Texas



US Army Corps
of Engineers
Fort Worth District

April 2003

FINAL
SUPPLEMENT I to the ENVIRONMENTAL IMPACT STATEMENT
DALLAS FLOODWAY EXTENSION,
TRINITY RIVER BASIN, TEXAS

COVER SHEET

Lead Agency:	U.S. Army Corps of Engineers, Fort Worth District
Cooperating Agencies:	N/A
Title of Proposed Action:	Supplement 1 to the Environmental Impact Statement
Affected Jurisdiction:	Upper Trinity River Basin, Trinity River, Texas

ABSTRACT: This document supplements the information presented in the General Reevaluation Report and Integrated Environmental Impact Statement (GRR/EIS) for the Dallas Floodway Extension (DFE) dated February 1999. The Deputy Commander for Civil Works signed the Record of Decision for that document on 1 December 1999. In May 2000, various groups opposed to the DFE project filed a motion to prevent construction. On April 10, 2002, the U.S. District Court for the Northern District of Texas ruled in favor of the Corps of Engineers on three of four counts in the lawsuit. On one count the Court ruled in favor of the plaintiffs and remanded the matter to the Corps of Engineers "for further consideration of the cumulative impacts of other similar, reasonably foreseeable future projects in the same geographical area as the DFE project." The purpose of this Supplement to the EIS is to provide more detailed information on cumulative impacts of alternatives considered in the GRR/EIS relative to similar reasonably foreseeable actions within the geographic area, which may occur and may have a bearing on selection of a plan for the DFE. The authorized DFE project is located along the Trinity River in the Southeast quadrant of Dallas, Texas, and consists of an off-channel flood damage reduction feature incorporating environmental restoration in the form of a chain of wetlands, levees on both sides of the river, recreation facilities, and acquisition and management of open space lands in the floodplain for mitigation of habitat losses. A Scoping Meeting for this Supplement was held on July 16, 2002 and letters were sent to all known agencies and organizations that might be involved in related activities, including various cities, Dallas County, State and Federal Highway departments, airports, resource agencies, and others. Potential activities of other entities are grouped into the categories of Transportation, Flood Damage Reduction, Recreation, Ecosystem Restoration and Preservation, and a broad category of Fills, Permits, Utilities, and Other Activities. Many of these reasonably foreseeable activities were previously addressed in the Programmatic Environmental Impact Statement for the Upper Trinity River Basin dated June 2000, but additional potential activities were identified as well. The Notice of Availability of the Draft Supplement to the EIS for the DFE appeared in the Federal Register on December 6, 2002. A Public Meeting on the draft Supplement was held on January 8, 2003, and written comments were accepted through February 4, 2003. This Supplement to the EIS for the DFE incorporates both the GRR/EIS and 2000 Programmatic EIS (PEIS) largely by reference but some specific information from those documents has been brought forward into the Final SEIS. The cumulative effects assessment in this Supplement does not indicate significant adverse cumulative effects to any of resources and nothing in the analysis indicates the Recommended Plan for the DFE should be changed.

The review period extends for 30 days after publication of the Notice of Availability in the Federal Register. If you would like further information about this document, please contact:

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FINAL
SUPPLEMENT I to the ENVIRONMENTAL IMPACT STATEMENT

DALLAS FLOODWAY EXTENSION
TRINITY RIVER BASIN, TEXAS

SUMMARY

( ) Draft (X) Final

U.S. Army Corps of Engineers
Fort Worth District
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Type of Action: (X) Administrative
( ) Legislative

Project Description: A detailed description of the Dallas Floodway Extension (DFE) project is contained in the General Reevaluation Report and Integrated Environmental Impact Statement (GRR/EIS) dated February1999. That document may be referenced for additional information not presented herein. In summary, the DFE project is located within the Standard Project Flood (SPF) floodplain of the Trinity River in Southeast Dallas and consists of five pertinent project features depicted on Figure S-1. Those project features are a “Chain of Wetlands” for flood damage reduction and ecosystem restoration, levees along Lamar Street and in the Cadillac Heights neighborhood for flood damage reduction, acquisition and management of lands in the “Great Trinity Forest” for mitigation of habitat losses, recreational (trail) facilities, and realignment at Interstate Highway 45 (IH 45) to prevent damage to the overpass. Features of the Recommended and Authorized DFE project are summarized as follows:

The chain of wetlands feature of the DFE project consists of an upper wetland chain, with four separate wetland cells, and a lower wetland chain, with three separate cells, each of various lengths and shapes. During flooding, the upper and lower chains would act as flood conveyance to outfalls. The total length of the wetland cells would be about 3.8 miles with average width of about 500 feet, average depth of about 1.5 feet, and maximum depth of 7 feet. The chain of wetlands will be located in the floodplain as far west of the river as practical to avoid the most pristine bottomland hardwood areas closer to the river and includes 123 acres of emergent wetland vegetative plantings as environmental restoration. The Dallas City Council formally adopted the Chain of Wetlands on August 28, 1996, with the caveat that the addition of levees to the plan would be further investigated.

Two earthen levees are to be constructed as part of the Recommended DFE project. The Lamar Levee would have total length of 16,419 feet. The average height of the levee would be 17.6 feet, with a maximum height of 31.0 feet and a 20-foot crown width. The Cadillac Heights Levee would have a total length of 11,891 feet, with an average height of 14.9 feet, a maximum height of 25.75 feet, and crown width of 20 feet. Both levees are designed to provide SPF level of protection (estimated at about 800-year frequency of occurrence) to the adjacent neighborhoods. The existing Dallas Floodway upstream of the DFE currently provides an estimated 300-year frequency level of protection to the Central Business District. Implementation of the Recommended DFE would restore SPF level of protection to the Central Business District. The Dallas City Council formally supported the Chain of Wetlands plus the SPF levees on March 26, 1997.

In order to protect the integrity of the IH-45 overpass, the channel alignment of the Trinity River will be realigned to be centered between the nearest 320-foot span of the IH-45 bridge, resulting in the channel being moved laterally a distance of about 350 feet. The existing channel would be filled to

prevent further collection of debris. A portion of the old channel downstream of the IH-45 bridge would remain unfilled to provide a slack water area for use as a possible river access point, and to provide some habitat diversity near the river.

An environmental mitigation plan for the approved DFE project provides for acquisition of 1,179 acres in additional project lands within what is referred to as the "Great Trinity Forest". The mitigation plan includes acquisition, improvement and management of 926 acres of bottomland hardwood, and acquisition of 253 acres of mixed grassland/forbland, of which 223 acres would be converted (planted and managed) to bottomland hardwood forest. The remaining 30 acres would be managed as grassland. The mitigation plan also provides for compatible low-density recreation.

The recreation plan for the DFE would create linkages between existing recreational areas and public open space areas and would include 18 miles of 10-foot wide concrete trail, 8.5 miles of natural surface equestrian trails, and 5 miles of natural surface nature trails. A total of seven access areas are planned.

Summary of Major Environmental Effects: This Supplement to the EIS for the DFE project focuses on the cumulative impacts of reasonably foreseeable similar proposed actions in the same geographical area as the DFE project in response to the April 10, 2002, order of the U.S. District Court for Northern District of Texas in Fort Worth. An analysis of cumulative impacts of various past, present, and reasonably foreseeable future Corps of Engineers projects and projects of other entities was conducted in combination with the plan for the DFE project as recommended and approved in the GRR/EIS, along with the final array of alternatives in that document.

There are two studies of potential future Corps of Engineers projects in the Dallas study area that are currently being conducted under specific Congressional authorization as part of the Upper Trinity Basin Feasibility Study. They are the Stemmons North Industrial District along the Elm Fork of the Trinity River in northwest Dallas and the existing Dallas Floodway. Both areas are being investigated for flood damage reduction, ecosystem restoration, and recreation needs and opportunities. Based on studies of Stemmons North Industrial District to date, it does not appear that there is a Federal interest in Corps of Engineers involvement in a project in that area. There are no projects formally approved by the City Council or proposed by the City of Dallas for the Elm Fork that can be considered as reasonable foreseeable, and no related activities have been identified that would have significant cumulative effect on study area resources.

Alternatives being considered by the Corps of Engineers and the City of Dallas in the area of the existing Dallas Floodway include a plan that would optimize flood damage reduction and protection to the Central Business District and West Dallas, and an Environmental Quality or "EQ" plan. The "EQ" plan would have beneficial cumulative impact, along with the DFE project, in terms of forested resources, floodplain recreation, natural floodplain values, and aesthetic outputs, but without appropriate hydraulic mitigation would have the effect of increasing the flood risk for upstream floodplain areas not protected by the Dallas Floodway levees. The plan that would seek to optimize flood damage reduction would be essentially neutral in terms of impacts on other resources, unless significant ecosystem restoration and recreation features were to be included. At the current time, investigations under the Interim Feasibility Study of the Dallas Floodway being held in abeyance awaiting selection of a preferred alignment for the Trinity Parkway by the Federal Highway Administration, North Texas Tollway Authority, and the City of Dallas. Depending on the parkway or tollway alignment ultimately selected, it is very possible that a multi-objective plan could be formulated for the existing Dallas Floodway which would include flood damage reduction, ecosystem restoration, and recreation measures which would have a net positive contribution to cumulative effects with the DFE on forested resources and recreation with essentially neutral effects on hydraulics and water quality.

In addition to the above activities, the Corps of Engineers, along with the City of Dallas and Dallas County, are currently conducting two small ecosystem restoration studies under the Corps of Engineers Continuing Authority Program.

FIGURE S–1 Recommended Plan for the Dallas Floodway Extension

DALLAS FLOODWAY EXTENSION

RECOMMENDED PLAN

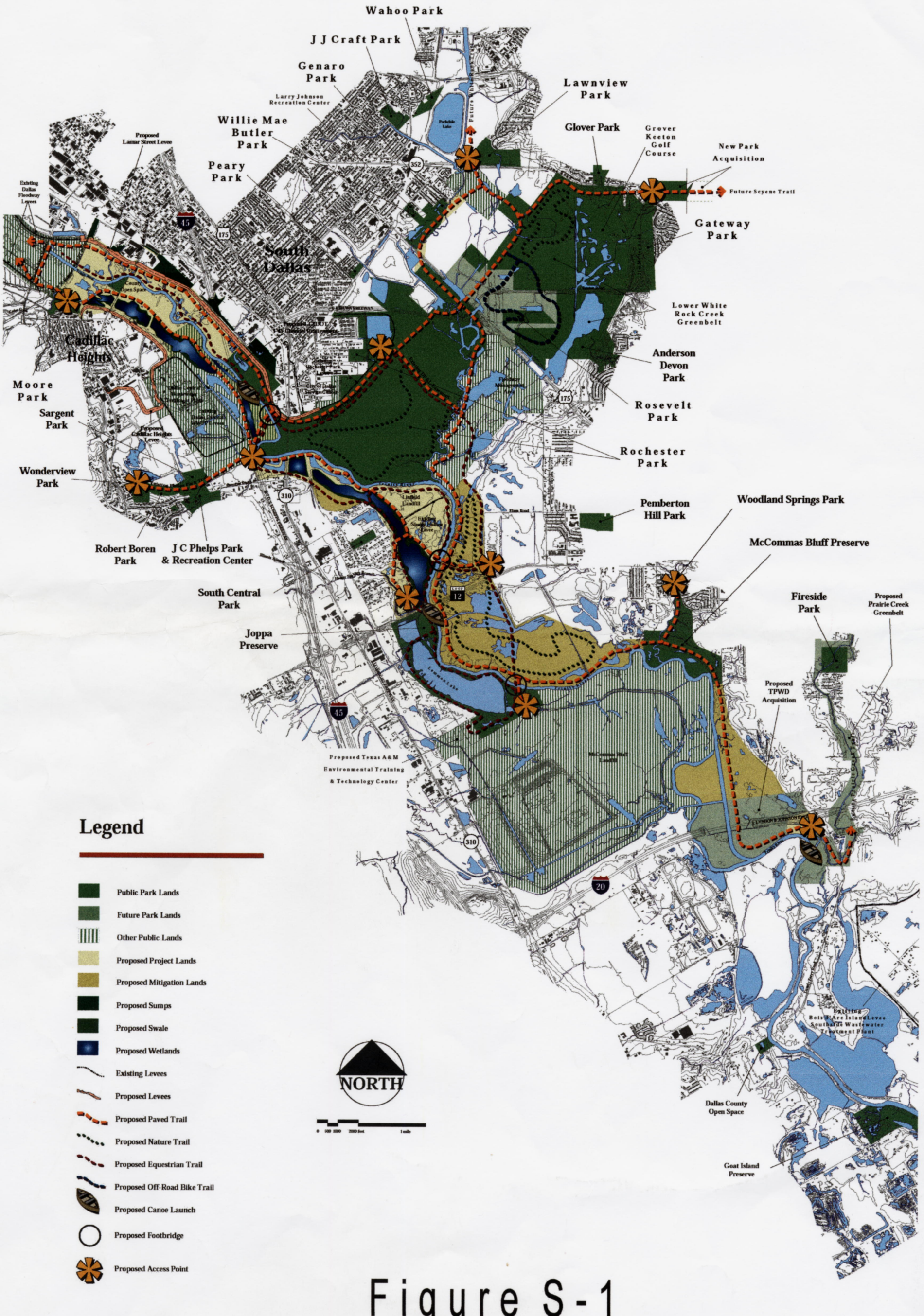

Figure S-1

Those projects are the Old Trinity River project adjacent to the existing West Levee of the Dallas Floodway and the Joppa Preserve adjacent to Lemmon Lake, downstream of the DFE project. It is anticipated that both will proceed to implementation within the reasonably foreseeable future. If implemented, these projects will contribute positively to cumulative effects on bottomland hardwoods, wetlands, water quality, aesthetics, and recreation within the immediate study area for the DFE.

Reasonably foreseeable projects proposed by other entities have been included in these analyses. The major potential action potentially effecting the study area environment would be the proposed Trinity Parkway, which could impact resources within the area of the existing Dallas Floodway. The Federal Highway Administration with support of the North Texas Tollway Authority, and the City of Dallas issued a Notice of Intent to prepare an Environmental Impact Statement on the Trinity Parkway on June 17, 1999. The EIS is to address five alternative alignments for the Trinity Parkway which include: 1) combined parkway constructed on the East levee of the Dallas Floodway, 2) split parkway constructed on the riverside slopes of the Dallas Floodway East and West Levees, 3) split parkway constructed on the landside slopes of the Dallas Floodway East and West Levees, 4) modifying or reconstructing the existing Industrial Boulevard at grade, or 5) above grade to accommodate increased traffic load. The EIS for the Trinity Parkway is currently in working draft with public release of the Draft EIS scheduled later in 2003 and a Final EIS to follow in 2004. It is anticipated that all of the Trinity Parkway alternatives would have varying degrees of cumulative impact associated with the DFE project, depending on the resource considered. Alternative alignments outside the existing Dallas Floodway levee system would have minimal cumulative impact on hydraulics and biotic resources. All of the Parkway alternatives would have slightly negative to no effect (with substantial plantings) on forested resources, slightly negative effects on environmental justice issues and community structure, with an essentially neutral effect on hydraulics. Alignments inside the existing Dallas Floodway levees would require special consideration to assure minimal negative impact to hydraulics, water quality, recreation, noise, and aesthetics. Any alternative associated with the existing levees would require the “borrow” or excavation of material from between the levees to raise the Parkway to an elevation at least above the 100-year flood elevation. That excavated area between the levees would create an opportunity for a lake or lakes, consistent with the City of Dallas’ Trinity River Corridor Master Implementation Plan.

The City of Dallas’ Trinity River Corridor Master Implementation Plan provides for a series of lakes, a split river channel, constructed wetlands, recreation trails, parklands, grasslands, and pedestrian bridges. The Trinity River Corridor Master Implementation Plan also proposes upgrading of several bridges that cross the Dallas Floodway slated for replacement to attain “signature” or renowned architectural status. These bridges were not evaluated in this Supplement to the DFE EIS because their designs have not been sufficiently developed for evaluation. A “Lakes Only” Plan in the existing Dallas Floodway, if implemented by the City of Dallas, would have a slight negative cumulative effect on forested resources of the geographic area of the DFE project, or minimal effect with substantial plantings. It is anticipated that a “Lakes Only” plan would be beneficial in terms of recreation and aesthetics.

A Programmatic EIS for the Upper Trinity River Basin, completed in June 2000, addressed the cumulative impacts of all reasonably foreseeable activities of the Corps of Engineers and others, along the DFE project, within the entire upper Trinity River watershed that were known as of June 2000. Data and other information contained in that document have been incorporated by reference throughout this Supplement to the DFE EIS. Every effort was also made in preparation of this Supplement to analyze the cumulative effects of potential actions of the Corps of Engineers and others that have been proposed since finalization of the PEIS and its Record of Decision.

Areas of Controversy: Throughout the planning and NEPA process for the DFE project, concerns have been raised regarding the number and scope of potential projects (both by Corps of Engineers and by others), being proposed for implementation. The potential for resultant adverse impacts created the need to address the environmental consequences of the reasonably foreseeable proposed actions. The cumulative effects of numerous and various projects on flood damages and natural floodplain functions are considered to be controversial. Structural measures implemented to

reduce flood damages often adversely impact natural flood plain values. Thus, selected interests have expressed concerns the use of flood plains for purposes contrary to their natural function to be controversial. These areas of concern, collectively, provided additional impetus for preparation of the June 2000 PEIS addressing the Upper Trinity River Basin Feasibility Study.

Issues identified early in the public involvement process for the DFE project as controversial have continued so throughout the review of the Draft and Final GRR/EIS and in scoping for this Supplement to the EIS. The primary objectives of the evaluations in this Supplement to the DFE EIS has focused on identifying and summarizing the cumulative impacts of reasonably foreseeable projects of the Corps of Engineers and others within the study area with emphasis on hydraulic and floodplain environmental features. A further purpose has been to disclose cumulative impacts of those actions relative to the DFE project. Foremost among controversial issues is the proposal to place transportation features laterally within the floodplain of the existing Dallas Floodway and the perception that the Dallas Floodway Extension project was being constructed in order to accommodate roadways between the existing levees. Other issues identified as controversial in the plaintiff's motion to stop construction of the DFE project concerned the hydraulic modeling analysis, the level of protection of the existing Dallas Floodway afforded to the Central Business District, and the relationship of various projects to one another. Determination of reasonably foreseeable future actions within the Dallas Floodway has not been clarified during the development of this Final Supplement.

In March 2003, City of Dallas Council members were briefed on another conceptual proposal for the existing Dallas Floodway, which was developed by a team of private urban designers and landscape architects for the Dallas Plan. While this new proposal contains many of the features presently proposed in prior plans, it deviates in that more emphasis is placed on recreation and ecosystem amenities and less on transportation features. Preliminary evaluations of the impacts associated with this new proposal are described herein in a very general manner. More detailed engineering design, cost estimates, and feasibility analyses are planned in future months. Council member approval would be required prior to adoption of any of the latest proposals.

Public Involvement: A Notice of Intent (NOI) to prepare Supplement 1 to the EIS for the Dallas Floodway Extension project was published in the *Federal Register* on June 28, 2002. The NOI provided background information related to the DFE project, the Summary Judgment ruling of the Northern District, status of ongoing studies and the rationale for preparing the Supplement to the EIS. Notice of a Public Scoping Meeting was published in the *Federal Register* notice and also mailed to all known interested parties on July 3, 2002. A notice was also placed in the Dallas Morning News on July 14, 2002 providing the location, date, and time of the scoping meeting. A public scoping meeting was held on July 16, 2002 in Dallas, Texas. The meeting was held at the Ramada Plaza Hotel with approximately 45 individuals in attendance.

Scoping meeting participants were afforded an opportunity to review a variety of displays documenting the location of known proposed projects in the geographic area. The public was also encouraged to provide comments and information on these projects, other projects known to them that they believed should be considered, and the types of impacts and resources that should be considered in the supplemental EIS. Notebooks were available at each display for the public to list other projects or items that should be considered. A Court Reporter present at the scoping meeting recorded oral statements. Written statements were accepted at the meeting and afterward,. The scoping period remaining open until August 31, 2002.

A Notice of Availability for the Draft Supplement 1 to the EIS for the Dallas Floodway Extension was published in the Federal Register on December 6, 2002. A Public meeting was held on January 8, 2003, and the comment period was extended until February 4, 2003, following public request. A public review period of at least 30 days will be provided for interested parties to examine this Final Supplement 1 to the EIS.

Conclusions and Recommendations: Based upon analyses and findings developed as a result of preparation of this Supplement 1 to the EIS for the Dallas Floodway Extension project, it is believed that any of the projects being considered by the Corps of Engineers and other entities could be implemented with varying degrees of appropriate mitigative measures. Higher Corps of Engineers authorities will continue to review the various proposals as they progress and will have final policy approval of any proposed Corps of Engineers projects or permit actions. The cumulative impacts of any or all of the projects identified as reasonably foreseeable in this Supplement would need to be carefully planned and designed to avoid, minimize, and mitigate identified adverse environmental effects.

Other than the Dallas Floodway Extension project, none of the projects addressed in this Supplement, Federal or otherwise, have been developed in sufficient detail that this document could represent a final decision document under the National Environmental Policy Act (NEPA). Further, any project in the study area that is carried forward will need to be reviewed under a Corridor Development Certificate process, adopted by local area study participants, and will likely require individual permitting and public interest review under Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act. In the event that a new suite of potential projects emerges and/or that have not been foreseen during the preparation of this Supplement to the GRR/EIS or the PEIS for the Upper Trinity River Basin, there will likely be a need to supplement the PEIS in the future to undertake another programmatic review at that time.

Regardless of which set reasonable foreseeable future actions by the Corps or others may occur in the geographic area of the proposed DFE project, the cumulative effects assessment in this Supplement does not indicate significant adverse cumulative effects to any of the resources considered. Nothing in the analysis indicates the Recommended Plan should be changed from the plan addressed in the 1 December 1999 Record of Decision.

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TRINITY RIVER BASIN, TEXAS

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LIST OF ACRONYMS

AAHU	Average Annual Habitat Units
ACE	Annual Chance of Exceedance
AQCR	Air Quality Control Region
CDC	Corridor Development Certificate
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
COE	Corps of Engineers
CWWTP	Central Wastewater Treatment Plant
DART	Dallas Area Rapid Transit
DFE	Dallas Floodway Extension
EA	Environmental Assessment
EIS	Environmental Impact Statement
ENRAC	Environmental and Recreation Assistance Committee
EO	Executive Order
EPA	Environmental Protection Agency
EQ	Environmental Quality
ER	Engineer Regulation
FCSA	Federal Cost Sharing Agreement
FDR	Flood Damage Reduction
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
FPMP	Floodplain Management Plan
GDM	General Design Memorandum
GI	General Investigation
GRR/EIS	General Reevaluation Report & Integrated Environmental Impact Statement
IET	Interagency Executive Team
LPP	Locally Preferred Plan
MIS	Major Investment Study
MTIS	Major Transportation Investment Study
NA	No Action
NCTCOG	North Central Texas Council of Governments
NED	National Economic Development (Plan)
NEPA	National Environmental Policy Act
NRHP	National Register or Historic Places
NTTA	North Texas Tollroad Authority
PEIS	Programmatic Environmental Impact Statement
ROD	Record of Decision
SHPO	State Historic Preservation Office
SPF	Standard Project Flood
SPOT	Satellite Pour l'Observation de la Terre
SWD	Southwest Division of Corps of Engineers
SWF	Fort Worth District of Corps of Engineers
TNRCC	Texas Natural Resources Conservation Commission
TORP	Texas Outdoor Recreation Plan
TPWD	Texas Parks and Wildlife Department
TRCCC	Trinity River Corridor Citizens Committee
TREIS	Trinity Regional Environmental Impact Statement
TSWQS	Texas Surface Water Quality Standards
TxDOT	Texas Department of Transportation
UFORE	Urban Forest Effects
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service

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DALLAS FLOODWAY EXTENSION
TRINITY RIVER BASIN, TEXAS

CHAPTER 1 – AUTHORITY AND PURPOSE

PROJECT AUTHORITY

Authority for construction of water resource development features described in the Comprehensive Survey Report on Trinity River and Tributaries, Texas (reprinted as House Document 276/89/1), including the Dallas Floodway Extension (DFE) project, is contained in Section 301 of the Rivers and Harbors Act, approved 27 October 1965 (Public Law 89-298). Authorization of the DFE was modified by Section 351 of the Water Resources Development Act of 1996, which authorized inclusion of non-Federal levees. Section 356 of the Water Resources Development Act of 1999 (Public Law 106-53) further modified the DFE Authorization to add environmental restoration and recreation as project purposes.

PURPOSE AND NEED

Following the severe flood event of 1989, the City of Dallas requested reactivation of the authorized Dallas Floodway Extension project, which had been inactive due to lack of local sponsor funding support since the mid 1980's. The project was reactivated in 1990 under the provision that a general reevaluation be conducted prior to construction. This reevaluation was required to address updated environmental and economic criteria, as well as significant land use changes within the study area. A product of the reevaluation was the General Reevaluation Report and Integrated Environmental Impact Statement (GRR/EIS) dated February 12, 1999. The Record of Decision (ROD) was signed December 1, 1999. Advanced design work has been completed on the lower chain of wetlands and has been initiated for the upper chain of wetlands. Construction initiation was funded by Congress for the DFE project at $2M in Fiscal Year (FY) 2001 and $10M in FY 2002.

In May 2000, shortly after the ROD was signed, various groups opposed to the DFE project sought an injunction (*Texas Committee on Natural Resources et al v. Major General Hans Van Winkle et al,)* to prevent construction. Two lawsuits were filed; the first (USDC, Northern District, Texas, Fort Worth Division) sought a permanent injunction against DFE project, the second, (USDC, Southern District, Texas, Houston Division) sought enforcement of the 1973 Trinity River Project injunction. On February 26, 2001, the U.S. District Court for the Southern District of Texas denied Plaintiff's motion, finding that the United States Court of Appeals for the Fifth Circuit had vacated the 1973 injunction in "Sierra Club v Froehlke 816 F.2d 205" (5th Cir. 1987). On April 10, 2002, The U.S. District Court for the Northern District ruled in favor of the Corps of Engineers on three of four counts. On the fourth count, the plaintiffs argued that the DFE-EIS did not address the cumulative impacts of reasonably foreseeable proposed actions. The Court ruled in favor of the plaintiffs on that count and remanded the matter to the Corps of Engineers *"for further consideration of the cumulative impacts of other similar, reasonably foreseeable future projects in the same geographical area as the DFE project."* The Order also directed that the Corps of Engineers stop work on any further action related to the construction of the DFE project.

The Corps of Engineers prepared this Supplement to the DFE EIS In response to the Court Order. Also in response to the Court, the Corps of Engineers suspended construction of the first wetland cell for the project. The City of Dallas is proceeding with land acquisition for mitigation and other project purposes. The City of Dallas recently purchased of 170 acres of the Great Trinity Forest (the first of

many tracts) as part of the mitigation for the DFE project. This is the first step in the process to place the forest in permanent protection from what might otherwise be subject to destruction and/or future development. Consistent with the Court Order, this Supplement to the EIS addresses the cumulative impacts of other known or reasonably foreseeable future projects. Again consistent with the Court Order, this Supplement does not re-evaluate the authorized features of the DFE project including levees, chain of wetlands, trails, and environmental restoration, nor does it re-evaluate alternatives to the project.

PRIOR STUDIES AND REPORTS

Numerous studies have been conducted regarding water resource development, flooding and emergency streambank erosion, and water quality within the Trinity River watershed. Pertinent information on previous studies and reports prepared by the Corps of Engineers and other Federal and State agencies was summarized in the GRR/EIS for the Dallas Floodway Extension project dated February 12, 1999. Table 1.1 provides a list of the studies and reports discussed in the GRR/EIS with addition of several reports prepared since completion of that document.

Table 1-1 Studies and Reports Relevant to Supplement 1 to the DFE EIS

Document Name	Agency	Date
Comprehensive Survey Report on Trinity River and Tributaries, Texas	Corps of Engineers	June 1962
The Texas Water Plan	Texas Water Development Board	November 1968
Trinity River Project, Texas, Phase 1 General Design Memorandum	Corps of Engineers	August 1974
Flood Insurance Study, Dallas County, Texas	FEMA	1977 - 1978
Water Resources Development in Texas	Corps of Engineers	1971, 1981, 1988, 1989, 1991,1995
Trinity River Project, Texas, Phase I General Design Memorandum	Corps of Engineers	October 1981
Trinity River Project, Texas, Habitat Mitigation Report	Corps of Engineers	December 1981
Water for Texas	Department for Water Resources	August 1987
Trinity Regional Environmental Impact Statement	Corps of Engineers	1988
Upper Trinity River Basin, Reconnaissance Report	Corps of Engineers	March 1989
Report on Flooding Dallas Floodway	Corps of Engineers	May – June 1989
Reconnaissance Report	Corps of Engineers	February 1989
Report on Flooding	Corps of Engineers	April – May 1990
The Texas Statewide Inventory of Flood Protection Needs		May 1990
Water for Texas, Today and Tomorrow	Texas Water Development Board	December 1990
Trinity River Basin Study	Texas Water Commission	September 1992
Water Resources Development in Texas	Corps of Engineers	1995
GRR/EIS for the Dallas Floodway Extension	Corps of Engineers	February 12, 1999
Programmatic EIS, Upper Trinity River Basin (PEIS)	Corps of Engineers	June 2000
Water for Texas - 2002	Texas Water Development Board	January 2002

NATIONAL ENVIRONMENTAL POLICY ACT REQUIREMENTS

The National Environmental Policy Act of 1969 (NEPA), as amended, is the nation's charter for environmental protection. NEPA establishes policy, sets goals, and provides means for carrying out the policy. Section 102 (2) of the Act includes a provision to prepare a detailed Environmental Impact Statement (EIS) on the effects of a proposed Federal action. The Federal regulations for implementing the procedural provisions of NEPA were published by the Council on Environmental Quality (CEQ) in the Code of Federal Regulations (CFR) as 40 CFR Parts 1500-1508 (43 Federal Register 55978-56007, November 29, 1978). The Corps of Engineers' Engineer Regulation (ER 200-2-2), Procedures for Implementing NEPA, dated March 1988, provides the Corps of Engineers procedure for preparing and processing an EIS or Supplement to an EIS.

STUDY OBJECTIVES

The Record of Decision on the DFE project as recommended in the GRR/EIS was signed by the Corps of Engineers' Deputy Commander for Civil Works on December 1, 1999, and the GRR/EIS was made available to Congress shortly thereafter. Groups seeking an injunction to prevent construction of the DFE project filed two separate lawsuits in May 2000 (*Texas Committee on Natural Resources et al v. Major General Hans Van Winkle et al,)*. The first suit, filed with the U.S. District Court for Northern District of Texas in Fort Worth, sought a permanent injunction against DFE project. The second suit, filed with the U.S. District Court for the Southern District of Texas in Houston, sought enforcement of the 1973 injunction on the Trinity River Project. On February 26, 2001, the U.S. District Court for the Southern District of Texas denied Plaintiff's motion to enforce the 1973 injunction, finding that the injunction had been vacated by the United States Court of Appeals for the Fifth Circuit.

The Motion for Summary Judgment filed with the Northern District included four counts:

Count 1: APA Review of Corps' Determination of Flood Levels
- *A. Factual Discussion – The Seven-Foot Rise is False*
- *B. Legal Standard for Arbitrary and Capricious*

Counts 2 and 3: The NEPA Counts
- *A. Count 2: Failure to Fully Disclose Environmental Impacts*
  - *Count 2(A) – Cumulative Impact of the DFE Project and Past Actions on Water Surface Elevations*
  - *Count 2(B) – Failure to Disclose Extent of Downtown Flooding and to Fully Disclose Economic Analysis of Benefits*
  - *Count 2(C) – Analysis of Reasonable Alternatives*
- *B. Count 3: Failure to Fully Assess Cumulative and Connected Impacts*
  - *Count 3(B) – Cumulative Impacts of Reasonably Foreseeable Future Actions*
  - *Count 3(A) – Connected Actions*

Count 4: Failure to Follow 1988 Record of Decision

On April 10, 2002, the US District Court for the Northern District of Texas ruled in favor of the Corps of Engineers on all but one of the counts and sub counts. On Count 3(B) of the motion, the Court ruled in favor of the plaintiffs argument that the GRR/EIS did not address the cumulative impacts of reasonably foreseeable future actions and remanded the matter to the Corps of Engineers "*for further consideration of the cumulative impacts of other similar, reasonably foreseeable future projects in the same geographical area as the DFE project*." The objective of this Supplement to the DFE EIS is, therefore, to address the U.S. Court for the Northern District of Texas' instruction by further examining the cumulative impacts of the DFE project and determining if any other projects are in fact "proposed actions that must be considered in a single EIS"

CHAPTER 2 – ALTERNATIVES

This chapter briefly summarizes the formulation process that led to the Recommended and Authorized Dallas Floodway Extension (DFE) project. The General Reevaluation Report and Integrated Environmental Impact Statement for the Dallas Floodway Extension Trinity River Basin, Texas (GRR/EIS), dated February 1999, can be referenced for more detailed discussion.

BACKGROUND

The DFE project is one of five local flood damage reduction projects authorized for construction in 1965 as part of the basinwide plan of improvement for the Trinity River and Tributaries, Texas. Authority for construction is contained in Section 301 of the Rivers and Harbors Act approved 27 October 1965 (Public Law 89-298). The originally authorized plan for the Dallas Floodway Extension consisted of a combination flood control channel and floodway levee that 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.

A General Design Memorandum (GDM), which assessed the DFE project in greater detail, was completed in 1981. Work on the project was suspended in 1985, however, following the failure of a bond election by the City of Dallas. Final approval of the 1981 GDM was subsequently discontinued, resulting in the retention of the 1965 plan as the authorized plan. In 1990, following a severe flood event in 1989, a general reevaluation the authorized Dallas Floodway Extension Project was initiated at the request of the City of Dallas. An integrated General Reevaluation Report and draft Environmental Impact Statement was released for public review in May 1998. The report was finalized and made available to the public as a Final GRR/EIS for review in February 1999. The Deputy Commander for Civil Works signed the Record of Decision (ROD) for the DFE Impact Statement for the Corps of Engineers on December 1, 1999. A copy of that ROD is included in Appendix A to this Supplement.

FORMULATION

The plan formulation process for the Dallas Floodway Extension was performed in three phases, each predicated by changes deemed significant enough to necessitate reevaluation and revision of existing conditions hydrology, hydraulic, and/or economic models. These changes included, but were not limited to, the availability of more current technical data, the addition of risk-based flood damage reduction analysis requirements, and the passage of legislation providing for inclusion of previous non-federal levee construction in the Federal plan. Two of these phases were completed during the development of the National Economic Development (NED) Plan, while the third was initiated during selection of the Locally Preferred Plan (LPP).

Initially, a wide range of structural and non-structural flood damage reduction measures evolved from the analysis of available economic, environmental, engineering, and social data during the course of the study. Non-structural alternatives for flood damage reduction included flood proofing, relocation, and permanent evacuation. 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.

During the formulation process the NED Plan was identified as a 1,200 -foot wide swale in the overbank area adjacent to the Trinity River. Public opposition to environmental impacts of this plan on forested areas along the Trinity prompted the investigation of less environmentally detrimental alternatives, including the concept of a Chain of Wetlands. Floodplain residents of the DFE project

area sought additional flood protection in the immediate study area, beyond what the Chain of Wetlands would provide, and comparable to the level of protection to that afforded by the existing Dallas Floodway levees to the Central Business District. Their actions prompted the City to request investigation of additional levee alternatives aimed at removing more residents and businesses from flood risk within the immediate vicinity of the Dallas Floodway Extension. Alternatives analyzed in the final array are presented in detail in the DFE GRR/EIS and are summarized below.

NO ACTION

The no action plan for the DFE would involve no additional Corps of Engineers flood damage reduction, ecosystem restoration or recreational development within the DFE area. The Rochester Heights Levee as constructed and the Central Wastewater Treatment Plant levee modifications by the City of Dallas would remain in place. These flood damage reduction features provide important protection at those isolated locations, however, the City would lose the ability to utilize their previous construction expenditures for these two levees in the cost sharing of a complete flood damage reduction project for the entire DFE area. The No Action plan would do nothing more to provide equity of flood damage reduction between residents of the DFE area to that afforded the central business district.

NATIONAL ECONOMIC DEVELOPMENT (NED) PLAN

An alternative plan consisting of two 1,200-foot bottom width swales in series was determined to produce the greatest net economic benefits. This plan, identified as the NED Plan, would extend from upstream at the end of the existing Dallas Floodway downstream to approximately 2,000 feet below Loop 12, and would be separated at Interstate Highway (IH) 45. The length of the upper swale would be about 7,800 feet, or 1.5 miles, and would extend from the confluence of Cedar Creek, at the upstream end, to the river crossing of IH-45. The lower swale would extend a total length of 17,300 feet, or 3.3 miles. Based on applicable criteria, the 1,200-foot swale would produce the greatest net benefits and was designated as the NED plan. The NED plan is currently estimated to have a first cost of $103.6 million (Benefit/Cost = 2.46) based on January 2003 price levels.

From an environmental standpoint, the NED Plan would require acquisition of approximately 3,200 acres for mitigation. Because of these adverse impacts a “chain of wetlands” plan was formulated which would require only 650 acres of mitigation. A comparative analysis between the NED Swale Plan and the Chain of Wetlands Plan showed that the chain of wetlands would provide fewer net economic benefits than the NED Plan, but would also have a lower first cost.

LOCALLY PREFERRED PLAN (LPP)

The “Chain of Wetlands” would consist of an upper chain of four wetland cells and lower chain of three wetland cells, each of various lengths and shapes and totaling about 123 acres. The upper chain would have an average width of 400 feet and would extend from Cedar Creek to the oxbow lake at I-45, a distance of about 1.5 miles. The lower chain would have an average width of 600 feet, would extend between I-45 and Loop 12, a distance of about 2.2 miles, and would be aligned through the Linfield Landfill and Sleepy Hollow Golf Course to minimize impacts to forested areas and nearby residential areas. Total length of the wetland cells, therefore, would be about 3.8 miles with average width of about 500 feet, average depth of about 1.5 feet, and maximum depth of 7 feet. Environmental restoration features associated with the chain of wetlands include 123 acres of emergent wetland creation. The LPP is currently estimated to have a first cost of $154.4 million (Benefit/Cost = 2.06) based on January 2003 price levels.

The Chain of Wetlands Plan was initially identified as the 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. The Chain of Wetlands Plus Levees Plan, which

would include SPF levees protecting the Lamar and Cadillac Heights areas, in addition to the Chain of Wetlands feature, was determined to meet the needs of the local sponsor, by providing flood protection to the neighborhoods within the study area comparable to the protection provided to the Central Business District by the existing Dallas Floodway. The Lamar Levee would include an earthen levee to provide SPF protection for the Lamar Street area. This levee would extend from East Levee of the existing Dallas Floodway for a distance of 2.9 miles to the Rochester Park Levee, previously constructed by the City of Dallas. The Cadillac Heights Levee would include an earthen levee to provide SPF protection for the Cadillac Heights area. This levee would extend from near Cedar Creek to the Central Wastewater Treatment Plant (CWWTP), would raise a portion of the northwest corner of the CWWTP Levee, and would extend to high ground near the intersection of Kiest Boulevard and McGowan Avenue for a total distance of approximately 2.2 miles.

The recreation component of the Locally Preferred Plan would include construction of 18 miles of hike/bike trail, 8.5 miles of natural surface equestrian trail, 5 miles of natural surface nature trail, picnic areas and rest stop area. Seven access areas are proposed, one of which would require no modifications. Three of the remaining six would be located at existing parks or areas with adequate parking facilities and would require minimal modifications. Three other access areas are also proposed.

The environmental mitigation plan for the Locally Preferred Plan includes acquisition of 1,179 acres of additional lands within the “Great Trinity Forest”, and consists of conversion of grassland to bottomland hardwood areas, habitat improvement on existing bottomland hardwood areas, and grassland preservation.

On March 26, 1997, the Dallas City Council formally adopted the Chain of Wetlands and Levees plan along with recreation facilities and habitat mitigation included as components of the plan as the Locally Preferred Plan. The Chain of Wetlands alone would result in a lowering of the water surface profile of the SPF event at the end of the existing Dallas Floodway of 3.50 feet. Consequently, the locally supported plan, which includes the Lamar and Cadillac Heights SPF levees, would still result in a lowering of SPF water surface elevation by 1.40 feet at that point.

COMBINATION STRUCTURAL / NON-STRUCTURAL PLAN

The combination non-structural / structural plan investigated for the final array of Dallas Floodway Extension alternatives would involve the acquisition and removal of homes in the Cadillac Heights area in lieu of the construction of a Cadillac Heights Levee, as the last-added increment of an overall plan also including the construction of the chain of wetlands and the SPF Lamar Levee. This buyout was analyzed for the 2-, 5-, 10-, 25-, 50-, and 100-year flood zones. The economic analysis of this non-structural increment of the overall combination structural / non-structural plan was shown in Table 4-21 of the DFE/GRR EIS. Economic feasibility is not demonstrated for any buyout beyond the 25-year flood zone, leaving highly significant residual damages at the 50-, 100-, and SPF-flood frequencies. For comparative analysis, also included in Table 4-21 are the incremental costs and benefits of constructing a last-added 100-year levee in the Cadillac Heights area. The combination plan 10-year buyout of Cadillac Heights is currently estimated to have a first cost of $135 million (Benefit/Cost = 1.7), based on January 2003 price levels.

TENTATIVE FEDERALLY SUPPORTABLE PLAN (TFSP)

After adoption of the LPP by the City of Dallas, a channel realignment at I-45 was requested and supported by the Texas Department of Transportation, to allow the river to flow through a wider span of the I-45 Bridge, which was designed to more efficiently accommodate river flows. This realignment would reduce the risk of catastrophic failure of this bridge, and would significantly reduce current annual maintenance costs associated with debris removal around the bridge columns. The identified

TFSP would consist of the Chain of Wetlands, SPF Lamar Levee, 100-year Cadillac Heights Levee, the previously constructed non-Federal levees, and selected recreation features.

The TFSP would include an earthen levee providing SPF protection for the Lamar Street area, which would extend from the existing Dallas Floodway East levee to the previously constructed Rochester Park Levee, a distance of 2.9 miles. The plan would also include a levee / floodwall system providing 100-year protection for the Cadillac Heights area. This levee would extend from near Cedar Creek to the Central Wastewater Treatment Plant (CWWTP), a distance of 1.1 miles. In addition to the levees described above, the Tentative Federally Supportable Plan would also include the costs and benefits of the portions of the previously constructed non-Federal levees. The total cost for the compatible portions of these levees was estimated at $23.1 million ($14.2 million for the CWWTP Levee upgrade and $8.9 million for the compatible portion of the Rochester Park Levee). The TFSP would include recreation amenities compatible with the regional recreation master plan, including hike/bike trails, equestrian trails, canoe launches, and pavilions. The TFSP is currently estimated to have a first cost of $135.4 million (Benefit/Cost = 1.82) based on January 2003 price levels.

THE RECOMMENDED PLAN

The LPP, along with the realignment of the river channel at the Interstate Highway 45 (I-45) Bridge, was adopted as the Recommended Plan for the Dallas Floodway Extension. It provides for the "Chain of Wetlands", an SPF levee at Lamar Street, a SPF levee in the Cadillac Heights area, recreation features, and habitat mitigation. While meeting the primary goal of providing SPF protection in the immediate area of the Dallas Floodway Extension, the Recommended Plan would result in additional protection within the existing Dallas Floodway. Section 351 of the Water Resources Development Act of 1996 authorized inclusion of the previously constructed non-Federal levees at Rochester Park and the CWWTP as part of the DFE project. Section 356 of the Water Resources Development Act of 1999 (Public Law 106-53) further modified the DFE Authorization to add environmental restoration and recreation as project purposes. The current cost estimate for the Recommended DFE project is $154,400,000 2.06) based on January 2003 price levels, which includes the cost of the levees previously constructed by the City of Dallas.

Since completion of the GRR/EIS in 1999, a number of follow-on proposals have been discussed by various Dallas city officials and reported in the media for alternate uses of the area to be protected by the Cadillac Heights Levee once the levees are in place. Among these ideas are the buy-out and/or partial buy-out of residences in that neighborhood. One potential use suggested in the area is to build a police academy and/or other similar public facilities. To date the City Council has not taken any official action to support any changes other than those included in the LPP. A Project Cost Sharing Agreement has been signed by the City of Dallas, fully committing the City's support of the Recommended Plan. Until formal notification is made by the City of Dallas regarding their support of a plan that is different from that for which they have formally provided an endorsement, alternate plans discussed by individuals or the media cannot be considered as reasonably foreseeable. The plan recommended in the 1999 GRR/EIS, therefore, remains the Recommended Plan for analysis in this Supplement to the DFE EIS.

CHAPTER 3 – AFFECTED ENVIRONMENT

STUDY AREA

This section describes the study area within the geographic vicinity of the DFE project. Detailed discussion of the climatology, geology, physiography, soils, hydrology and hydraulics, vegetative cover, terrestrial resources, aquatic resources, water quality, air quality, cultural resources, socioeconomics, environmental justice, and recreation and open space may be found in the GRR/EIS dated February 1999 and in the PEIS for the Upper Trinity River Basin, dated June 2000. In accordance with CEQ regulations for implementing NEPA (40 CFR Part 1508), information from those documents is incorporated herein by reference.

From a water resource related perspective, the physical boundaries of the general study area correspond to the Standard Project Floodplain (SPF) of the Upper Trinity River and its major tributaries. The hydrologic study area can be considered to be the watershed of the Upper Trinity River. The hydraulic study area is most easily defined by the downstream and upstream limits of the major river reaches. The downstream limit was taken as River Mile (RM) 473.9. This point generally coincides with the Malloy Road Bridge crossing of the Trinity River in southeast Dallas County. The upstream limits of the study area can generally be defined as the first major impoundment on each of the major branches and tributaries of the Trinity River and all the adjacent land and all of the watercourses contained within the boundaries of the floodplain for the Standard Project Flood. The major river segments include: Denton Creek from Grapevine Lake Dam to its confluence with the Elm Fork, Elm Fork from Lewisville Lake Dam to its confluence with the West Fork, the Clear Fork from Benbrook Lake Dam to its confluence with the West Fork, Mountain Creek from Mountain Creek Dam to its confluence with the West Fork, and Village Creek from Lake Arlington Dam to its confluence with the West Fork, two segments of the West Fork - one beginning at the Lake Worth Dam to the confluence with Village Creek, and the second from the Village Creek confluence to the West Fork's confluence with the Elm Fork, and finally, the mainstem of the Trinity from the confluence of the Elm Fork and West Fork downstream to the Malloy Road Bridge crossing. This hydrologic and hydraulic study area is defined and described in detail in the PEIS dated June 2000.

DETAILED STUDY AREA

Instructions from the Court to address cumulative impacts of other similar, reasonably foreseeable future projects in the same geographical area as the DFE project (emphasis added) led to a focus on potential future developmental activities that would be water related or would occur in or near the floodplain of the Trinity River, with special emphasis on Dallas, Dallas County, and the general vicinity. The SPF floodplain within the study area is depicted in Figure 3-1. The study area for evaluating cumulative impacts within this Supplement to the GRR/EIS is defined based upon Standard Project Flood (800-year frequency) hydrology as it is anticipated to be in the year 2050. While accounting for past, present, and potential future actions of the Corps of Engineers and other entities that could occur within the general study area of the Upper Trinity River Basin, this document focuses on addressing the cumulative impacts of other projects in the floodplain of the Trinity River in Dallas, Dallas County, and the general vicinity of the authorized DFE project.

PAST ACTIONS AFFECTING THE STUDY AREA

This section presents past, present, and reasonably foreseeable future projects that have been or would be conducted in the study area. Focus of this section is on Corps of Engineers projects and projects of others as they relate to potential cumulative impacts associated with the DFE project. The PEIS, dated June 2000, may also be referenced for activities within the watershed that are more remote from the general vicinity of the DFE project.

CORPS OF ENGINEERS PROJECTS

Completed Section 205 Projects

Section 205 of the Flood Control Act of 1948 provides the authority to the Corps of Engineers for planning, design, and construction of water resources projects related to flood damage reduction. The federal expenditure limit on Section 205 projects is $7,000,000. Section 205 projects conducted within the general vicinity of the DFE project are discussed below. Discussion of additional Section 205 projects constructed in the Upper Trinity River Basin may be found in the June 2000 PEIS.

Ten Mile Creek – Lancaster:

Ten Mile Creek is located in the central portion of the City of Lancaster in southern Dallas County, approximately 14 miles south of Dallas. The creek begins on the east side of Joe Pool Lake, flows generally from west to east and joins the mainstem of the Trinity River in far southeast Dallas County. This nonstructural project completed in 1995 is a flood warning system consisting of six stream and rainfall gauges throughout the Ten Mile Creek Watershed.

Ten Mile Creek – Desoto:

Ten Mile Creek is a tributary of the mainstem Trinity River. It flows generally from west to east through the City of Desoto in south Dallas County. The project consisted of one-sided channel modification on the north bank of Ten Mile Creek approximately 4,200 feet in length. The project begins 700 feet east of Hampton Road and proceeds upstream to a point approximately 4,000 feet southeast of Westmoreland Road. The channel is grass-lined and features the excavation of a 50-foot wide terrace on the north bank, approximately 5 feet above the invert of the creek, which transitioned into a side slope. The right bank and the creek bottom were allowed to remain in their natural state. The project provides a minimum 25-year level of flood protection to the lowest structure within the project reach. Completed in 1997, the project resulted in adverse impacts to approximately 11 acres of mature riparian forest. Mitigation for the project included reforestation of a 22-acre site adjacent to the creek with hard- and soft-mast producing woody species, and revegetation of all disturbed areas with native plant species.

Johnson Creek - Grand Prairie:

Johnson Creek is a tributary of the West Fork Trinity River. The creek flows from southwest to northeast through Arlington in Tarrant County and Grand Prairie in Dallas County. The project called for 4,950 feet of gabion-lined channel to provide 100-year flood protection for residents between Duncan Perry Road and Carrier Parkway. Completed in 1998, the project resulted in adverse impacts to approximately 22 acres of riparian hardwoods. Mitigation for the project included the preservation of 5.3 acres of existing riparian hardwoods, the establishment of a 2.5-acre wetland and 1.0 acres of native grassland/herbaceous plant, and planting of 635 hard-mast producing trees and the same number of soft-mast producing shrubs on 12.8 acres adjacent to the creek.

Dry Branch -- Grand Prairie:

Dry Branch originates in west central Irving and flows southward through the cities of Grand Prairie and Irving to its confluence with Bear Creek, which is a tributary of the West Fork Trinity River. The plan for Dry Branch consisted of replacement of the Shady Grove Road Bridge and channelization. The project was divided into two channel reaches. The downstream reach consisted of a grass-lined channel that extended approximately 175 feet upstream and downstream of the Shady Grove Road Bridge. The upstream reach had a concrete-lined trapezoidal channel 2,850 feet in length and a trapezoidal drop structure at the upstream end. The project resulted in adverse impacts to approximately 100 predominately hard- and soft-mast producing trees with diameters greater than 10 inches. Mitigation for the project was completed in 1997, and included planting approximately 250 hard-mast producing trees and 250 soft-mast producing shrubs on 6.3 acres of land near Johnson Creek in Grand Prairie.

FIGURE 3-1 STANDARD PROJECT FLOOD

Lewisville Lake

GRAPEVINE LAKE

EAGLE MOUNTAIN LAKE

Lake Worth

BENBROOK LAKE

LAKE ARLINGTON

DFW Airport

Joe Pool Lake

Mountain Creek Lake

WHITE ROCK LAKE

Lake Ray Hubard

Lavon

Tarrant

Dallas

75

635

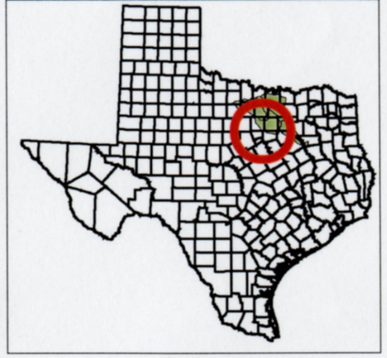
820

30

20

35

45



HIGHWAY
PERENNIAL STREAM
TEXAS COUNTIES
LAKE
SPF

N

FIGURE 3-1
SUPPLEMENT TO DFE EIS
EXISTING STANDARD PROJECT FLOOD (SPF)

Delaware Creek -- Irving:
Delaware Creek originates in northwestern Irving and flows generally southeastward 7 miles to the West Fork Trinity River. The project consisted of constructing approximately 3,600 feet of grass-lined channel beginning at Oakdale Road and continuing southeast. A box culvert was constructed upstream of the Shady Mobile Home Park to allow low flows to continue along the original creek channel while high flows would be diverted to the southeast into the West Fork floodplain by a levee and a grass-lined diversion channel. The project was subsequently modified by the addition of 1000 feet of grass-lined diversion channel. The project adversely impacted 19.4 acres of riparian corridor and 11.3 acres of old field habitat. Environmental mitigation for impacts of the project was completed in 1997 and consisted of planting approximately 20 acres of hard- and soft-mast producing trees and shrubs downstream of Loop 12 within the floodplains of Delaware Creek and West Fork Trinity River on the Twin Wells Golf Course.

Specifically Authorized Flood Damage Reduction Projects
Certain projects are specifically authorized by Congress to meet a specific purpose(s), which may include flood damage reduction, water supply and conservation, and/or other benefits. While the existing Dallas Floodway is the most significant Congressionally authorized flood damage reduction project relative to the DFE project, both the Fort Worth Floodway and the Big Fossil Creek Floodway have also been constructed in the Upper Trinity River Basin and are described in the June 2000 PEIS for the Upper Trinity River Basin.

Dallas Floodway:
The project is located along the mainstem of the Trinity River just downstream of the confluence of the West and Elm Forks in west Dallas. Completed in 1960, the project consisted of strengthening approximately 23 miles of existing levees that were constructed by local interests between 1928 and 1932 on both sides of the river, clearing the floodway channel, and improving the capabilities of the interior floodway drainage facilities. The urban area protected by the existing Dallas Floodway levees consists of about 9,000 acres with about 1500 acres of open space between the levees. The Dallas Floodway was designed to provide SPF protection to the central business district of Dallas and the area to the west. This existing project is immediately upstream of the Recommended Dallas Floodway Extension Project.

Corps of Engineers Reservoir Projects
Five reservoirs have been constructed by the Corps of Engineers within the Upper Trinity River basin. One reservoir has been authorized and constructed within the Dallas County portion of the study Upper Trinity study area. Each of these multi-purpose Corps of Engineers reservoirs provides flood damage reduction, water conservation and storage, recreation, and other benefits. These Corps of Engineers reservoirs within the hydrologic study area, which are addressed in the June 2000 PEIS, are Benbrook, Grapevine, Lewisville, Ray Roberts, Joe Pool, and the Lewisville pool raise and associated recreation area (Green Belt). Of these lakes, Grapevine on Denton Creek and Lewisville and Ray Roberts on the Elm Fork of the Trinity River, north of Dallas County, have the greatest effect on the hydrology of the study area of the DFE, and those effects are incorporated into the hydrologic and hydraulic models for the study area.

PAST PROJECTS OF OTHERS IN THE STUDY AREA

Within the Upper Trinity River Basin in the general vicinity of the study area are a number of reservoir projects built by entities other than the Corps of Engineers. Among these is Mountain Creek Lake on its namesake tributary, which is just downstream of Joe Pool Lake and feeds into the mainstem Trinity River from the south. The lake is operated by a local entity for power plant cooling. Within the Dallas-Fort Worth Metroplex, other reservoir projects have been constructed over the years for various purposes including urban recreation and cooling for utility generation.

There are numerous projects that have been implemented within the study area in the last 20 to 30 years, which have resulted in significant adverse impacts to the environment. Environmental impacts

resulting from these projects are impossible to estimate. However, sources of information do exist regarding impacts to natural resources that are located within waters of the United States, including wetlands, around water bodies. Under the direction of Congress, using the authorities stated in Section 10 of the Rivers and harbors Act of 1899 and Section 404 of the Clean Water act, the Regulatory Branch of the Army Corps of Engineers regulates all work or structures in, or affecting the course, condition or capacity of navigable waters of the United States and the discharge of dredged and fill material into all waters of the United States including wetlands. Consequently, applicants are required to submit information to the Corps of Engineers for approval of many construction projects that are conducted in floodplain areas.

Regulatory documents reviewed in preparation of the PEIS indicate that over the period from 1985 to 1998 there were a total of 193 general permit verifications, letters of permission, or individual permit actions within the Upper Trinity study area. The location of these actions is illustrated in Figure 2-1 of the PEIS. Out of the 193 actions during that time period, adverse impacts occurred to approximately 630 acres of bottomland hardwood forests and wetlands occurred. Mitigation for impacted natural resources amounted to 261 acres for bottomland hardwoods and wetlands. It should be noted, however, that much of the adverse impacts occurred prior to the 1988 Record of Decision for the Trinity Regional Environmental Impact Statement (TREIS), with avoidance, minimization, and mitigation improving considerably after that time. More detail on recent trends is included in the Fills, Permits, Utilities, and Other Activities section of this chapter, Permit actions being considered since 1999 are shown on Figure 3.2 of the Supplement.

REASONABLY FORESEEABLE FUTURE CORPS OF ENGINEERS ACTIONS

As evidenced above, floodplain lands within the study area have undergone extensive alterations in the past 50 years due to the construction of flood control and water supply lakes, major channelization/levee projects, and numerous smaller projects, which may have affected the physical characteristics of the Upper Trinity River watershed and the general vicinity of the DFE project.

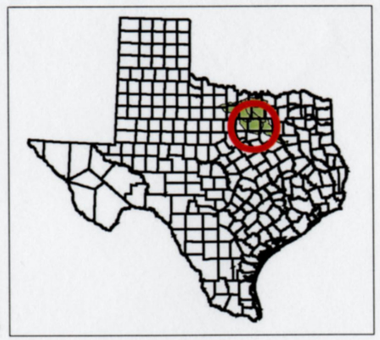
UPPER TRINITY RIVER FEASIBILITY STUDY

General Investigation (GI) studies are investigations that have been specifically authorized by Congress to address water resource related problems and opportunities within a given study area. Feasibility Studies for the Upper Trinity River Basin have been and are being conducted under the GI program in response to the authority contained in the following United States Senate Committee on Environment and Public Works Resolution dated April 22, 1988, as quoted below:

> *Resolved by the Committee on Environment and Public Works of the United States Senate, that the Board of Engineers for Rivers and Harbors is hereby requested to review the report of the Chief of Engineers on the Trinity River and Tributaries, Texas, House Document No. 276, Eighty-Ninth Congress, and other pertinent reports, with a view to determining the advisability of modifying the recommendations contained therein, with particular reference to providing improvements in the interest of flood protection, environmental enhancement, water quality, recreation, and other allied purposes in the Upper Trinity River Basin with specific attention on the Dallas-Fort Worth Metroplex.*

Initial investigations during the Upper Trinity Feasibility Studies, as compiled and distributed for public review in 1995 as part of the “Information Paper for the Upper Trinity River Basin, Texas”, focused on determining if continued Federal participation in more detailed studies was warranted in order to provide flood damage reduction, environmental enhancement opportunities, water quality, and recreational facilities in the Upper Trinity River Basin. The intent of the Information Paper was to identify for the public, those project proposals that appeared to have merit for further study. Detailed

FIGURE 3-2 PERMIT ACTIONS IN THE STUDY AREA



Section 404/10 Permit Actions Since 12/99

Trinity Basin Regulatory Study Area for DFE Supplement

Archer
Clay
Montague
Cooke
Grayson
Fannin
Jack
Wise
Denton
Collin
Hunt
Young
Rockwall
Rains
Palo Pinto
Parker
Tarrant
Dallas
Kaufman
Van Zandt
Hood
Johnson
Ellis
Eastland
Erath
Somervell
Henderson
Navarro
Comanche
Hill
Bosque
Anderson

Ray Roberts Lake
Lewisville Lake
Lake Grapevine
Lavon Lake
Eagle Mountain Lake
Lake Ray Hubard
Lake Weatherford
Lake Arlington
Benbrook Lake
Joe Pool Lake

20 0 20 40 Miles

N

FIGURE 3-2
Regulatory Permit Actions Within Upper Trinity Basin
30 August 2002

TABLE 3-1, STATUS OF SPONSORED STUDIES BY THE CORPS OF ENGINEERS AS PART OF THE UPPER TRINITY RIVER FEASIBILITY STUDY

Currently Active Studies		
Sponsor	**Study**	**Proposal**
City of Arlington	Johnson Creek (Study complete – project is under construction)	Non-structural flood damage reduction and ecosystem restoration project authorized by Water Resources Development Act of 1999. Project under construction.
City of Dallas	Stemmons North Industrial District	National Economic Development (NED) plan for Flood Damage Reduction has been investigated
	Dallas Floodway	NED Plan, Environmental Quality (EQ) Plan, City of Dallas' Trinity River Corridor Master Plan have been developed
*Tarrant Regional Water District	West Fork to Lake Worth and Clear Fork to Benbrook Lake	Study of flood damage reduction, ecosystem restoration, recreation and water quality improvements at numerous sites in and adjacent to floodway and tributaries to main channels
*Cities of Fort Worth, North Richland Hills Haltom City and others	Big Fossil Creek	Study to provide sponsors with updated baseline H&H models, FEMA, floodplain and detailed topographic maps and baseline environmental information, and to identify water related needs within the watershed
*City of Fort Worth	Watershed upstream of Lake Worth	Lake Worth Ecosystem restoration and watershed management
Studies Expected To Move Forward To Cost-Sharing Negotiations		
Grand Prairie	Mountain Creek Watershed	Multi-objective flood damage reduction, ecosystem restoration, and recreation
Cities of Fort Worth, Grand Prairie, Arlington, and Dallas County	West Fork at Hwy 360	Ecosystem restoration and recreation
Viable Projects, Not Expected To Be Sponsored		
Tarrant County	Village Creek	Basin-wide multi-objective study
City of Arlington	Quads at Hwy 157	Environmental restoration and recreation
City of Coppell	Denton Creek	Multi-objective, erosion control, flood damage reduction, ecosystem restoration
Cities of Dallas and Fort Worth	West Fork/Mainstem	Construction of emergent and forested wetlands to provide ecosystem restoration and water quality improvements. Would utilize effluent from existing waste water treatment plants.

∗Cost-sharing agreements and initiation of studies were imminent at time of final PEIS, and studies are now active.

descriptions of these nearly 90 measures are contained in the referenced Information Paper and the measures are listed and summarized in Chapter 2 of the June 2000 PEIS for the Upper Trinity River Basin.

In order to continue work into the detailed feasibility phase on any of the potential measures, a non-Federal sponsor must agree to cost-share (50/50) in the feasibility investigations. Potential sponsors have been identified for 11 interim feasibility studies. Table 3-1 lists the studies that are 1) currently active, 2) likely to go forward to cost-sharing agreements, and 3) proposed, but currently lack sufficient support for a reasonable expectation that they will be initiated within the near future. This table has changed somewhat from a similar table that was presented in the June 2000 PEIS for the Upper Trinity River Basin. Note that two of those active studies in the immediate vicinity of the DFE project are the Dallas Floodway and the Stemmons North Industrial District. Following is a discussion of those currently active studies under the Upper Trinity River Feasibility Study.

Clear Fork/West Fork Studies

Riverside Oxbow:
The study area is located just east of downtown Fort Worth on the West Fork of the Trinity River and includes the old West Fork channel, which formed an oxbow when the channel was realigned. Ecosystem restoration features include reestablishing low flows through the old oxbow; creation of 21 acres of emergent wetlands; creation and/or enhancement of 18 acres of open water habitat; restore 29 acres of forested pond vegetation; habitat improvement of 133 acres of existing forested tracts, including establishment of a 150 foot wide riparian buffer along the West Fork from Riverside Drive to East 1st Street; restoration of 43 acres of native grassland buffer along the old oxbow; establishment of native grasses and forbs mixed with tree mottes or, habitat islands, on approximately 229 acres of land; and reforestation of roughly 73 acres of open space using a variety of native hard and soft mast trees and shrubs. The project lands, which encompass approximately 600 acres of land, are adjacent to roughly 400 acres of city-owned park and open space. Together these lands would provide 1000 acres of fish and wildlife and open space habitat and outdoor education and recreation opportunities for local citizens within a rapidly growing and developing urban area. The feasibility study on this section was initiated in November 2001. Approximate cost of the project is $22,198,000 based on October 2002 price levels. An Interim Feasibility Report with Integrated Environmental Assessment was released for public review on 14 April 2003. Specific Congressional Authorization will be required prior to construction/implementation.

Central City:
The study area is located just north of downtown Fort Worth, Texas on the Clear Fork and West Fork of the Trinity River. Study limits are Interstate Highway 30 on the Clear Fork, Sumps #7 and #8 in the Rockwood Park area on the upstream end of the West Fork, NE 28th Street on the upstream end of Marine Creek, a tributary of the West Fork, and Riverside Drive on the downstream end of the West Fork. The Central City study area as defined by these boundaries encompasses approximately 4 square miles. The study is intended to be a comprehensive investigation of flood damage reduction, ecosystem restoration, recreation, economic development, and other allied purposes resulting in an integrated feasibility report and environmental impact statement. One of the preliminary concepts to be investigated consists of creating six to eight miles of urban waterfront along the Clear Fork and West Fork between 7th Street and Samuels Avenue. A higher and more constant water level would be impounded by a hydraulic dam near the Samuels Avenue bridge downstream from the junction of Marine Creek and the West Fork of the Trinity River. This would create a constant urban lake and river that link the Stockyards and near north neighborhoods with Downtown, the Cultural District area and Rockwood Park area. A bypass channel would generally follow the current path of the Fort Worth and Western Railroad. The bypass channel combined with the historic Oakwood Cemetery would transition between proposed urban developments and the historic near north neighborhoods. The preliminary cost estimates for this concept is approximately $400 million. The feasibility study on this section was initiated in August 2002. The study is currently in the existing conditions phase.

Stemmons North Industrial District (Interim Feasibility Study)
The study area for the Stemmons North Industrial District is approximately 1,034 acres in size. In the study area, there are about 14.4 acres of open water, 855 acres of grasslands, 154.3 acres of riparian forest, and 10.5 acres of wetlands. Detailed cost-shared feasibility investigations under the Upper Trinity River Feasibility Study are currently being held in abeyance. The City of Dallas is the local project sponsor. The study area is located on the left descending bank of the Elm Fork and is generally bounded by the Elm Fork to the west and south, Loop 635 to the north, and the Standard Project Floodplain boundary to the east. Present development of the area includes extensive commercial and industrial development with some multi-family and high-density residential areas.

No Action:
The "no action plan" or "Future Without Project" is an alternative plan that does not include implementation of any Federal activities within the Stemmons North Industrial District study area. This is the alternative to which other alternatives are compared.

Structural Plan:
A Levee alternative along Mañana Street was preliminarily identified as feasible, however, it has subsequently been determined not to be feasible. The plan would consist of an earthen levee beginning at Interstate 35 (Stemmons Freeway) on the north side of Mañana Drive and extending west to Wesco Creek. An intermittent earthen levee / concrete floodwall system would then be utilized, continuing south and west along the creek to the Burlington Northern Railroad track, then south along the railroad track to Northwest Highway. An earthen levee would then resume, extending south and east, and eventually tying in to the embankment of Loop 12. The levee alignment would cross various roads and streets. In lieu of ramping all of these transportation facilities over the levee, gate closure structures are proposed in some areas. The Mañana Street Levee alternative would provide 500-year flood protection to approximately 1000 acres within the area near Mañana Street. This alternative would remove about 180 acres from the current Federal Emergency Management Agency (FEMA) 100-year floodplain. The footprint of the levee and floodwall would directly impact approximately 31 acres. This plan has been determined not to be economically or environmentally feasible.

Non-Structural Plan:
The details and conditions of a non-structural plan for the Stemmons North Industrial District are under preparation and entail evaluation of the possible buy-out and removal of structures within various flood zones. Currently, the structures eligible for buyout and removal within the 2-year, 5-year, 10-year, and 25-year zones in the Stemmons North Industrial District are 0, 21, 27, and 37 structures, respectively. Based on preliminary evaluations completed to date, a non-structural alternative for this area does not appear justified. The area has been delineated into several reaches and an economic analysis was conducted on Reach 1, the area between the railroad and the Elm Fork, which appeared to be the only reach that had even the slightest chance of economic feasibility for federal participation in a buy-out plan. The results of the preliminary analysis indicate the damages begin at the 5-year flood event and effecting 21 structures with a benefit to cost ratio well below unity. At the 25-year flood event only 37 structures would be impacted, also resulting in a benefit to cost ratio below 1.0.

Status of the Stemmons North Industrial District Interim Feasibility Study:
Due to insufficient benefits to justify the potential costs and subsequent lack of Federal interest, it is likely that this study will be terminated.

Dallas Floodway (Interim Feasibility Study)
The potential exists for a multi-objective project located entirely within the existing floodway in Dallas County, Texas. The Floodway extends along the Trinity River upstream from the AT&SF Railroad Bridge at Trinity River Mile 497.37, to the confluence of the West and Elm Forks at River Mile 505.50, then upstream along the West Fork for approximately 2.2 miles and upstream along the Elm Fork approximately 4 miles. There are approximately 1,422 acres in the study area. Of that amount, 14

acres consists of open surface water, 1,159 acres are grasslands, 51 acres are emergent wetlands, and 198 acres are classified from SPOT satellite data as forest.

No Action:
The “no action” or “Future Without Project” is an alternative plan which would assume no Federal (Corps of Engineers) activities within the Dallas Floodway study area. For Feasibility Study purposes, the Future Without Project Alternative considers the effects of the Dallas Floodway Extension project, which includes the Lamar Street and Cadillac Heights Levees and the Chain of Wetlands measures as recommended in the GRR/EIS, as part of the baseline conditions.

Flood Damage Reduction Plan:
This alternative for the Dallas Floodway seeks to maximize the flood damage reduction outputs. Although an NED Plan has not been determined, preliminary investigations identified a plan that would consist of raising the existing Dallas East and West Levees to a crest height 2 feet above the SPF water surface elevation resulting from implementation of the Dallas Floodway Extension project, which is 1.4 feet lower than the existing elevation at the ATSF Bridge. The levee raise would involve placement of impervious fill up to the design crest height and the addition of fill on the riverside of the levees to a 4 horizontal to 1 vertical slope. This action would result in an increased levee height of approximately 2.5 feet near the Houston Street Bridge. No additional fill would be placed on the city side of the levees. The design would include removal of the existing road base material at the crest of the existing levees prior to the placement of the impervious fill. An additional 18 inches of road base material would be placed on top of the impervious fill to accommodate vehicular traffic for maintenance and inspections. The proposed crest width of the levees would be 16 feet. Excavated fill for the levees would be obtained from the floodplain near the toe of the levees. Levee fill would be excavated from the floodplain from a broad, shallow cut to minimize disruption of the uniformity of the floodplain. These borrow areas would be designed with an average width of 300 feet and have an average depth of 2.5 feet. The improvements to the East Levee would extend approximately 58,400 linear feet and include approximately 1,468,400 cubic yards of embankment. Approximately 54,600 linear feet of the West Levee would be raised and include placement of 1,388,400 cubic yards of embankment. These improvements would extend upstream the full length of the existing levees. The approximate cost for this project is currently estimated at $62.9 million (Benefit/Cost = 1.1) based on January 2003 prices.

No excavation of fill material would occur beneath any of the bridges. Floodwall-type structures would be constructed beneath and between the bridge beams to provide the needed protection at the bridges. All of the existing bridges over the levees provide adequate levee design crest height with the exception of the West Levee crossing of the Houston Street Bridge. Many of the bridges crossing the Trinity River in the study area are being considered as potential historic properties; however, detailed information regarding the status of these bridges and proposed modifications for their protection or restoration is not presently available.

Implementation of this alternative would result in a loss of 11.9 acres of riparian forest. Approximately 787.5 acres of grasslands would also be adversely impacted from implementation of this plan. Replacement of herbaceous vegetation would result in a net gain of 49 acres of grasslands. Mitigation for riparian forest losses would be 35.7 acres.

Environmental Quality Plan:
This alternative for the Dallas Floodway was investigated primarily to improve the environmental character of the study area. This Environmental Quality alternative would provide benefits to fish and wildlife habitat, water quality and aesthetic properties while minimizing adverse impacts to existing cultural resources and flood damage reduction benefits. The Environmental Quality alternative for the Dallas Floodway would consist of: excavating a new meandering low flow channel between the levees; establishing forested areas and additional wetlands; and raising the levees to provide a flood damage risk comparable to the “Future Without Project” alternative condition as compensation for additional roughness attributable to increased forested areas.

The meandering channel would be designed to mimic the original natural Trinity River channel with respect to sinuosity, side slope, and capacity. The meandering channel alignment would diverge from the existing channel alignment upstream of the Dallas Area Rapid Transit (DART) Bridge at the downstream end, and from the existing channel near the confluence of the Elm Fork and the West Fork at the upstream end. The preliminary design for the meandering channel would have a variable bank slope and bottom width but would have an average side slope of 3 horizontal to 1 vertical and an average bottom width of 70 feet. Raised overbank areas reminiscent of natural sediment depositional zones would be incorporated as part of the construction to allow the establishment of trees and shrubs normally found in high quality riparian habitat areas. The existing channel would be filled with excavation from the meandering channel up to an elevation approximately 2 to 4 feet below the existing top of bank except for the bridge crossings where the existing channel would be retained. Portions of the old channel would be partially filled and the old banks would be graded to provide gradual slopes that would lead to the development of shallow wetlands. Additional segments of the original channel would be left unfilled to provide sources of permanent water at several locations within the overbank areas. Woody vegetation, including cottonwood and willow, which has reestablished adjacent to the constructed channel over the last couple of decades, would remain. The new meandering channel would traverse the entire available floodplain width between the levees at several locations but would utilize the existing channel crossings at bridges. This would reduce costs by preventing the need to modify bridges to accommodate different channel crossings. The length of the meandering channel would be longer than the existing channel by approximately 8,500 feet. The average bottom slope of the meandering channel would be 0.025 percent.

The meandering channel would have rock outer-bank and streambed protection at the bends. The rock bank protection would be designed to prevent channel migration due to streambank erosion and provide grade control. Placement of rock in the channel and at key areas along the channel curves would promote areas of turbulence in the river flow that would improve aeration and simulate the natural riffles and pools found in the Upper Trinity River. The rock outer bank protection would extend from the toe of the slope approximately halfway up the bank slope or approximately 15 feet in height. The upstream and downstream limits of the rock slope protection would extend from the upstream curvature of the bend to approximately 200 feet downstream of the bend. The rock bed protection would be strategically placed to form riffles and pools and extend across the entire channel bottom from the downstream limit of the rock slope protection, to approximately 500 feet upstream.

Trees would be planted along the top of the bank of the meandering channel on one side at a minimum width of 100 feet. This riparian corridor is intended to ultimately provide overstory shading for the river and would be planted alternately on either side of the channel only on the outer bends of the meandering channel. One- to 5-acre forested areas would be established in random locations within the floodplain between the toes of the levees. A minimum tree spacing of 15 to 20 feet would be required to facilitate occasional underbrush mowing and floating debris collection; however, the perimeter of the forested area would be marked to ensure that mowing does not occur at the same frequency as the remaining areas between the levees and the levee slopes.

Existing depressions in the floodplain would be preserved or enhanced to provide seasonal wetland functions and to support wetland vegetation. No structures to provide water management of individual wetland sites are proposed. Wetland sites would also be periodically mowed to control woody vegetation but would not necessarily be required on the same frequency as the grassland areas of the floodplain. Implementation of the Environmental Quality alternative would result in an increase of 224 acres of surface water, 184 acres of forest, and 84 acres of wetlands. The Environmental Quality alternative would result in a loss of 492 acres of grasslands.

Status of the Dallas Floodway Interim Feasibility Study:
This study is suspended pending selection of an alignment for the Trinity Parkway proposed by the North Texas Tollway Authority and the City of Dallas. Alternatives being considered for the Trinity Parkway are described later in this chapter. Once the issue of an alignment for the Trinity Parkway is resolved, and if the City of Dallas still desires to proceed with the Corps of Engineers on formulation of a plan for flood damage reduction, ecosystem restoration, and recreation, studies will be resumed.

Any plan for the Dallas Floodway involving Corps of Engineers participation will be subject to additional appropriate NEPA requirements, including tiering from the June 2000 PEIS.

Studies Expected To Move Forward To Cost-Sharing Negotiations
Two potential interim feasibility studies have been identified under the Upper Trinity River Basin Study, which have a reasonable likelihood of sponsorship by local interests, and which are in the general vicinity of the DFE project. Those studies are shown on Table 3-1 as the Mountain Creek Watershed Study and the West Fork at Hwy 360 Study. Grand Prairie has expressed an interest in evaluating opportunities for multi-objective flood damage reduction, ecosystem restoration, and recreation in the Mountain Creek watershed. The Cities of Fort Worth, Grand Prairie, Arlington, and Dallas County have expressed an interest in cost sharing in the feasibility study of ecosystem restoration and recreation along the West Fork of the Trinity River near Hwy 360. Since no studies have currently been initiated it is not possible at this time to define what any potential projects might entail.

West Fork at State Hwy 360
A feasibility study is being considered to evaluate the Federal interest (Corps of Engineers) to participate in a project to provide ecosystem restoration and recreational development. The preliminary identified study area extends from FM157 on the west to Roy Orr Boulevard on the east in Grand Prairie. The area includes floodplain lands between these two areas. Degradation of forested resources has occurred from transportation crossings, uncontrolled offroad vehicle use, and local floodplain fill activities for developments. Aquatic and terrestrial restoration and preservation and linear recreation appear to be project features most likely to have a federal interest. The linear recreation could provide linkage between existing the Arlington trail system immediately to the west and a proposed recreational trail in the city of Grand Prairie. Access needed for operation and maintenance of the ecosystem restoration and recreation could incorporate potential linkage to TRE Centerport rail station. Additionally, the project could incorporate an abandoned railroad bridge, built around 1900 into the system for maintenance access. The existing regional recreational trail system typically utilizes a 12-foot wide concrete trail. This type of trail would be investigated along with other alternative sizes and surfaces along with differing alignments for incorporation into this plan. While the actual study area has not been finalized, it is currently estimated that 800 acres could be included in a project. This study could be initiated by Fall 2003. Potential cost sharing sponsors with the Corps of Engineers for this study include Grand Prairie, Arlington, and city of Fort Worth and Dallas County in cooperation with NCTCOG.

CONTINUING AUTHORITY PROGRAM STUDIES

The Corps of Engineers Continuing Authorities Program (CAP) consists of several authorities delegated by Congress to the Chief of Engineers for study and implementation of projects if determined to be in the Federal interest. All CAP authorities have limitations on Federal expenditures, most at about $5M to $7M per project, and all have requirements for cost sharing by a local sponsor. Among those Continuing Authorities are: Section 205 for local flood damage reduction; Section 206 for aquatic habitat restoration; Section 1135 for habitat restoration of damages caused by Corps of Engineers projects; and others. Descriptions of all on-going CAP studies in the Upper Trinity River Basin are contained in the PEIS for the Upper Trinity River. The only CAP studies that are currently underway that are closely related geographically to the DFE project are being conducted under the Section 1135 authority.

Section 1135 Projects
Section 1135(b) of the Water Resources Development Act of 1986, as amended, authorizes the modification of structures and operations of water resources projects constructed by Corps of Engineers, or restoration of areas affected by Corps of Engineers projects, for the purpose of improving the quality of the environment in the public interest. The Federal expenditure limit on Section 1135 projects is $5,000,000. Section 1135 studies being conducted in the study area are discussed below.

Ecosystem Restoration Project, Old Trinity River, Dallas:
This project will restore riparian and wetland vegetation along the remnant West Fork of the Trinity River channel adjacent to the south levee of the existing Dallas Floodway in west Dallas. This area along with interconnected small-excavated areas serves as the interior drainage system for the Dallas Floodway. The specific objective of the restoration would be to re-establish the bottomland hardwoods, riparian forest and emergent wetlands that originally existed in the project area. This would be accomplished through modification of the Bickers Street Sump, construction of a water surface elevation control structure at the Westmoreland Road crossing, restoration of the lower Shadrack Creek channel by construction of an overbank wetland, planting of trees and shrubs along the Old Trinity Channel that are conducive to enhancing wildlife values, and regeneration of the littoral zones along the developed and modified wetlands to provide additional wildlife and fisheries values. The project would restore approximately 29.93 acres of emergent wetlands, improve the quality of habitat on 28.42 acres of riparian forest and result in the restoration of 53.48 acres of grassland. Public review of the Draft Report and Environmental Assessment for this project is currently scheduled for July 2003.

Ecosystem Restoration Project, Joppa Preserve, Dallas County:
At the request of the Dallas County, and under the authority of Engineers Section 1135 of the Water Resources Development Act of 1986, as amended (33 USC 2201), the Fort Worth District Corps of Engineers conducted an ecosystem restoration study to identify the environmental degradation caused by the construction and operation of the Dallas Floodway project and subsequent development activities, evaluate measures to improve the functional stability and integrity of important ecological resources, identify opportunities that would improve the quality of these important ecological resources, and recommend a cost effective ecosystem restoration project, if applicable. The study area consisted of approximately 390 acres of lands within the 100-year floodplain of the Trinity River located southeast of Interstate Highway 45 and Loop 12 in southeast Dallas, Dallas County, Texas. The majority of the area, approximately 315 acres, is currently owned by Dallas County and operated and maintained by the city of Dallas. This property, known as the Joppa Preserve, consists of Lemmon Lake, Little Lemmon Lake, and some surrounding area and is located immediately adjacent to the main stem of the Trinity River about 9 miles downstream of the Dallas Floodway project.

Proposed project features include the reconstruction of the levee embankment separating Lemmon Lake from the Trinity River in two places where severe erosion and bank sloughing have occurred; the removal and replacement of the existing water inlet structure in Lemmon Lake from an unnamed tributary of Five Mile Creek, diversion of water from the same tributary into Little Lemmon Lake; repair of an existing water outlet structure in Little Lemmon Lake; relocation of the water control structure in Lemmon Lake to the southern bank of the lake, removal of the old structure, and repair of the breach in the levee at the location of the old structure; and dredging portions of Little Lemmon Lake to provide water depth gradients and use the dredge material to create a nesting island. In addition, the proposed project would restore or create approximately 123 acres of emergent wetlands, improve the quality of the habitat on 68 acres of bottomland hardwood and mixed deciduous forest stands, reforest 53 acres of open space to bottomland hardwoods, and restore 60 acres of native grass and forb lands, in addition to protecting 20 acres of maintained park lands, and 73 acres of open water. The remaining acres of existing habitat within the study area would become more valuable by reducing the fragmented nature of the existing habitat and restoring a contiguous corridor for migration of avian and wildlife species through the area. The recommended plan would significantly increase the habitat value of the study area over the future without project alternative.

A final component of the plan, recreation access, includes approximately 8,800 linear feet of equestrian trail that will be 10 foot wide, stabilized dirt covered with wood mulch, 550 linear feet of shared equestrian and pedestrian trail that will be 8 foot wide grass pavers suitable for pedestrians (approved by the Americans with Disabilities Act) and horses, and 3,900 linear feet of pedestrian trail the is 5 foot wide reinforce concrete. In addition, recreation access features include a roughly 900

square yard parking lot located in the southwestern corner of the study area, which can be reached from Simpson-Stuart Road.

The recommended plan would impact waters of the United States and is subject to provisions of Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. The restoration activities recommended would meet the conditions of Nationwide Permit 27, Wetland and Riparian Restoration and Creation Activities. The State of Texas has issued a water quality certificate for Nationwide Permit 27 and therefore no further coordination is required under Section 404. The proposed project is located within the flood plain of the Trinity River. The project, as proposed, requires siting within the flood plain to meet its intended purpose and further, the project would not induce or increase flood damages within the area, therefore, the proposed project is in compliance with Executive Order 11988, Floodplain Management. The proposed project would neither adversely impact nor result in any loss of wetland areas so the project is in compliance with Executive Order 11990.

Public involvement for this project has been conducted, the Finding of No Significant Impact (FONSI) has been signed, and higher Corps of Engineers authority has approved the planning report. The project is currently waiting approval of the Project Cost Sharing Agreement (PCA) and funding for preparation of Plans and Specifications for construction.

REASONABLY FORESEEABLE ACTIONS OF OTHERS

There are a number of potential projects of other entities, including the private sector as well as local, state, and Federal agencies. There are relatively few, however, that have the potential for significant cumulative effect on water and related land resources of the Upper Trinity River Basin study area with the possible exception of the proposed Trinity Parkway.

FLOODPLAIN POLICIES AFFECTING FUTURE DEVELOPMENT

There have been two major regional policies developed since the mid-1980s that are specifically intended to reduce cumulative impacts to hydrology and hydraulics of development activities within the floodplain of the Upper Trinity River Basin. The first is the Trinity Regional Environmental Impact Statement (TREIS) and its Record of Decision of 1988. The second is The Corridor Development Certificate (CDC) program, which is a joint effort of the North Central Texas Council of Governments (NCTCOG), the Corps of Engineers, Fort Worth District, and member NCTCOG cities with jurisdiction over the Trinity River floodplain.

1988 Record of Decision for the Trinity Regional EIS

The TREIS was prepared by the Corps of Engineers in the mid-1980s to address extensive floodplain development that was occurring along the Trinity River within the region. The TREIS focused on actions requiring permits under Section 10 of the River and Harbors Act of 1899 and Section 404 of the Clean Water Act of 1972, as amended, with emphasis on addressing cumulative impacts of granting multiple permits. The Record of Decision (ROD) for the TREIS was signed in 1988. The ROD applies to all project actions requiring a permit under either Section 10 or Section 404 within the Standard Project Flood (SPF) floodplain. In general, the criteria developed to reduce hydraulic impacts include the provision for no increase in the 100-year or SPF elevation from dredging and/or fill activities along the mainstem, West Fork, and Elm Fork and tributaries. The criteria also require a maximum loss in storage capacity for the 100-year and SPF discharges of 0 percent and 5 percent, respectively. For projects proposed on tributaries with drainage areas of 100 square miles or less, criteria allow for up to 15 percent reduction of valley storage within the 100-year floodplain and up to 20 percent reduction of the SPF floodplain valley storage. Further, requested projects on tributaries that would increase water surface elevations to a point of inducing additional flooding or damage to others are not to be permitted. The ROD also established guidelines for mitigation of environmental habitat losses caused by projects in floodplain areas covered by the TREIS.

The criteria of the TREIS ROD apply only to navigable waters of the United States under Section 10 and waters of the United States including wetlands under Section 404. It does not apply to projects for which the Corps of Engineers has no regulatory authority. The TREIS raised awareness that a large area of floodplain lands within the Upper Trinity River Basin could be developed outside the jurisdiction of the Corps of Engineers and that if developed following only Federal Emergency Management Agency (FEMA) requirements, significant increases in flooding frequency and extent would continue to occur in adjacent and downstream areas. Subsequently, the Corridor Development Certificate process was established as a means to address those floodplain actions that were not within the jurisdictional areas administered by the Corps of Engineers.

Corridor Development Certificate Process

The purpose of the CDC Process is to affirm local government authority over for local floodplain management while establishing a common set of permit criteria and procedures for development within the Trinity River Corridor. The CDC process ensures that a proposed development's effect on future flooding will be considered in floodplain permitting decisions. Member cities, counties, and the NCTCOG administer the CDC program with technical advise by the USACE. The program, as part of the Trinity River Common Vision, relies on member cities within the area to require developers to submit plans showing the impact of their proposed projects on floodplain hydraulic values. Emphasis is placed on preservation of valley storage; however, participating cities may approve projects with valley storage losses when shown to be in the best overall public interest. After a review by all other cities within the CDC, the proponent city decides on whether to allow the floodplain alteration. The CDC criteria centers on stabilizing flood risk by not allowing new development to cumulatively worsen hydrologic and hydraulic impacts. The member cities participating in the CDC program include Arlington, Carrollton, Coppell, Dallas, Farmers Branch, Fort Worth, Grand Prairie, Irving, and Lewisville, and the counties of Dallas and Tarrant.

DALLAS TRINITY RIVER CORRIDOR MASTER IMPLEMENTATION PLAN

The City of Dallas, on 25 August 1999, preliminarily approved a Trinity River Corridor Master Implementation Plan for the Dallas Floodway and Dallas Floodway Extension area. In the footprint of the Dallas Floodway, this alternative, subsequently called the "Lakes Only" alternative, would consist of a series of lakes, a split river channel, promenades, constructed wetlands, recreation trails, parklands, grasslands, and pedestrian bridges. The lakes and split river channel would result in excavation of one large lake approximately 135 to 235 acres in size and numerous other smaller lakes within the existing Dallas Floodway. The main river channel would be divided with channels running parallel to the levee on either side of the floodway. The lake(s) would be located in the central section of the floodway between the channels, and source water for the lake would be a combination of groundwater and Central Wastewater Treatment Plant effluent polished by the upper three wetlands of the Dallas Floodway Extension's "Chain of Wetlands." The split river channel and raised promenade would provide 2-year flood protection to the lake.

The City of Dallas' Trinity River Corridor Master Implementation Plan provides for the inclusion of water-related or recreational features. However, there are a number of possible variations, depending upon the ultimate alignment selected for the proposed Trinity Parkway route (discussed below). The Trinity River Corridor Master Implementation Plan utilizing the "Lakes Only" plan or the "Lakes Only" plan in conjunction with the Industrial Boulevard option for the Trinity Parkway would result in adverse impacts to 492 acres of grasslands and 191 acres of riparian forest while creating approximately 513 acres of open surface water and 147 acres of wetlands. Implementation of this alternative with a Parkway between the levees would affect essentially the same acreage except that it would also create 260 acres of hard surface roads between the levees.

TRINITY RIVER CORRIDOR COMPREHENSIVE LAND USE PLAN (CLUP)

In June 2000, the City of Dallas contracted with a consulting group, the HTNB Team, to develop a comprehensive land use plan for the Trinity River Corridor. Currently, the project is in its fourth phase and the consultant team is developing a comparative analysis of the Trinity Parkway options that considers economic, land use and urban design factors. The purpose of the Trinity River Corridor Comprehensive Land Use Plan is to review and clarify the goals and objectives for the Trinity River Corridor in order to develop and provide information to the Dallas City Council and the Citizens of Dallas related to the costs and benefits of the Trinity River Project and its specific components. The objectives of the costs and benefits study are as follows:

- To identify the site specific, and spin-off costs and benefits of each of the Trinity River Project components as currently planned, including the Dallas Floodway Extension (DFE), the Elm Fork Levee, the Trinity Corridor Transportation Improvements, the Great Trinity Forest, and the Chain of Lakes,
- To provide analysis needed to assist the City in identifying a preferred alternative for the Trinity Parkway and associated improvements, and,
- To re-evaluate the phasing of the proposed improvements based upon the costs and benefits of each.

The purpose of the study is to develop a long-range plan, implementation strategies and economic analyses for the Trinity River Corridor. The plan will also provide analysis needed to assist the City in identifying a preferred alignment for the Trinity Tollway.

Study Area

In the first phase of the study, the consultant reviewed existing plans and policies, existing physical conditions, existing infrastructure, and proposed Trinity River Corridor Projects in order to identify potential boundaries for both primary and secondary areas of study. Twenty-two (22) sub-areas of the corridor were identified as primary study areas. The consultant will prepare very detailed land use plans and urban design strategies for these sites. These areas were selected based upon the following criteria: a) proximity to the Trinity River; b) proximity to one or more of the proposed Trinity Parkway options; c) proximity to existing or future DART rail; d) existing residential uses with housing issues; and e) existing under-utilized commercial and industrial areas. The secondary study area or overall project study area is roughly 1 to 1 ½ miles on either side of the Trinity River from Royal Lane on the north to IH 635 on the south. The consultant team will prepare a recommended land use plan and planning policies for this area.

Figure 3-3 provides an overview of the study area for the CLUP, along with the locations of the 22 sub-areas of the primary study area. From the 22 primary study areas, the consultant will identify 10 prototype sites. The development types in the prototype plans can occur in other places along the corridor with similar characteristics.

Expected Outcomes

The expected outcomes of the CLUP study include a comprehensive land use plan, including urban design strategies, for the Trinity River Corridor study area. Economic analyses from the study will include: cost/benefit analysis of the Trinity Parkway options; market analysis of the recreational amenities associated with the Trinity Project; market analysis of the Trinity River Corridor; and cluster/target industry analysis for corridor. The team will also conduct a study to determine the financial approaches that will capture the economic potential and benefits generated by the Trinity River Project. An implementation strategy will be developed which will include identification of budget strategies, financing program for improvements, identification of State and Federal funding opportunities, identification of regulatory tools and changes, identification of regulatory guidelines, identification of catalyst projects, and preparation of a phasing plan for development. In the last phase of the study, the consultant will identify the ordinances and policies that will need to be changed to implement the recommended plan. The team will also identify design guidelines that

would need to be incorporated in zoning and subdivision regulations and incorporated in property disposition agreements to achieve the desired results of the recommended plan.

Current Status
The consultant is tentatively scheduled to brief the City Council by Midyear 2003. This study is now expected to be completed by the end of 2003. The development of the comprehensive land use plan (last phase of the project) is scheduled after the City Council selects the locally preferred alignment for the Trinity Tollway. Until this plan is developed, presented to, and adopted by the Dallas City Council, it is not possible to predict the individual impacts of the plan or cumulative impacts associated with the DFE project.

TRANSPORTATION – VEHICULAR

The Texas Department of Transportation (TXDOT), Dallas District is responsible for planning to meet much of the transportation needs in the study area. Parts of Dallas, Denton, Collin and Ellis Counties are within the Dallas District portion of the Upper Trinity Basin. TXDOT provided data to the Corps of Engineers for inclusion in the Supplement to the EIS for the DFE project. The information was provided in the form of a spreadsheet that enabled the Corps of Engineers to conduct a further analysis to isolate the projects that actually were proposed to cross tributaries to or on the Main Stem, Elm Fork, and West Fork of the Trinity River. Data available at this time precludes determination of actual footprint that would be affected by most of the proposed activities; however, the width of the crossing including approach construction is available. Table 3-2 provides a summary of that information by county.

Most of the construction that would be conducted by TXDOT summarized in Table 3-2 would be replacement or in some cases widening of existing structures. Further most of these activities are on crossings of small tributaries on existing rights of way, and would likely be authorized by Nationwide permit under the Section 404 process. A few of these projects however have a potential to cause.

TABLE 3-2, DALLAS DISTRICT TXDOT REASONABLY FORESEEABLE PROJECTS
Bridge and Abutment Replacements and New Trail Construction
Within Upper Trinity River Basin

County	Number of Activities	Linear Feet	Proposed Construction Initiation Dates	Estimated Cost
Bridges				
Collin	6	1,900	Jan 2003 to Mar 2007	$7,276,000
Dallas	94	92,200	Mar 2001 to Jan 2010	$189,968,000
Denton	73	38,100	Jan 2000 to Apr 2012	$44,544,230
Ellis	3	1,600	Sep 2003 to Jan 2008	$1,905,657
	176	133,800		$243,693,887
Trails				
Dallas	6	34,500	May 2005 to Jun 2012	$15,660,521
	6	34,500		$15,660,521
Totals	182	168,300		$259,354,408

cumulative impacts to some resources, particularly, waters of the United States, including wetlands, riparian forests, hydrology and hydraulics or other floodplain values. These transportation projects as well as those that might be constructed under other local government authorities or initiatives, including the City of Dallas' proposal for bridge crossings of the Trinity River mainstem are described in the following paragraphs.

Trinity Parkway/Tollway

By far the proposed action within the general geographic area of the DFE with the greatest potential for cumulative effects is the proposed Trinity Parkway or Tollway. Feasibility studies are currently underway to determine whether the project may be economically and environmentally feasible. The Programmatic EIS for the Upper Trinity River Basin (PEIS) dated June 2000 addresses the status of the proposed Tollway, as it was understood at that time. Below is a brief background description of the proposal along with descriptions of the alternatives that are being evaluated by the NTTA and their estimated costs as of the date of this Supplement to the EIS for the DFE project.

In 1998, TXDOT completed a Major Transportation Investment Study (MTIS). The study focused on transportation needs in the IH-35E/IH-30 interchange on the west side of downtown Dallas (the Mixmaster) and the depressed portion of IH-30 south of downtown (the canyon). The MTIS plan of action consists of seven elements including constructing a reliever route along the Trinity River. Based upon support from the City of Dallas and the North Texas Tollway Authority (NTTA), the Federal Highway Administration, on June 17, 1999, issued Notice of Intent to prepare an Environmental Impact Statement on the Trinity Tollway. The EIS will address five alternative alignments for the Trinity Tollway. Additionally, a design option for access to IH-35E (South R.L. Thornton Freeway) will be addressed for each of the five alternatives. The alternatives include: 1) reconstructing Irving/Industrial Boulevard to be installed as a double-deck structure, 2) modification of the existing Irving/Industrial Boulevard to accommodate increased traffic load, 3) combined Tollway constructed on the riverside of the East Levee of the Dallas Floodway, 4) split Tollway constructed on the riverside slopes of the Dallas Floodway East and West Levees, 5) split Tollway constructed on the landside slopes of the Dallas Floodway East and West Levees. All alternatives use the US-175 interchange with S.M. Wright Freeway (SH-310) as the southern terminus, and the Stemmons Freeway (IH-35E) interchange with John W. Carpenter Freeway (SH-183) will serve as the northern terminus. Structural alternatives being evaluated by NTTA are described below:

Irving/Industrial Boulevard – Elevated:

This alternative would entail development of a reliever route by modifying the entire Irving/Industrial segment to be installed as a double-deck structure above the existing city street. Traffic along the proposed route would be bi-directional. The elevated Irving/Industrial Boulevard option would be approximately 8.83 miles in length and would vary from four to three lanes in each direction. The construction cost of this alternative is approximately $1.2 billion and would require approximately 280 acres of right-of-way. This alternative would essentially avoid impact to the Dallas Floodway.

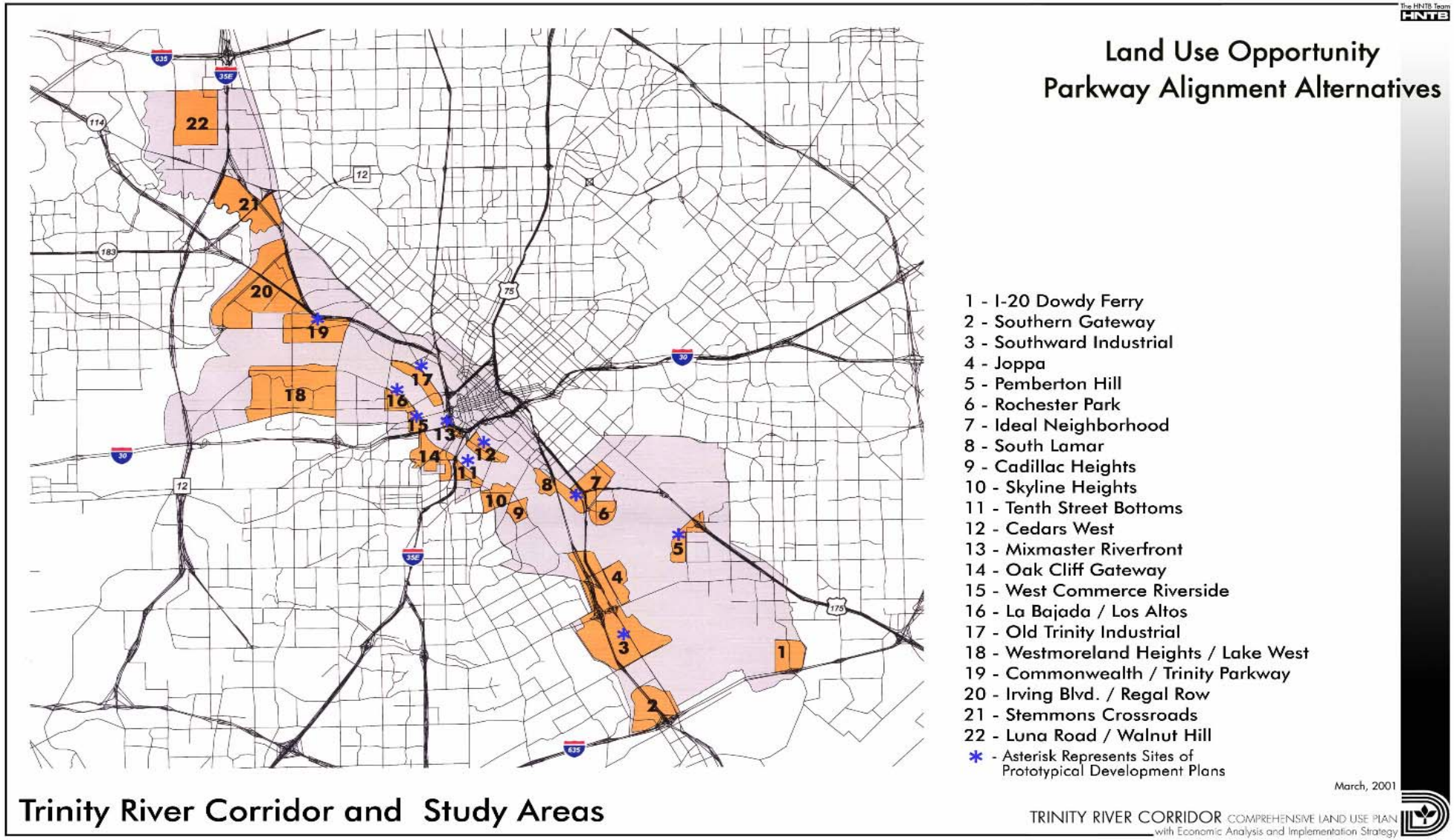
Irving/Industrial Boulevard – At Grade:

This alternative is similar to the elevated alternative; however, the road is installed primarily at-grade. Traffic would be bi-directional with four to three lanes in each direction. The route for this alternative would be approximately 8.83 miles in length and would require approximately 370 acres of right-of-way. The construction costs would be approximately $923 million to construct. This alternative would essentially avoid impact to the Dallas Floodway.

Combined Tollway – Riverside:

This alternative would have four to three lanes in each direction along the riverside of the Dallas Floodway East Levee. The route would have a design speed of 60 mph with a posted speed of 55 mph and be approximately 8.67 miles in length. The roadway would generally follow the riverside face of the Trinity Floodway East levee to the DART light rail bridge (5.6 miles) before crossing the levee to proceed on the landside of the proposed DFE East Levee extension (Lamar Levee). Placement of the roadway would be approximately two feet above the 100-year flood event, and

FIGURE 3-3, TRINITY RIVER CORRIDOR LAND USE PLAN (CLUP)



where the road underpasses existing bridge structures, protection from a 100-year flood event would be provided by a riverside floodwall. The tollway would have a width of approximately 332 feet in the floodway segment. The Combined Tollway – Riverside alternative would require 396 acres of right-of-way and cost approximately $620 million to construct.

Split Tollway – Riverside:
This alternative would be constructed on the riverside slopes of the Dallas Floodway East and West Levees with four to three lanes in each direction. The roadway would split west of Hampton/Inwood Road with the southbound lanes crossing the Trinity River to the West Levee. The southbound and northbound lanes would travel along the riverside face of the west and East Levee, respectively. The split would continue for approximately 4.2 miles before the southbound lanes would cross to the east levee via a bridge structure and rejoin the northbound lanes near Corinth Street. The roadway would be placed upon earthen embankments set approximately two feet above the 100-year flood level, and where the road underpasses existing bridge structures, protection from a 100-year flood event would be provided by a riverside floodwall. The roadway width would be 246 feet within the floodway segment, and a 20-foot drainage swale would be located on the levee side of the roadway. The entire Split Tollway – Riverside alternative is approximately 8.84 miles in length and would require 498 acres of right-of-way. The construction cost for this alternative is approximately $670 million.

Split Tollway – Landside:
The landside alternative is identical to the Split Tollway – Riverside alternate, except the roadway would be located on the landside of the levees and underpass existing arterial roadways. The normal drainage conditions of the levee-protected areas would be incorporated into the design of the roadway. As with the riverside alternative, the southbound lanes would cross from the west levee via a bridge to the east levee and rejoin the northbound lanes near Corinth Street. This alternative is approximately 8.90 miles in length and would require an estimated 402 acres of right-of-way. Construction costs would be approximately $865 million.

Status of the Proposed Trinity Tollway:
The Federal Highway Administration filed a Notice of Intent (NOI) to prepare an EIS for the Trinity Tollway on June 17,1999. A second NOI was published, which included analysis of potential lakes between the existing Dallas Floodway levees as part of the scope of the Trinity Tollway EIS. As of the date of this draft Supplement to the EIS for the DFE project, the Federal Highway Administration has a scheduled release of a draft EIS for the Trinity Tollway sometime in 2003 and the final EIS is due out sometime in 2004. The Federal Highway Administration's EIS for the Tollway will contain detailed discussions of the direct and indirect effects of each of the alternatives to the Trinity Tollway. After public input on the draft, the Final EIS for the Tollway will include the Federal Highway Administration's recommended alignment and a proposed implementation schedule.

Southwest Parkway
This potential project is not in the immediate vicinity of the DFE project, but because it was not identified in the PEIS, it is discussed here. The Southwest Parkway is a potential 32-mile commuter route from the southwest edge of downtown Fort Worth to Cleburne. The initial project will proceed in a southwesterly direction from downtown to an intersection at Alta Mesa Boulevard, a distance of approximately eight miles. This is a cooperative project between NTTA, the City of Fort Worth, and the Texas Department of Transportation. TXDOT plans to assist in the design and construction of the interchanges at IH 30 and IH 20. In addition, TXDOT plans to extend the initial phase of Southwest Parkway to FM 1187. Feasibility and environmental impact studies are on-going. Final design and right-of-way acquisition could take two years, with construction anticipated to begin in 2004.

Dallas North Tollway (DNT) System
The DNT is a 21-mile, six-lane, main street of the Metroplex connecting downtown Dallas to cities in northern Dallas and southern Collin and Denton Counties, passing through or along the cities of Dallas, Highland Park, University Park, Addison, Farmer's Branch, and Plano. Service roads have already been built north of SH 121 in cooperation with Collin County and Frisco in anticipation of an extension of the tollway. An environmental assessment was performed on the proposed extension from its current

terminus north of Legacy Drive in Plano to US 380 north of Frisco. From Legacy Drive to Gaylord Parkway, the DNT is currently under construction. This includes the interchange at SH 121. The NTTA periodically evaluates the financial feasibility of continued extensions of the DNT to points north of SH 121. Frontage roads currently exist from Legacy Drive just south of SH 121 to FM 2934. Collin County is currently constructing one frontage road from FM 2934 to US 380. Future work on this system falls outside of the study area.

Project Pegasus
Project Pegasus focuses on the IH 30/IH 35E interchange on the western edge of downtown Dallas, locally known as the 'Mixmaster'; the depressed portion of IH 30 south of downtown, locally known as the 'Canyon'; and the portion of IH 35E from the Mixmaster to SH 183, also referred to as 'Lower Stemmons'. Project Pegasus is intended to transform the two major Interstate Highways directly serving Downtown Dallas, by totally redesigning IH 30 from Sylvan Avenue to IH 45, and IH 35E from Eighth Street to Empire Central Drive (north of SH183).

Bridge Crossings of the Trinity River
The bridge crossings of the Trinity River are proposed to be completely reconstructed at both IH 30 and IH35. The City has determined that both bridge replacements should be done as a Signature Bridges. $12 million has been raised by the City of Dallas, Dallas County and from an anonymous donor for the design phase of I-30 Bridge. Phase 1 of preliminary design is expected later this year; design must be completed by 2005 to meet TXDOT anticipated construction schedules. Other proposed bridge replacements for the Trinity River in the vicinity of the DFE project are as follows:

Woodall Rodgers Extension and Bridge**:**
The extension across the Dallas Floodway would be constructed with funding coming from FHWA, TXDOT, and the City of Dallas. Environmental studies have been initiated and documents are in internal review. Although detailed design will not begin until the Trinity Parkway/tollroad alignment is selected, it has been determined that this bridge should be designed with aesthetic considerations. Award of design contract to Santiago Calatrava, S.A. was made in January 2002. The current estimated time for TXDOT to initiate construction of this bridge is mid-2005. The Woodall Rodgers Extension Bridge is potentially the first major signature bridge to be constructed across the Trinity River Corridor. Located between the Continental Avenue and Union Pacific Railroad Bridges, the Woodall Rodgers Extension Bridge would unite the West End and downtown Dallas to West Dallas and Oak Cliff. One suggested design for the bridge would be for a six to eight lane bridge consisting of two separate inclined arches connected at the top. The Continental Avenue Bridge could be totally converted to a pedestrian bridge.

Beckley Avenue Enhancement:
The studies to provide technical information for eventual design of Beckley Avenue improvements were initiated in Summer 2001. The segment currently being evaluated has boundaries of the Union Pacific Railroad and just south of Commerce Street. The intent of the upgrade is to improve Beckley to a six-lane expanded roadway. While studies have been initiated, the detail design is dependent on the Woodall Rodgers extension design. It is estimated that construction would be complete by 2008. The footprint of the Beckley Avenue improvement would be located entirely on the landside of the West Levee.

Corinth Street Bridge (new):
Proposed by TxDOT and the City of Dallas, it was originally anticipated that this bridge would be completely demolished and reconstructed. However, to retain the architectural significance of this structure it has now been planned as a separate additional bridge.

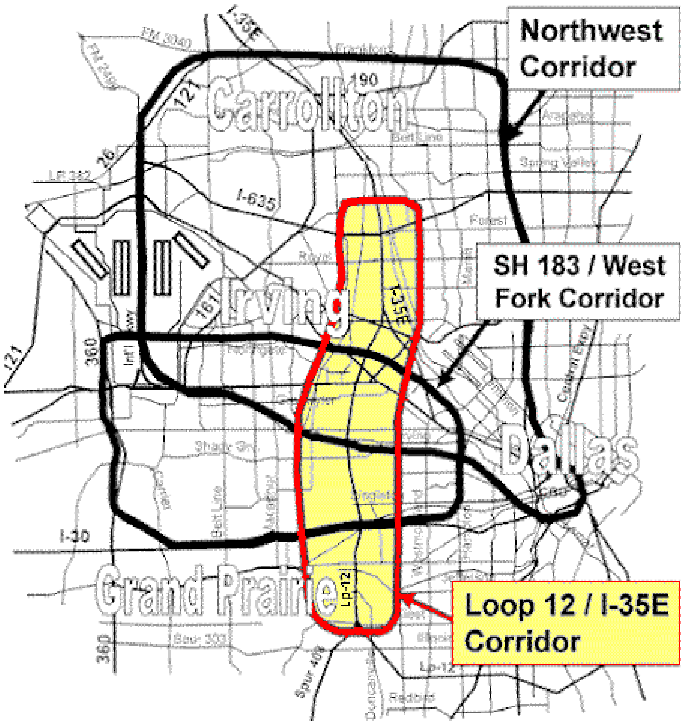
Hampton Road Bridge (replacement):
Based on information received, the Hampton Bridge replacement will provide for a widening of the existing lanes to provide for better traffic flow. Some of the design has been completed but construction funds are not foreseeable for this project at this time.

Sylvan Street Bridge (replacement):
The surface of this bridge and its approaches are entirely within the Dallas Floodway floodplain. Because of its location, the crossing is required to be closed on a frequent basis as rising waters inundate the floodway. An initial design has been done for this Dallas County Bridge, but construction funds have not been appropriated. No detailed information has been made available to the Corps of Engineers for this proposal.

SH 183 Bridge at Elm Fork (Replacement):
The SH 183 Bridge at the Elm Fork is a bridge widening enhancement project, with some lane widening and possible new lanes. The Major Investment Study (MIS) is underway by the highway department, which should provide more general information about capacity needed but will not provide details for impact assessment.

Loop 12 Bridge Replacement at Elm Fork and West Fork:
Consideration for improving this crossing is incorporated into a larger MIS, which should provide more general information about capacity needed. Currently, however, details are insufficient to determine size, timing, and exact location of the structures or other transportation features that might be implemented in the Loop 12 study area. Figure 3–4 provides an overview of the Loop 12 study area.

FIGURE 3-4, Transportation Corridors



President George Bush Turnpike (Segment IV)
The proposed project is approximately 5.5 miles in length and involves the construction of a new 6-lane north-south controlled-access tollway in Dallas County specifically within the Cities of Irving, Carrollton and Farmers Branch. The purpose of the proposed project is to create a direct link between IH 35E and IH 635, which would complete the northern and western sections of the President George Bush Turnpike. A Section 404 permit (199700020) was issued on May 24, 2002, authorizing placement of fill into 133 acres of waters of the United States. The project will result in permanent adverse impacts to 58.61 acres of waters of the United States including 26.22 acres of wetlands and temporary adverse impacts to 74.12 acres of waters of the United States including 11.54 acres of wetlands. To compensate for adverse

impacts to the aquatic environment, the project also includes a mitigation plan that must be implemented as part of the project. The plan includes restoration and /or enhancement of approximately 12, 251 linear feet, which would total 66.0 acres of Elm Fork Trinity River adjacent to the proposed roadway, development of 22.4 acres of emergent wetland and 18.5 acres of open water habitat within the 100-year floodplain of the Elm Fork. The entire 106.9 acres in the mitigation plan would be protected in perpetuity through management as mitigation and natural areas. Authorization for completing the work by Section 404 ends on December 31, 2006.

West Fork Corridor
The Texas Department of Transportation is performing a Major Investment Study (MIS) on improvements to SH 183 (the "Airport Freeway") and the construction of a companion transportation facility referred to as the West Fork Corridor. The general study area is also indicated on Figure 3-4 and basically covers east-west transportation needs in the north central region of the DFW Metroplex. Generally, the study area includes, west Dallas, central Irving, north Grand Prairie, and the southern area of DFW International Airport. Also covered are areas generally north of the West Fork of the Trinity River. The SH 183/West Fork Corridor covers existing SH 183 (Airport Freeway) through Dallas and Irving from the interchange of I-35E and SH 183 westward to SH 360 and is about 10 miles.

The West Fork Corridor connects to the west end of the "Trinity Parkway Corridor." Ultimately, this facility would connect the Central Business Districts of Dallas and Fort Worth. The corridor extends almost to I-30, covering some portions of Grand Prairie, Arlington, and Fort Worth. The MIS for the West Fork Corridor will cover a large variety of potentials to address transportation needs in this area and will consider travel modes such as:

- Rail and bus transit
- High Occupancy Vehicle (HOV) lanes
- Express lanes
- Bicycle and pedestrian facilities
- Toll facilities
- Non-construction measures such as Travel Demand Management (TDM)
- Transportation Systems Management (TSM)
- Intelligent Transportation Systems (ITS)
- Additional all purpose travel lanes

At this point in time, no specific alignments or features have been chosen or designed such that cumulative impacts can be quantified. However, it can generally be stated that hydrology and hydraulics and environmental preservation issues are of concern in the West Fork and its floodplain. Social and economic impacts will be of greater concern for alignments of project features near the existing Hwy 183 area, or for that matter along most areas not within the 100-year floodplain, which has been or will be subject to competing developmental pressures

TRANSPORTATION – RAIL

Trinity Railway Express (TRE) parallel bridge and repair of existing bridge on Elm Fork
The bridge crossing is actually owned and operated by Burlington Northern Santa Fe Railway, but is shared for use by the TRE. A parallel bridge at the Elm Fork crossing of the Trinity River within the existing Dallas Floodway will be added to allow better scheduling of the commuter train. The addition is part of an overall plan to improve the crossing of the river in this area. According to the Dallas Morning News, August 8, 2002, the Elm Fork bridge project would take about 18 months to complete.

The new bridge construction was authorized by Nationwide Permit 14 (199900397) and renovation / replacement of the existing bridge was authorized by Nationwide Permit 3 (20000935). Evaluation of information submitted for Corps of Engineers permit review, and also to the Federal Emergency Management Agency, indicates the combined actions would result in a impact of 0.11 acres of waters of

the United States and an additional 0.04 acres of wetlands. The project was reviewed and determined to meet the hydrologic and hydraulic criteria of the CDC review process discussed earlier in this chapter and also meets the aforementioned for new construction in a Federal floodway.

Northwest Corridor Crossing at Elm Fork
Dallas Area Rapid Transit (DART) initiated a Northwest Corridor Major Investment Study (MIS) beginning in Spring 1998. In December 1999, the Project Team completed the detailed evaluation of alternatives including costs, operating plans and ridership. The DART Board approved the Locally Preferred Investment Strategy (LPIS) on February 22, 2000. The rail portion of the strategy included two routes one of which detailed a crossing of the Elm Fork of the Trinity within the existing Dallas Floodway. The University of Dallas/Texas Stadium alignment diverges from the Union Pacific Railroad just south of Northwest Highway. The alignment turns southwest toward Texas Stadium and University of Dallas, paralleling Story Lane, and continues along the south side of SH 114 before turning north toward the Las Colinas Urban Center. At the North Urban Center Station, the alignment turns west and generally parallels SH 114 to its ultimate terminus at the north end of DFW Airport. Most of this alignment would be on a new corridor. Detailed design studies of this alignment will begin in Fall 2002. The crossing of the Elm Fork near Story Lane should have similar impacts to waters of the United States as those described for the TRE Elm Fork crossing.

Southeast Corridor Crossing at White Rock Creek
The US Department of Transportation, along with Federal Transit Administration and DART, has conducted studies to evaluate potential alternatives to provide light rail project to improve transit opportunities within the Southeast Corridor. The study area generally includes the area along and between IH-30 and IH-45 extending from Dallas CBD to IH- 635. Several alternatives were evaluated in a draft EIS dated February 2002. The “build” alternative discussed in the summary of the draft EIS indicates that eight streams or tributaries would be crossed with bridge structures. Four areas within the 100-year floodplain would be crossed. Approximately 70 acres of vegetation would be impacted, of which 30 acres are currently forested primarily within the White Rock Creek to the June Road segment.

Other Railroad Modifications
Representatives of the Union Pacific Railroad and others have met with Corps of Engineers and City of Dallas personnel to address a potential rail siding expansion within an area adjacent to the proposed DFE. The existing rail yard is located East of Highway 310 and is intersected by Linfield Street. In this area, the only direction that the yard could be expanded would be toward the Trinity River, which would require fill within the floodplain to accomplish. This expansion, if it should occur, would likely extend onto a 25-acre tract of land that was identified in the DFE GRR/EIS to be partially used to meet environmental mitigation requirements. Additional discussions indicate that should the UPRR decide to further consider expansion in this area, there would be a need to evaluate means to mitigate hydrologic, hydraulic and environmental impacts. One idea under consideration to accomplish the hydrologic and hydraulic impacts would be to develop valley storage on the east side of the Trinity River directly across from the existing rail yard. Material removed to provide the valley storage could be used for the rail yard expansion and additional material could be used on the more upland areas adjacent to the borrow site to raise that area above the 100 year flood plain for residential development.

The 25-acre tract represents about two percent of the required mitigation area, and should it not be available as planned for in the DFE/EIS then additional land, most likely within the White Rock Creek drainage, would need to be evaluated for its ability to offset this change.

AIR TRAVEL / AIRPORT PROJECTS

There are no known air travel or airport expansion projects or potential future developments that might affect hydraulics and hydrology of the DFE study area.

FLOOD DAMAGE REDUCTION

Cadillac Heights Buyout Plan

As a result of a recent settlement in the Miller lawsuit, the City of Dallas agreed to purchase six homes in Cadillac Heights. The six owners and the addresses of their homes are as follows; F. Crawford at 2511 Chrysler, C. Miller at 2723 Roberta, M. Cooper at 2503 Chrysler, M. Hayden at 2423 Chrysler, J. Adams at 2527 Chrysler, and D. Thomas at 2414 Chrysler. All of these six homes lie outside the 100-year floodplain.

There have been discussions by City officials and staff and in the media regarding a plan to buyout the remainder or a substantial number of homes in the Cadillac Heights residential area and then convert it to some other use after the area is protected by the levee system proposed in the DFE project. The most recent proposal is the buyout of a number of homes and vacant property above the 100-year floodplain and subsequent construction of a police training facility. In April 2002, City of Dallas staff presented a concept to City Council to replace the residential footprint of the Cadillac Heights neighborhood with a City services footprint that could serve the Police Department, Dallas Water Utilities, and Code Enforcement. This idea is currently unapproved and not funded. If such a concept is eventually adopted by City Council, it is envisioned that such a plan would take about ten years or longer to implement. Any schedule is totally dependent on the City's success in securing the necessary funds. A second idea for transforming the Cadillac Heights residential footprint to a light industrial, private development footprint was also presented by City staff to City Council.

During the scoping meeting for this Supplement to the DFE EIS, one attendee stated an indication that the City has a specific plan to either participate in a buyout, or to encourage others to convert the land use of the area, could be found by examining recent zoning changes in the Cadillac Heights area. From information provided to the Corps of Engineers subsequent to the Scoping meeting, no zoning changes have been recently implemented by the City of Dallas for the Cadillac Heights vicinity. In fact, no zoning category (residential verses industrial) changes have occurred since 1965. The only zoning changes since 1965 are the result of changes in zoning definitions (type of residential zoning or type of industrial zoning). Also, no specific proposal for a Cadillac Heights categorical zoning change is currently being prepared for City Council approval.

The City has contracted a study to produce economic development scenarios that may result from the full implementation of Trinity River Corridor Project Bond Program. This Comprehensive Land Use Plan (CLUP) has been ongoing since June 2000 and is expected to be completed by the end of 2003. It is conceivable that the CLUP may recommend some land use changes in the floodway and adjacent areas. Some rezoning might be required should the city choose to implement the CLUP. However, at this time no results are available that provide definitive information to the Corps of Engineers that there is any reasonably foreseeable project or plan to buy out houses within the Cadillac Heights area other than the six homes required by the previously discussed "Miller" lawsuit settlement.

Removal/Replacement of ATSF Bridge

Studies have been conducted to determine the historic status of this bridge, as well as, the possibility to use this alignment for a recreational trail crossing of the river. In addition, the existing configuration of the support piers and abutments cause substantial impacts to hydraulic conditions of the Dallas Floodway. It has been proposed to remove the wooden, concrete, and earthen approaches, preserve the historic center span, and reconstruct the approaches to blend with the preserved center span, thus potentially providing hydraulic relief while maintaining possible trail access. An interlocal agreement is required with TXDOT to use this bridge as a recreational trail. The City of Dallas' schedule calls for selection of a consultant to begin design in early 2003. TXDOT has agreed to assist in review and assist with design criteria. Figure 3–5 is a picture of the ATSF Bridge.

FIGURE 3-5, ATSF Bridge, Dallas Floodway

Elm Fork Area

The City of Dallas has initiated an Elm Fork Floodplain Management Study to develop a storm water management plan for the Elm Fork Corridor. The goals are to identify flooding problems and recommend solutions, identify open space ecosystem restoration and recreational opportunities, incorporate proposed transportation initiatives and produce a floodplain management plan. The study area also includes the floodplain area between the Elm Fork and IH 35 and between Royal Lane and Hwy 183; included in the area are the Richards Branch, Wesco Channel, and Daniels Branch watershed. Flood damage reduction alternatives being considered include a Luna Road levee and channel, buyout of areas to construct a mega-park with limited flood damage reduction capacity, and ring levees to protect all or portions of the study area. Other levee alternatives for the Daniels area, channel improvements for Richards Branch and culvert replacements and buyout of floodprone areas to convert to park and open space in the Wesco area are being considered for flood damage reduction potential. Several road modifications to locate the road surface above the 100-year floodplain are being considered. Other features considered in the plan include evaluation of proposed Dart light rail projects and recreational access between Bachman Lake and Irving. The plan included these and other transportation initiatives that cannot be considered as potential projects at this time. No transportation projects would be funded by the Trinity Bond Funds within the Elm Fork area. Twelve recreational priorities were identified in the plan. Recreational features proposed include conversion of disturbed open space to soccer fields, establishment of a primary trail from Luna Road south to Wildwood and another primary trail from Wildwood to Bachman Lake, secondary trail linkages, canoe access at Frazier Dam and California crossing, fishing enhancements, and a white water course. Ecosystem restoration features were incorporated into flood damage reduction and recreational proposal and not specifically identified by location or cost. The primary restoration being proposed is through preservation of existing riparian areas and some development of buffers to benefit existing wildlife habitat.

Las Colinas Levee Raise
Studies have been initiated by Dallas County Utility and Reclamation District (DCURD) to evaluate the need to modify the existing Las Colinas Levee protecting the Urban Center. This 17,700 foot-long levee was designed and constructed by DCURD to provide Standard Project Flood protection. However, DCURD studies indicate that based upon current hydraulic models, only 500-year protection plus freeboard currently exists for this intensively developed area. The DCURD has also indicated that preservation of freeboard designed for the areas being developed north of Royal Lane and east of O'Connor Boulevard is of interest to protect significant existing and future development. DCURD has indicated that they envision that projects to protect or restore flood damage reduction previously provided at these two areas would be conducted in the immediate future.

RECREATION

Trinity Lakes or "Chain of Lakes"(230 and 120 acre) – City of Dallas
The City of Dallas' Master Implementation Plan for the Trinity River Corridor provides for a "Chain of Lakes" between the existing levees of the Dallas Floodway to enhance recreation opportunities of the area. The plan calls for a complex of two lakes created from excavation of material, which would be used to raise the proposed Trinity Tollway to an elevation above the 100-year flood frequency elevation. Dallas' plan also calls for a split river channel that would carry normal flows on either side of the man-made lakes for water quality purposes. The need for the material, the evacuation of which would create the "lakes", is dependant upon which Tollway alignment might be ultimately selected. The City of Dallas is also considering a "Lakes Only" plan that would not require selection of a Tollway alternative that would involve excavation. Ostensibly, Dallas could also pursue the "Lakes Only" plan without Corps of Engineers participation in a multiobjective project between the existing Dallas Floodway levees. Until a Trinity Tollway alignment is selected it cannot be determined with any degree of certainty what configuration, if any, the Trinity Lakes might take.

Equestrian Center and Trinity Interpretive Center (Loop 12 at Main Stem)
A feasibility study and master plan for the Interpretive Center, Equestrian Center and other associated components is being conducted by contract. Brown Reynolds Watford Architectural team initiated the studies in August 2002 and design should be completed by March 2004. The Interpretive Center is estimated to cost $15 million. The Equestrian Center is estimated at this time to cost about $1.7 million. Included are additional funding for trails and design and feasibility studies including site, archeological, economic, conceptual design, programming, construction, feasibility and public participation.

ISTEA Trails
Three ISTEA-T21 grants have been awarded to the City of Dallas for two projects. Two of the grants are being applied to the Santa Fe Trestle Trails, which is described in its own section. The other grant was issued in the mid-1990s for the Trinity Trails, which is a trail project that is planned to extend 14 miles in length between Westmoreland and Corinth within the Dallas Floodway. The Trinity Trails project is pending the further development of the Urban Design Study and the concurrent Lakes Study for the Dallas Floodway.

Hike and Bike Trail Connection at West Fork and SH 360
See description of this potential project under Ecosystem Restoration projects.

Sylvan Avenue Boat Launch
This boat launch was constructed utilizing funds from the City of Dallas and Texas Parks and Wildlife Department. It is located adjacent to Sylvan Avenue and provides access to the Main Stem of the Trinity River within the Dallas Floodway. Construction was completed in February 2002. The original construction contract was for $250,849 of which Texas Parks and Wildlife Department provided $200,000. Figure 3-6 is a view of the Sylvan Avenue boat launch area.

FIGURE 3–6, Sylvan Avenue Boat Launch

Old Trinity Meanders Trail
This trail is proposed to be placed in west central Dallas adjacent to the cutoff Trinity River bed between Trinity River Park Trail and Katy Trail (near the American Airlines arena). Preliminary consideration is for the trail to cross I35 on the old rail corridor north of Continental, and ideally it would follow the old meander close to Medical City area. The trail is proposed to be a pedestrian "Woonerf" which is wide enough for a car, but designed to be used predominantly by pedestrians and is planned to go on the high banks along the southern side of the meander (at present). This will be part of a New Urbanism development approach with portions similar to White Rock Creek Trail and other area similar to the San Antonio Riverwalk. In addition, links to White Rock Lake, White Rock Creek Park Chain, the Dallas Zoo and a northern extension ultimately to the Collins County Line and a branch to UT Dallas would be considered. Nodes of development are planned along the way including the Trinity River/Stemmons Corridor. The project is being approached by City of Dallas and the Trinity Commons Foundation and will involve predominantly all private land. The City is hoping to get donations of land, but may approach funding in a future bond issue.

South Loop 12 Boat Ramp
Design is completed for this site and City Attorneys and City Council have approved a multi-use agreement with TxDOT. The agreement was necessary because of the proposed location of the ramp on the right-of-way for Loop 12. The project would be located on the west bank of the main stem of the Trinity River. The final design has been completed, and the current schedule calls for construction initiation by mid-2003.

Texas Buckeye Trail
The Texas Buckeye Trail would provide access to a unique botanical site in the White Rock Creek floodplain adjacent to the main stem of the Trinity River within Rochester Park. The project includes one soft surface trail (4300 ft) and one ADA accessible trail approximately one-half mile in length. The plan includes development of information kiosks and trail signage. The trailhead would be adjacent to a

parking area at the southern end of Bexar Street. The trail would require access over the Rochester levee which will be raised slightly higher than present as part of the tie in with the Lamar Street levee as included in the Dallas Floodway Extension Recommended Plan. The two trails would also cross wetlands or other waters of the United States. Preliminary trail layout was mapped by City staff and documented through use of GPS. Environmental analysis of the proposal would include a wetlands and waters of the United States delineation. Section 404 and Section 10 analysis is scheduled to begin in the Fall of 2002 and construction is expected to begin in early 2003. Construction time is estimated to be 3 months. All of the trail except the portion going over the Rochester Levee would lie within the White Rock Creek area, which is heavily forested with an early successional stage of bottomland hardwood forest. Previous studies indicate that approximately 50 percent of that area is wetland. The area is frequently flooded by overbank flooding events from both White Rock Creek and the Trinity River. The soft surface trail would require minimal clearing of understory vegetation, but the ADA trail would likely require more clearing to allow construction of a hard surface path. In addition, culverts or other methods would have to be used to allow access across many small drainages and depressional areas in the path of the trails. It is estimated that about 2400 linear feet, or less that one acre, of clearing would be required for placement of the ADA trail alignment. Figure 3–7 depicts the layout of the Texas Buckeye Trail.

FIGURE 3–7, Texas Buckeye Trail

Moore Park modification

The City of Dallas proposes several modifications to Moore Park, adjacent to the Dallas Floodway Extension area on the south side of the river. Figure 3–8 provides a representation of the modifications to Moore Park. Detailed design should be completed during 2003 and construction completed during 2004. The estimated cost of the first phase is $1 million. Initial features proposed during Phase 1 include:

- Pedestrian Promenade
- Trinity Welcome Center (Large Open air pavilion with ability for future expansion to include concessionaire spaces.)
- Park Entry and Signage (at this point limited to signage only)
- Pedestrian Bridge (access from motel property across Little Cedar Creek to existing Moore Park)
- Concrete Trail (access to Santa Fe Trestle trail and Trinity Trails
- Playground (Temporary location of playground near welcome center.)
- Canoe Launch, access road and parking on Trinity River (access from the maintenance road on the west side of DART line).

FIGURE 3-8, Moore Park Modification

ECOSYSTEM RESTORATION/PRESERVATION

Elm Fork Area

The ecosystem restoration component identified in the Elm Fork Floodplain Management Study primarily consists of preservation of existing riparian woodlands within the Stemmons area. Additional description of other features of the study is presented in the previous section on Flood Damage Reduction.

Great Trinity Forest

Dallas County Open Space Plan:
An open space plan was initially developed by Dallas County in 1980. This plan identified two major landscape features as the basic components of the recommended Open Space Program. The Trinity River and its various tributaries, lakes and floodplains is one of those components. In 1991, Dallas County approved a new plan that recommended acquisition of 60,000 to 65,000 acres of diverse open space resources including additional landscape features. The 1991 Plan identified 39 potential tracts for acquisition and management. Four of those Open Space components were located in creeks or corridors within tributaries to the West Fork of the Trinity River in Dallas County. Seventeen components of the plan are in areas that drain into a part of the Main Stem Trinity River and three components were recommended that lie in the Elm Fork segment. All of these components are substantially located in the floodplain and have ecological important water or forested related resources. Twenty-one total components have been acquired into the Dallas County Open Space, fifteen of which are within the drainage area to the West Fork, Elm Fork or Mainstem reaches of the study area. Since December 1, 1999, no new lands have been acquired but Dallas County has participated in studies to improve the quality of existing properties. One of these proposed restoration projects is the Joppa Preserve project proposal discussed in the Corps of Engineers Ecosystem Restoration projects.

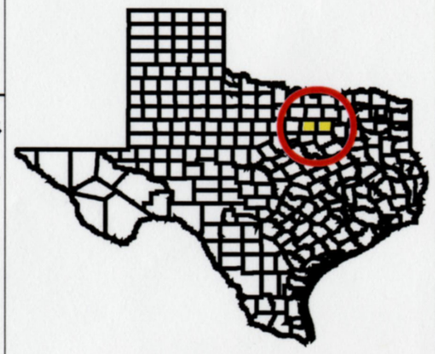
Texas Parks and Wildlife Department (TPWD) Master Plan:
This study was funded by TPWD to provide a plan to guide the development of a large urban park utilizing two of Dallas' major natural assets, the large tract of bottomland hardwood forest and the Trinity River itself. The area for which the plan was developed is located along the banks of the Main Stem Trinity River in the corridor between the Santa Fe railroad trestle near the lower end of the existing Dallas Floodway and downstream to IH-20. The purpose of the Master Plan is to suggest boundaries for the park, recommend conceptual locations for recreational facilities that are placed in the park and provide a framework for implementation by recommending development phases, identification of alternative funding sources and management structures for the park. The plan suggests that 3,000 to 6,000 acres should be acquired for inclusion in the Great Trinity Forest, development of a Trinity Center, 30 to 40 miles of bicycle trails, 15 to 20 miles of equestrian trails and 50 or more miles of nature trails.

As indicated, this study produced a Master Plan to provide guidance for ultimate development. Any or all of the features suggested will be possible only as funds become available. For example, TPWD has provided funds to acquire one tract of land near 1H-20. Other features of the master plan would likely come about over a long period of time. The Dallas Bond issue had funds approved for acquisition of parts of the Great Trinity Forest. Other acquisitions could come about as a result of implementation of environmental mitigation plans for projects such as the DFE. Still other tracts are already in public ownership, such as those in the Rochester Park.

FILLS, PERMITS, UTILITIES AND OTHER ACTIVITIES

Corps of Engineers Regulatory Program
The Corps of Engineers regulates discharge of dredged and fill materials into all waters of the United States including wetlands under Section 404 of the Clean Water Act and regulates all work or structures in or affecting the course, condition, or capacity of navigable waters of the United States under Section 10 of the Rivers and Harbors Act of 1899. The Fort Worth District regulatory program includes maintenance of a database to track projects reviewed by the District. While not all activities that might occur in waters of the United States require reporting to the Fort Worth District Engineer, those that do not generally are of a nature that has been determined from a national, state and regional level to result in only minimal impacts on regulated resources. Description of proposed activities submitted to the District for processing under either of the two mentioned authorities is added to the database upon submission. Queries were conducted of the regulatory database to determine all of the permit requests that were received in the sixteen counties that contribute to the Upper Trinity River Basin. Data was retrieved for Archer, Clay, Collin, Cooke, Dallas, Denton, Ellis, Grayson, Hood, Jack, Johnson, Montague, Parker, Tarrant, Wise, and Young Counties. These data were further refined to only include those cases that we evaluated from

Wise
Denton
Collin
Tarrant
Dallas
Rockwall
Kaufman
Johnson
Ellis
Lewisville Lake
Lavon Lake
Grapevine Lake
Eagle Mountain Lake
Lake Worth
Lake Ray Hubbard
White Rock Lake
Mountain Creek Lake
Lake Arlington
Joe Pool Lake
Benbrook Lake
35
121
820
30
183
20
635
N



Civil Works

1 Dallas Floodway Extension
2 Dallas Floodway
3 Joppa Preserve 1135
4 Old Trinity River 1135
5 Johnson Creek GP
6 Johnson Creek ARL
7 Riverside Oxbow
8 Central City
9 Lake Worth
10 Big Fossil Creek

Permit Actions

11 McCommas Bluff Landfill
12 Frasier Dam Modifications
13 Basic Capital Management
14 Park and Ride Grand Prairie

FIGURE 3-9

Corps of Engineers Civil Works Projects and Permit Actions

18 February 2003

December 1, 1999 to the September 1, 2002 and screened by use of a GIS program to determine which of the projects were actually located in the Upper Trinity River Basin (Figure 3-2).

The resulting data indicate that 770 projects were authorized in the Upper Trinity River Basin within the study period. Of those, 55 were letters of permission or individual permits, and 570 were Nationwide General permits. The Nationwide permit authorizations resulted in 93.85 acres of impacts to water of the United States and 198.66 acres of compensatory environmental mitigation were provided to offset those impacts.

The Fort Worth District is considering another 127 pending project authorizations at this time. These projects are currently under review and could range from no permit action required to individual permits with substantial impacts. Specific activities regulated by Section 404 or Section 10 that were identified in the geographic area as reasonably foreseeable projects, which appear to have the potential to cause cumulative impacts in relation to Dallas Floodway Extension, were identified. These regulated activities include the McCommas Bluff Landfill modification located downstream of the DFE on the Trinity River floodplain, the Frasier Dam modification on the Elm Fork, the Basic Capital Management proposal for a commercial development near IH 635 and Luna Road in Farmers Branch on the Elm Fork and a proposal to construct a parking lot for a Park and Ride facility on a 12-acre tract within the 100 year floodplain of West Fork of the Trinity River in Grand Prairie. Several other projects regulated under Section 404 or Section 10 such as the bridge modifications associated with the TRE crossing of the Elm Fork, the new rail crossing proposed for the Northwest Corridor and the President George Bush Turnpike (Segment IV) are described in the Transportation Section in this chapter.

McCommas Bluff Landfill Extension. (Application Number 199900319):
The proposed project modification includes the extension of the existing landfill levee to allow an additional 425 acre expansion of the existing landfill, excavation of a swale to compensate for reduction in flood storage due to the landfill encroachment into the 100-year floodplain, relocation of existing high-pressure gas main and a 54 to 60-inch water main and implementation of an onsite mitigation plan to offset adverse impacts to waters of the United States. The construction of the project features (excluding mitigation) would permanently impact a total of 158.7 acres of waters of the United States and temporarily impact an additional 1.6 acres. The permanent impacts would occur to 92.6 acres of emergent wetland, 45 acres of open water and 21.1 acres of shrub-scrub wetlands. These would be temporary impacts to 1.6 acres of emergent wetland. As identified in the project description, features have been incorporated to mitigate hydraulic and hydrology impacts and to mitigate losses to waters of the United States. The environmental mitigation plan would provide for protecting, developing and managing a total of 254.5 acres of land in the vicinity of the landfill. The mitigation plan would provide for ultimate development and long-term preservation of 119.7 acres of emergent wetlands, 41.2 acres of forest, 8.9 acres of open water, 9 acres of stream channel, and 75.7 acres of vegetated buffer areas. Project final design is expected to be completed during 2003.

Frasier Dam Modification. (Application Number 200100031):
As demand for domestic water increases, the City of Dallas Water Utilities has had increasing difficulty in providing sufficient water supply at the time of demand. Water supply releases from Lake Lewisville and Lake Grapevine require 12 hours to flow down the Elm Fork to the pump station. Frasier Dam on the Elm Fork provides the storage volume to meet supply needs during peak demand periods. Recently, peak demands have surpassed the supply that can be stored behind the Frasier dam; therefore, the City has requested authorization to increase the available supply for peak demands by increasing the height of the existing dam. As proposed, the modification would provide the additional volume and operating range of the pumps for draw down. The modification would increase the water surface elevation within Elm Fork by two feet at the dam location. The two feet increase in at the dam would gradually diminish upstream but would have an effect over an approximate four-mile reach. A loss of valley storage would result from the proposed plan, however to compensate for this expected loss within the CDC area and the TREIS record of decision area, the applicant proposes linking an adjacent flood plain lake and using a water control structure to transfer flows to the Bachman Creek Drainage. It is anticipated that the increased water surface elevation within the Elm Fork Channel would also result in some minor changes to the vegetation on the vertical surface of the channel bank as well as a short distance horizontally from the channel.

Basic Capital Management (Application number 200100023).
This proposed commercial development would be located on a 138-acre tract of land near IH 635 and Luna Road in Farmers Branch on the Elm Fork of the Trinity River. The proposed project would result in discharge of dredged and fill material totaling 173,000 cubic yards into 12.2 acres of open water, 1,142 linear feet of Farmers Branch Creek, 1508 linear feet of ephemeral streams, and 0.18 acre of an ephemeral pond. The project would result in an adverse impact to a total of 14.3 acres of water of the United States. The project would also result in the fill of approximately 39 acres of the 100-year floodplain, resulting in an unspecified quantity (by the public notice for this project) of valley storage loss. This area lies within the CDC area requiring that valley storage losses be mitigated. In addition, the applicant proposed to mitigate environmental losses. The environmental mitigation proposed by the applicant included onsite and an offsite, 230-acre mitigation area within the floodplain of the Elm Fork approximately 2.15 miles northwest of the project site. Valley storage mitigation was proposed by development of two lakes.

Park and Ride facility, Grand Prairie (Application Number 199800690):
This facility is proposed to be located on a 12-acre tract to the west of MacArthur Boulevard and immediately north of IH-30 in Grand Prairie, Dallas County. The tract is within the 100-year floodplain of the West Fork of the Trinity River. As proposed the project would require placing fill on 7.8 acres. The project would result in permanent adverse impacts to 0.9 acres of open water and 0.7 acres of palustrine forested wetland. The applicant has proposed environmental mitigation at an offsite location approximately 1.1 miles northwest of the proposed fill site adjacent to Bear Creek. The applicant proposes to develop 1.8 acres of emergent wetland and 1.2 acres of forest for the environmental mitigation. No plan has been specified to mitigate valley storage losses in the 100-year floodplain

Other Dallas Floodway Projects or Activities

Urban Design Study:
The Urban Design Study is managed by the "Dallas Plan", which is not a City department. The study assesses the overall Trinity River Corridor Project program and its current vision for the Dallas Floodway and the Great Trinity Forest vicinity. The Trinity River Corridor Urban Design and Transportation Study is totally funded with private donations and is steered by Mayor Laura Miller and Judge Lee Jackson. Chan Krieger, a Cambridge Massachusetts consultant, initiated the study fall of 2002. A presentation of study results (www.thedallasplan.com) to date was presented to the Dallas City Council on March 5, 2003. With respect to the Dallas Floodway, the study produced an assessment and recommendations for several changes to the current Master Implementation Plan, the Trinity Parkway, the Corps of Engineers' / City's Dallas Floodway Study, or other Trinity River Corridor Project initiatives.

The concepts presented to the Council included a proposed sequential and integrated development of flood control, transportation, economic development and recreation. The transportation element varies from that previously thought to be the most compelling when considered for its ability to meet relief needs for the I-35/I-45 corridor. While it is not possible to call any of these concepts "plans", the idea expressed was to develop a less intrusive system that calls for a roadbed atop the East Levee as the reliever route, roadways to the outside of the east and west levees to serve residents and business development along the levees and a parkway within the floodway to provide recreational access. The suggested recreational areas would include many of the same features previously considered as reasonably foreseeable actions within the floodway, but differ in their design and functionality. The Study's Phase 1 Project Groups recommends proceeding with the Lamar and Cadillac Levee Extensions and the development of the Chain of Wetlands, in addition to development of flood damage reduction and environmental features (lakes and wetlands) within the existing Dallas Floodway. At this point in time, the Study would require the City to consider more modification to the Dallas Floodway alternatives, primarily the tollroad features. Those modifications, if acceptable to the decision makers for those projects, could result in slightly different cumulative impacts than determined for this project. However, the anticipated impacts would likely be less significant because of the emphasis on open space and quality of life issues. The concept has the potential to adversely impact the integrity of the existing levee system, due to the fact that the reliever route proposed would lie directly on top of the levee. This concept has not been evaluated by the Corps of Engineers for its impact to long-term stability of the levee. Other transportation design issues

that would have to be addressed would include the at-grade intersection with several major bridges crossing the Floodway.

Additionally, the City of Dallas has contracted with Camp, Dresser and McKee on a Lakes Study for the Dallas Floodway. The first objective of the study is to review previous work and recommend the best approach for lake configuration. This will involve a determination of whether an on-channel or off channel lake design is better, including functionality and operability issues. The resultant Lakes Study would provide technical guidance and input to the Urban Design Study consultant. This work is anticipated to be completed by the end of 2003.

New Utility Corridors:
The only specific information that has been made available was found in the review of Section 404 and Section 10 permit activities that were initiated or finalized after December 1, 2002. Generally underground utilities cause only temporary impacts to surface resources. Overhead utilities such as power lines cause longer-term impacts due to the necessity for operation and maintenance. Wooded vegetation generally is not allowed to mature in the corridors, and grasslands are frequently mowed or otherwise treated to reduce the introduction of woody growth.

Other Developments:
Construction of the International Environmental Training and Technology Center was scheduled to be completed by February 2003. The activity is located south of Loop 12 adjacent to McCommas Landfill and to the Joppa Preserve. Landfill operations will occupy a small portion of the facility and manage classes and the facility. Other recycling manufacturers are considering development of office/business sites at the park.

American Rivers Designation.
Founded in 1973, American Rivers is a national non-profit conservation organization dedicated to protecting and restoring healthy natural rivers and the variety of life they sustain for people, fish, and wildlife. Focus of the American Rivers organization is to improve river health; raise awareness among decision-makers; serve and mobilize the river conservation movement; and collaborate with partners to develop a national "river agenda". Each year, American Rivers solicits nominations from environmental organizations for their America's Most Endangered Rivers report. The report presents alternatives to proposals that would damage rivers, identifies those who will make the crucial decisions, and points out opportunities for the public to take action on behalf of each listed river. In April 2003 American Rivers named the Trinity River as one of the nation's Most Endangered Rivers for 2003, citing the consequences of flood control projects and tollroads planned for the river's floodplain in Dallas. The designation of the Trinity River through Dallas as number 10 on American River's Most Endangered Rivers report can be viewed at http://www.americanrivers.org/mostendangered/trinity2003.htm. Issues brought out in the nomination and designation are similar to those that are being addressed by this Supplement to the DFE EIS.

CHAPTER 4 – ENVIRONMENTAL CONSEQUENCES

This chapter presents the recommended Dallas Floodway Extension project in the context of current and future trends in the designated study area. The purpose is to assess the cumulative impacts of the proposed action to the study area when combined with other known actions in the vicinity of the Dallas Floodway Extension area as described in Chapter 3 "Past and Future Actions". The Final General Reevaluation Report for Dallas Floodway Extension (February 1999) and the Final Programmatic Environmental Impact Statement for the Upper Trinity Basin (June 2000) contain discussions with regard to cumulative impacts. These discussions are incorporated herein by reference as allowed by the CEQ regulations for implementing NEPA (40 CFR Part 1508).

CUMULATIVE IMPACTS

In 1997, the Council on Environmental Quality (CEQ) developed a handbook addressing cumulative effects in analyses prepared under the National Environmental Policy Act. CEQ has defined cumulative effects as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions". Clearly within the Upper Trinity River basin, potential for cumulative impacts is high. Establishing the significance of cumulative impacts on the other hand is much more difficult to accomplish. A significant cumulative effect on the environment means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the projects that results from the compounded or incremental individual environmental effects.

To date, there remains no universally accepted approach to the preparation of cumulative effects analyses. CEQ guidance indicates that it is not practical to analyze cumulative impacts for other than those truly meaningful environmental effects. In addition, the determination of the level of effects that produces the threshold beyond which cumulative effects significantly degrade an ecosystem or other resources is difficult. For a cumulative effects analysis to be worthwhile it must be limited through scoping to the effects that can be evaluated meaningfully. Accordingly, the scope of this cumulative impact analyses has been limited to the projects and resources discussed below.

Flood damage reduction projects typical of past Corps of Engineer's activities have the potential to impact an array of natural resources, induce downstream floodplain impacts and cause general land use changes within the newly protected areas. Continued reclamation of floodplain lands for residential and industrial uses also have potential to cause other cumulative effects. In recent years, a number of new authorities and administrative procedures have been implemented including mitigation banking. Administrative priorities promoting nonstructural flood damage projects including buy-outs and environmental protection alternatives are becoming more prevalent. Restoration of important ecosystem components is being conducted to mitigate and reverse some of the adverse impacts associated with past structural flood damage reduction measures. These philosophical changes affect cumulative impact analysis. Public scoping was utilized to ascertain the major issues of concern to general public and other agencies. Issues discerned from the public meetings held at the initiation of the NEPA process as well as those issues which have been made known through other public forums were considered.

FLOOD DAMAGE REDUCTION PROJECTS

The reasonably foreseeable flood damage reduction projects that were identified within the Upper Trinity Study area include the Dallas Floodway modifications by the Corps of Engineers and the modification of the Las Colinas existing levee by Dallas County Utility and Reclamation District. Studies underway by the City of Dallas indicate a potential for future actions to protect existing investments in the Stemmons Industrial area may eventually evolve, however, nothing has been specifically elevated to the point that any specific project could be considered as reasonably foreseeable.

TRANSPORTATION PROJECTS

A number of transportation projects were identified in the Upper Trinity area that are likely foreseeable. The majority of these individual projects are small, replacements of existing structures and located considerable distance from the Dallas Floodway Extension. Transportation projects that have a potential to cause cumulative impacts to the study area include the proposed modifications to I-30, I-35, Hwy 183, Woodall Rodgers, and the Trinity Parkway/Tollroad (should alignment fall on parts of Dallas Floodway or Dallas Floodway Extension project boundaries). Additional modifications in the Dallas Floodway that could induce cumulative impacts were identified for the Corinth and Hampton Road, Sylvan and Loop 12 bridges. In addition, the President George Bush Tollroad, Segment IV, largely falls on new alignment within the Elm Fork Corridor, and therefore, direct and cumulative impacts must be considered. The DART railroad study for the Southeast Corridor also indicates the potential for cumulative impacts to riparian forest associated with the White Rock Creek area.

ECOSYSTEM RESTORATION

The ecosystem restoration projects that have a potential for cumulative impacts include the Joppa, Old Trinity River, and various proposals for modification of the existing Dallas Floodway. While each of these three projects would provide positive direct and cumulative impacts for riparian vegetation and associated fish and wildlife resources, the potential for negative cumulative impacts to hydraulic conditions as a result of increased roughness associated with providing additional reforestation must be considered.

RECREATION

Recreational trail development generally results in minor direct and indirect impacts to environmental resources. The trails are generally designed to take advantage of the natural quality of the area they cross. They are intended for casual use and minor adjustments in alignment are common to avoid important resources. The potential to cause minor impacts to bottomland hardwoods and regulatory wetlands associated with the Texas Buckeye Trail and the Equestrian Center and Trinity Interpretive Center indicate that these two recreational projects should be considered for cumulative impacts.

FILLS, PERMITS, UTILITIES & OTHER ACTIVITIES

The reasonably foreseeable fill activities that could have cumulative impacts on resources in the study area include the McCommas Bluff Landfill extension on the main stem Trinity River, the Frasier Dam modification and the Basic Capital Management floodplain reclamation projects on the lower Elm Fork and the Park and Ride facility on the West Fork of the Trinity River.

CUMULATIVE IMPACT IDENTIFICATION

Identification of reasonably foreseeable projects was ascertained through a scoping process, including written requests for information from agencies that have information on proposed activities that would occur in the study area and through participation in meetings with regional organizations, literature and newspaper reviews and through active browsing of internet sites hosted by many agencies and organizations that have proposed projects or have interests in them. The most significant problem, however, comes not from identifying the reasonably foreseeable projects but in identifying the direct and indirect impacts that the projects might have on environmental resources. The term “reasonably foreseeable” implies that the project may only have a general public knowledge or acceptance at a point in time and that details of design and project specific impacts are yet to be developed or disclosed by the project proponent. That has been found to be the case during assembly of information for this Supplement. There is a general knowledge of various plans with components, any of which if implemented, would result in substantial changes in the existing Dallas Floodway. These plans could intensify transportation, recreation, environmental restoration and/or flood damage reduction benefits depending upon the ultimate selection of possible plans or plan components for any specific purposes. The fill activities identified during preparation of this Supplement are relatively more certain, as evidenced

by the greater level of information that has been developed by proponents or applicants for fill activities. Since it is still unclear which components proposed for the Dallas Floodway may ultimately be selected, this chapter evaluates an array of reasonably foreseeable alternative development scenarios for the Floodway and discloses cumulative impacts of those scenarios along with other reasonably foreseeable projects in the geographic vicinity of the Dallas Floodway Extension. In addition, cumulative impacts of these aforementioned activities are discussed and analyzed in relation to the final array of alternatives from the DFE GRR/EIS.

A summary of estimated impacts to important environmental floodplain vegetation resources that can be attributable to projects or their alternatives is shown in Table 4-1. All scenarios for Cumulative Impact in Table 4.1 include DFE acreages, and all scenarios include lakes between the existing levees except the Dallas Floodway EQ Plan.

Tables 4-2 through 4-6 summarize the cumulative changes to cover types or land cover based upon the impacts associated with reasonably foreseeable alternatives that are displayed in Table 4-1. If mitigation has been proposed or recommended with a plan, the acreage associated with that mitigation has been included in the summaries. The DFE alternatives are considered stepwise through the Tables. Table 4-2 discloses the cumulative impacts of reasonably foreseeable alternatives in relation to the No Action alternative in the DFE project area. This table provides a baseline for comparing other DFE alternatives in tables 4-3 through 4-6.

To address cumulative impacts of multiple reasonably foreseeable projects in this Supplement to the DFE EIS, input from Corps of Engineers environmental specialists was utilized. A matrix was developed to indicate the potential cumulative impact for reasonably foreseeable projects on a series of environmental, social and community resources. Table 4-2 displays an assessment of the magnitude of the potential impacts in relation to the recommended DFE plan and alternatives based upon information available at this time.

Several of the projects identified as reasonably foreseeable have not been sufficiently formulated and designed to date to offer detailed analysis. In other cases, the information may have been developed but has not been made available to the Corps of Engineers. For those instances, a preliminary estimate of potential cumulative impact has been made based upon the general types and magnitude of impacts those projects typically induce.

As noted earlier, there likely will not be a project proposed by the Corps of Engineers for the North Stemmons Industrial area as part of the Upper Trinity Feasibility Study due to unfavorable economic benefits for flood damage reduction. Dallas has continued evaluation of the Stemmons area and has developed a Floodplain Management Study for the Elm Fork in that area. The plan documents strategies for providing flood damage reduction as well as integrating environmental protection and extending recreational opportunities. The City's study documents a recommendation to allow previously permitted ongoing fill activities (26 issued from 1972 to 1999) to be extended through the end of 2004, ultimately requiring a variance from CDC guidelines for these activities. New fill requests would be reviewed under the CDC criteria. If adopted as included in the study, an additional 473 acres would ultimately be removed from the flood plain. Although none of the proposals discussed in the Management Study can be considered as reasonably foreseeable at this time, the action of developing the plan indicates that impacts could be significant relative to CDC criteria.

Insufficient information is available to ascertain the significance of any proposed modification of the existing Las Colinas Levee system. However, from a generic point of view, levee or other floodplain fills impact valley storage and have the potential to cause direct and cumulative impacts to hydrology and hydraulics. The project proposal would likely be a modification to an existing flood damage reduction project, and therefore, there would be less adverse impacts to forest and wetland resources, since most of the site would have been previously impacted. Cultural resources, however, could potentially be impacted. DCRUD has expressed concern that activities of others have produced cumulative impacts to

TABLE 4-1. ESTIMATED PROJECT IMPACTS (ACRES) TO FLOODPLAIN RESOURCES BY REASONABLY FORESEEABLE PROJECTS IN STUDY AREA

	Waters of United States	Open Water	Wetland	Forest Improvement	Forest Conversion	Grassland/ Buffer
Flood Damage Reduction						
Dallas Floodway Levee raise			-36.7		-11.9	
(Mitigation)			+36.7		+35.7	-35.7
Stemmons Area	U	U	U	U	U	U
Las Colinas Levee raise	U	U	U	U	U	U
ATSF Bridge Modification	0	0	0	0	0	
Ecosystem Restoration						
Old Trinity			+29.3	+28.42	+53.48	-82.8
Joppa Preserve		+73	+123	+53		
Dallas Floodway		+224	+84		+184	-492
Transportation						
Trinity Parkway						
Irving/Industrial						
Elevated	0	0	0	0	0	
At Grade		-2	-1		-7	
Combined Riverside		-22	-133		-7	-121
Split Riverside		-21	-132		-7	-220
Split Landside		-5	-1		-7	
George Bush (IV)	-58.6		-26.2			
(mitigation)	+18.5		+22.4	+66		
Trinity Railroad Express	-0.11		-0.04			
DART SE Corridor					-70	
Other Floodway Bridges	-9	-9	-9	0	-9	

TABLE 4-1 (concluded)
Estimated Project Impacts (acres) to Floodplain Resources by Reasonably Foreseeable Projects in Study Area

	Waters of United States	Open Water	Wetland	Forest Improvement	Forest Conversion	Grassland/ Buffer
Fill Activities						
McCommas Bluff Landfill		-45	-113.7			
(Mitigation)	+9	+8.9	+119.7	+41.2		+75.7
Frasier Dam Modification	-72	-72				
Basic Capital Management	-1.92	-12.2	-0.18			
(Mitigation)				+230		
Park and Ride, Grand Prairie		-0.9			-0.7	
(Mitigation)			+1.8		+1.2	
Recreation						
Floodway Lake(s)		+370	+147			-500
Texas Buckeye Trail			<-1.0			
Equestrian /Interpretive Center	U	U	U	U	U	U
Dallas Floodway Extension						
No Action	0	0	0	0	0	0
NED		-24.3	0	-99	-504	+504
(Mitigation)				+2514	+605	+81
LPP / Recommended Plan		+2	+123.3		-162	-109.7
(Mitigation)				+926	+223	+30
Comb. Structural/Non-Structural		+3	+123.3		-143	-68
(Mitigation)				+806	+195	+26
TFSP		+3	+123.3		-155	-78.6
(Mitigation)				+890	+217	+28

Parkway data from NTTA. All estimated impacts other than for DFE alternatives are preliminary and subject to change as plan formulation on these projects continues. + = gain - =loss U = Unknown

TABLE 4-2. CUMULATIVE CHANGES TO LAND COVER (ACRES) DUE TO REASONABLY FORESEEABLE ACTIONS IN DALLAS FLOODWAY, WITH "NO ACTION" AS THE DFE PROJECT

Resource	No Action	FDR	Combined Pkwy Riverside	Lakes/Split Pkwy	Lakes only	EQ
Waters of US	-114.13	-114.13	-114.13	-114.13	-114.13	-114.13
Open Water	-49.2	311.8	309.8	290.8	311.8	535.8
Wetland	154.28	292.28	291.28	160.28	292.28	376.28
Forest Improvement	418.62	418.62	418.62	418.62	418.62	418.62
Forest Conversion	-16.02	-1.22	-32.02	-32.02	-25.02	158.98
Grassland	-7.1	-542.8	-507.1	-727.1	-507.1	-999.1

"No Action" as the DFE project means that the Corps would not construct any alternative assessed in the final array of DFE/GRR EIS. The acreages in Table 4-2 represent a baseline for the total floodplain study area against which the DFE Alternatives (and reasonably foreseeable actions in the existing Dallas Floodway identified by column headings) in Tables 4-3 through 4-6 may be compared.

TABLE 4-3. CUMULATIVE CHANGES TO LAND COVER (ACRES) DUE TO REASONABLY FORESEEABLE ACTIONS IN DALLAS FLOODWAY, WITH "NED" AS THE DFE PROJECT

Resource	No Action	FDR	Combined Pkwy Riverside	Lakes/Split Pkwy	Lakes only	EQ
Waters of US	-114.13	-114.13	-114.13	-114.13	-114.13	-114.13
Open Water	-73.5	287.5	265.5	266.5	287.5	511.5
Wetland	154.28	305.12	172.12	173.12	305.12	389.12
Forest Improvement	2833.62	2767.62	2767.62	2767.62	2767.62	2767.62
Forest Conversion	84.98	178.78	147.98	147.98	154.98	3398.98
Grassland	577.9	42.2	-43.1	-142.1	77.9	-414.1

The column heading of "No Action" means that no Corps activities, Tollroad alternatives, Lakes or other activities being considered by others would be constructed in the existing Dallas Floodway. O&M would continue as currently required to maintain the existing Dallas Levees, Sumps and Floodway.
FDR= Corps studied Levee Raise Alternative in Dallas Floodway
EQ= Corps studied Environmental Quality Alternative in Dallas Floodway

TABLE 4-4. CUMULATIVE CHANGES TO LAND COVER (ACRES) DUE TO REASONABLY FORESEEABLE ACTIONS IN DALLAS FLOODWAY, WITH "LPP" (RECOMMENDED PLAN) AS THE DFE PROJECT

Resource	No Action	FDR	Combined Pkwy Riverside	Lakes/Split Pkwy	Lakes only	EQ
Waters of US	-114.13	-114.13	-114.13	-114.13	-114.13	-114.13
Open Water	-47.2	313.8	291.8	292.8	313.8	537.8
Wetland	277.58	415.58	282.58	283.58	415.58	499.58
Forest Improvement	1344.62	1344.62	1344.62	1344.62	1344.62	1344.62
Forest Conversion	44.98	59.78	28.98	28.98	35.98	219.98
Grassland	-86.8	-622.5	-707.8	-806.8	-586.8	-1078.8

TABLE 4-5. CUMULATIVE CHANGES TO LAND COVER (ACRES) DUE TO REASONABLY FORESEEABLE ACTIONS IN DALLAS FLOODWAY, WITH "COMBINATION STRUCTURAL/NON-STRUCTURAL PLAN" AS THE DFE PROJECT

Resource	No Action	FDR	Combined Pkwy Riverside	Lakes/Split Pkwy	Lakes only	EQ
Waters of US	-114.13	-114.13	-114.13	-114.13	-114.13	-114.13
Open Water	-46.2	314.8	292.8	312.8	314.8	538.8
Wetland	277.58	415.58	282.58	414.58	415.58	499.58
Forest Improvement	1224.62	1224.62	1224.62	1224.62	1224.62	1224.62
Forest Conversion	105.98	50.78	19.98	19.98	26.98	210.98
Grassland	-49.1	-584.8	-670.1	-549.1	-549.1	-1041.1

The column heading of "No Action" means that no Corps activities, Tollroad alternatives, Lakes or other activities being considered by others would be constructed in the existing Dallas Floodway. O&M would continue as currently required to maintain the existing Dallas Levees, Sumps and Floodway.
FDR= Corps studied Levee Raise Alternative in Dallas Floodway
EQ= Corps studied Environmental Quality Alternative in Dallas Floodway

TABLE 4-6. CUMULATIVE CHANGES TO LAND COVER (ACRES) DUE TO REASONABLY FORESEEABLE ACTIONS IN DALLAS FLOODWAY, WITH "TFSP" AS THE DFE PROJECT

Resource	No Action	FDR	Combined Pkwy Riverside	Lakes/Split Pkwy	Lakes only	EQ
Waters of US	-114.13	-114.13	-114.13	-114.13	-114.13	-114.13
Open Water	-49.2	311.8	289.8	290.8	311.8	535.8
Wetland	154.28	292.28	159.28	160.28	292.28	376.28
Forest Improvement	418.62	418.62	418.62	418.62	418.62	418.62
Forest Conversion	-16.02	-1.22	-32.02	-32.02	-25.02	158.98
Grassland	-7.1	-542.8	-628.1	-727.1	-507.1	-999.1

The column heading of "No Action" means that no Corps activities, Tollroad alternatives, Lakes or other activities being considered by others would be constructed in the existing Dallas Floodway. O&M would continue as currently required to maintain the existing Dallas Levees, Sumps and Floodway.
FDR= Corps studied Levee Raise Alternative in Dallas Floodway
EQ= Corps studied Environmental Quality Alternative in Dallas Floodway

The hydrology and hydraulics that have lowered the level of protection that the levee was originally designed to provide. It should be considered possible that the reduction of protection afforded by the Las Colinas Levee is more a reflection of the improved modeling capabilities developed after the levee was designed and constructed rather than a cumulative impact of other projects in the area.

WATER QUALITY

Implementation of any combination of the alternatives for the reasonably foreseeable future actions is not expected to result in any long-term adverse impacts to water quality. Short-term impacts might occur as a result of construction of major projects such as the toll roads, or as intermittent effects from runoff from any project area. Given recent trends in wastewater treatment and temporary retention of storm water runoff, overall water quality in the Trinity River should continue to experience moderate improvement. Implementation of the Environmental Quality plan within the Dallas Floodway as well as the Old Trinity and Joppa Preserve areas would produce slight beneficial cumulative impacts. The EQ plan for the Dallas Floodway would restore functional wetlands and restoration of stream sinuosity along with placement of rock at multiple locations along the channel bottom and banks near bends should provide aeration to produce more rapid clean up of nutrient enriched waters characteristic of the Trinity. The restoration of riparian forest along the new channel would also provide shading that should help with moderation of summer water temperatures. The chain of wetlands within the Dallas Floodway Extension would provide some water quality benefits as well as produce fish and wildlife resource benefits. Use of treated effluent for makeup water for the City of Dallas' proposed off-channel lakes within the Dallas Floodway could slightly reduce the predicted minor water quality improvements within those impoundments. Implementation of the Old Trinity and Joppa Preserve ecosystem restoration projects would add wetlands and improve existing wetlands in the cumulative study area that should produce minor incremental water quality benefits.

AQUATIC RESOURCES

Cumulative impacts to aquatic habitat, fish and aquatic invertebrates that would be associated with any combination of reasonably forseeable projects in the Upper Trinity River Watershed would be minimal. Beneficial cumulative impacts to aquatic habitat, fish, and aquatic invertebrates would occur if the Environmental Quality alternative for the Dallas Floodway were to be implemented, along with implementation of the ecosystem restoration projects at the Joppa Preserve and the Old Trinity sites. Implementation of this scenario would not generate as many acres of surface waters as plans consisting of lakes between the Dallas Floodway levees, but the quality of the aquatic habitat created would be much higher. The higher quality aquatic habitat afforded by this scenario would promote the development of a healthy ecosystem and facilitate a more rapid return to environmental conditions characterized by a high species diversity of aquatic organisms.

WETLANDS

It appears that during the 1984 to 1996 period, acreage of emergent wetlands has increased in the study area (Table 3-4 of the PEIS). Table 4-1 of this Supplement shows the known direct gains or losses in acres of wetlands resulting from implementation of the slate of reasonably foreseeable projects. Most of the flood damage reduction projects identified have only a minor potential to cause direct impacts to wetlands. While the Dallas Floodway levee raise, primarily resulting from excavation of suitable fill from within the floodway, could impact low quality emergent wetlands, a proposal exists to mitigate these impacts. All the transportation projects, including the Trinity Tollway, new and modified railroad bridge crossings, and the proposed modification of several bridges crossing the Trinity could have direct adverse impacts on wetlands; however, due to the nature of the types, small size of the bridge corridor footprints and overall low quality of the existing wetlands these impacts would only be minor from a cumulative standpoint. The Dallas Master Implementation Plan scenario proposes creation of large acreage of wetlands. At this point, that plan is not well defined as to when or by which agency these wetlands would be developed. Some wetlands might ultimately be constructed as mitigation for Trinity Tollway impacts.

Interaction with high-density recreation and proposed nearby parkway traffic could reduce the vitality and function of those wetlands for other than water quality improvements. Other wetlands might be constructed as part of the EQ plan for the Dallas Floodway resulting from the Corps of Engineers Feasibility Study. The Environmental Quality plan would increase emergent wetland acreage and, in light of trends observed, the direct individual benefits would be significant but cumulatively would still be minor from a regional perspective. The two Corps of Engineers proposed ecosystem restoration projects under Section 1135 also include wetland development. The fill activities evaluated appear to have potential to induce cumulative losses of wetlands. Of the four individual permit applications evaluated, only two indicate that mitigation for wetland losses would be required. Overall, without mitigation, there would be a cumulative loss to wetlands, resulting from the all projects identified. Based upon the trends evaluated in the PEIS, however, and review of past Corps of Engineer permit actions, mitigation for the wetland losses will be required. If that occurs, cumulative impacts would be minor, primarily resulting from the relocation of these resources at a different site from where they occurred.

FLOODPLAIN FOREST RESOURCES

The trend analysis conducted as part of the PEIS (see Table 3-4 of the PEIS) clearly shows that forest resources within the 100-year and SPF floodplain of the Upper Trinity study area have been adversely impacted as the result of many independent actions. The impacts that would cumulatively result from implementation of alternatives considered during evaluation of the PEIS are shown in Figure 4-1 of the PEIS.

Additional cumulative positive benefits to bottomland hardwoods would result should the ecosystem restoration studies considered in this Supplement to the DFE EIS be implemented. In particular, the reasonably foreseeable ecosystem restoration projects at the Old Trinity River and Joppa Preserve would provide protection to riparian forest, not necessarily reversing the trend for loss of forested resources but at a minimum slowing the rate of decrease. The Dallas Floodway EQ plan would also provide moderate beneficial cumulative impacts. The other Floodway plans would each result in minor cumulative adverse impacts to forest resources. The quality of the woodlands within the floodway are low from most resource agency standards, however, their presence is highly beneficial to a number of other resources including fish and wildlife, aesthetics, water quality, and noise filtering. Forests are particularly valuable because of the long period of time required to develop to maturity, even under the best management scenarios. Wildlife usage of riparian forests has been quite well documented. In addition, there is extensive amount of research indicating the cumulative values of both larger contiguous forest size and linear forests without breaks. The Trinity Tollway alternatives with footprints falling on the existing Dallas Floodway would each extend downstream along or near the recommended alignment for the Lamar Levee identified for the DFE project. Each of these alternatives would remove 7 acres of bottomland forest. The DART SE corridor alignment could also result in the loss of 70 acres of forest, the majority of which has been identified within the White Rock Creek corridor. At this point in time, no specific mitigation plan has been identified for either of these two projects. Therefore, any losses or even these relatively low quality woodlands would increase patchiness and decrease size of forested areas, constituting a significant cumulative impact that would require mitigation.

The most significant resource within the proposed project area has been identified as the bottomland hardwood forest ecosystem located in an area referred to as the “Great Trinity Forest”. While the proposed DFE project would impact only a small area of the forest, the proposed environmental mitigation plan would provide a catalyst to ultimate acquisition and management of 1,179 acres of the area which is either currently forested, or could be converted to bottomland hardwood forest through intensive management. In addition, the recommended environmental restoration project feature, which includes the development of emergent wetlands, would help reverse the trend to losses to this important resource, by restoring 123 acres.

OTHER VEGETATION RESOURCES

Table 4-1 indicates cumulative losses to grassland and cumulative increases in aquatic habitat that could result from implementation of the reasonably foreseeable projects. These cumulative changes are not viewed as significant, primarily because of the low quality of the grasslands impacted, the large number of grassland acres currently within the study area and the fact that much of the grassland losses are actually being converted to either forest or open water as part of the development scenarios. Implementation of the alternatives that have reforestation as a feature would provide a means of reversing the trend of cumulative losses of woodlands in the study area.

AIR QUALITY

The DFE project would not result in any significant impacts to air quality nor would construction and operation of the project interfere with the State's Implementation Plan to attain air quality requirements. Air quality is affected by a number of factors and environmental situations. A cumulative analysis was conducted in the PEIS that focused on impacts that would occur from alteration of vegetation resources in the study area. The results indicate that small but positive cumulative benefits from increasing acres of forested resources could occur. The DFE, because of the mitigation included as part of the plan, along with the EQ Plan for the Dallas Floodway, and the Old Trinity River and Joppa preserve ecosystem restoration projects would increase acreage of existing forest and protect many additional acres providing a net cumulative benefit to air quality. The footprint associated with the Southeast Corridor DART alignment would convert about 70 acres of wooded areas to grassland and thereby, cumulatively reduce air quality benefits associated with forest. Cumulative impacts to air quality resulting from vegetation changes could ultimately be insignificant, since environmental mitigation, if required or otherwise implemented, could result in an overall increase in the size of preserved and restored forested areas.

Cumulative impacts to air quality resulting from transportation projects are generally considered to be on the beneficial side of the ledger since overcrowded roadways resulting in excessive backup and traffic congestion are known to increase the amount of hydrocarbons and other ozone precursors. Should roadways be developed by others, on or adjacent to existing or proposed levees, the additional movement of vehicles past the project area could result in an increase in ozone-forming precursors or other atmospheric pollutants in the immediate area. The impacts associated with development of this or other transportation related air quality emissions would be determined during detailed studies by the entitles proposing the projects.

LAND USE / FLOODPLAIN VALUES

This resource category addresses the sustainability of project features once they are established, as well as consideration of how the alternatives would lend themselves to general recreation and other open space uses. Development plans within the Dallas Floodway would provide slight to beneficial cumulative opportunities to improve land use and floodplain values as evaluated for this resource. Ecosystem restoration plans and limited recreational development would be consistent with the spirit and intent of Executive Order 11988 on Floodplain Management, which encourages the preservation of natural floodplain functions. Construction of other features such as the Trinity Tollway will be reviewed against this EO which recommends these values be preserved by seeking to assure that development be allowed in floodplains only when it can be demonstrated that there are no practicable alternatives. The transportation alternatives that involve a parkway between the levees of the Dallas Floodway are neither water resource related nor floodplain dependent. The roadway of the tollway alignments between the levees as currently proposed would be elevated by one to two feet above the 100-year floodplain elevation. Thus, the purposed transportation facilities would only be susceptible to flood events of greater magnitude. There would be a slight adverse effect to floodplain functions with the removal of the parkway acreage from the 100-year floodplain and creation of additional impervious hard surface within the SPF floodplain. Most flood damage reduction projects, such as being evaluated in the feasibility study of the Dallas Floodway, require siting within the floodway, however, the multipurpose study and construction authorities associated with Corps of Engineers projects could ameliorate and even enhance the natural floodplain values

Urbanization has greatly influenced land use patterns within the Dallas area. As additional runoff from upstream areas has increased the frequency of flooding within the study area, and as adjacent urbanization has continued, floodplain land use has shifted away from agriculture, except for a few areas of pastureland. The large floodplain areas adjacent to the river are zoned for industrial development, but with or without project, it is unlikely that substantial new development will occur in flood-prone areas due to extensive flooding and regulatory prohibitions that are currently in place. Past programs for voluntary removal of some residences and other structures in the more frequently flooded areas have also influenced floodplain land uses. Most abandoned floodplain areas have re-vegetated with grasses, followed by young forests. The proposed DFE project would significantly reduce remaining flood damages that occur within the project area. Most of the areas that would be impacted by the proposed project features are currently in private ownership and would be shifted to public open space with the project. Physical features of the project would directly impact some forestlands that have developed during the past 30 to 40 years; however, these losses would be mitigated, resulting in a larger area of preserved and reestablished floodplain forests.

The proposed DFE project would provide a large net increase in wetlands regardless of which upstream future condition may come to fruition. It also provides a significant increase in acres of improved forests and increases in acres of other cover types converted to forest. Tables 4-1 through 4-6 show that these conversions to desirable habitats come as a result of conversion of grasslands, the region's most abundant cover type.

All lands acquired as features of the DFE project, including the area between the proposed levees, the footprint of the project features, and the mitigation areas, would no longer be available for uses such as agricultural production or industrial use. These lands would remain in the floodplain as open space and would be available for public uses compatible with the project. The project would result in increased use of the floodplain lands for recreation. Recreation trails and flood compatible day use facilities would be developed through project lands and the habitat mitigation area. The City of Dallas plans more intensive recreation facilities certain areas within the lands required for the project, including athletic fields and a community center. Direct land use changes caused by the proposed DFE project would be compatible with floodplain functions and should have no negative effects on floodplain uses compared to conditions without the project.

The DFE project would provide reduction in damages to areas in both the Lamar Street and Cadillac Heights areas that are currently susceptible to flooding. The economic stimulus associated with the project, combined with the reduction in frequency and intensity of flood damages, would result in a higher order of economic use of the affected lands which would be afforded protection or which are adjacent to the project. Redevelopment would not be expected to occur all at once, but over a period of years. The most obvious changes would likely be in the form of redevelopment and reuse rather than direct change from one land use to another. Liability concerns for environmental contamination must be addressed prior to any major redevelopment. This would be largely the responsibility of the land developer(s) and would need to comply with both Environmental Protection Agency and Texas Commission on Environmental Quality requirements, as well as consistency with such programs as the "Brownfields" initiatives administered by those agencies. Although no specific proposals have been identified with any certainty, it is probable that any industrial redevelopment that may be induced will be "cleaner" than former industrial development in the study area.

With participation in the DFE project, or any Corps of Engineers project currently in the Feasibility Study phase that might go on to implementation, the City of Dallas would be required to prepare a comprehensive floodplain management plan which should address watershed land uses adjacent to and upstream of the project. A primary purpose of this comprehensive plan is to assure that future developments do not increase potential future flood damages. The floodplain management plan must address conditions of the project as assumed to be in-place, along with any other proposals, such as highways or commercial, residential, or industrial development. Any potential zoning changes proposed by the City of Dallas in preparing this comprehensive floodplain management plan should provide opportunity for public input.

TABLE 4-7. CUMULATIVE IMPACT ANALYSIS, DALLAS FLOODWAY EXTENSION

TABLE 4-7. CUMULATIVE IMPACT ANALYSIS FOR ALTERNATIVES TO DALLAS FLOODWAY EXTENSION

Potentially Impacted Area or Resource	Flood Damage Reduction				Ecosystem Restoration			Transportation								Fill Activities				Recreation		
	Floodway Levee Raise (1) (9)	Stemmons Area (2)	Las Colinas levee Raise (3)	ATSF Bridge Modification (4)	Old Trinity (1)	Joppa Preserve (1)	Dallas Floodway (1)	Industrial (5)	Combined Riverside (5)	Split Riverside (5)	Split landside (5)	George Bush Seg. 4 (9)	TRE Bridge (6)	DART Southeast Corridor (6)	Other Floodway Bridges (7)	McCommas Bluff Landfill Extension (9)	Frasier Dam Modification	Basic Capitol Management (9)	Park / Ride Grand Prairie	Floodway Lake (10)	Texas Buckeye Trail (11)	Equestrian Center/Interpretive Center (11)
Water Quality	O	O	O	O	▲	▲	▲	O	O	▼	▼	O	O	O	O	O	O	▼	▼	O	O	O
Air Quality	O	O	O	O	O	O	▲	O	O	O	O	O	O	O	O	O	O	O	▲	O	O	O
Aquatic Resources	O	▲	O	O	▲	▲	▲	O	O	▼	▼	▼	▼	▼	O	O	▼	▼	▼	O	O	O
Wetlands	O	O	O	O	▲	▲	▲	O	▼	▼	▼	▼	O	O	▼	O	▲	▼	▼	O	▼	▼
Forested Resources	O	▲	O	O	▲▲	▲	▲▲	▼	▼	▼	▼	▲	▼	▼	▼	O	▼	▼	▼	▼	O	▼
Forested Resources (NED Plan)	O	O	O	O	O	▲	▲	▼	▼▼	▼▼	▼	O	▼	▼	▼	O	▼	▼	▼	▼	O	▼
Floodplain Recreation	▲	▲	O	▲	▲	▲	▲▲	O	O	O	O	O	O	O	O	O	O	O	O	▲▲	▲	▲
Natural Floodplain (EO 11988)	▲	▲	O	O	▲	▲	▲▲	O	▼	▼	▼	▼	O	▼	O	▼	▼	O	▼	▲	O	O
Public Services	O	▲	▲	▲	O	O	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲▲	▲	O	▲	▲	▲	▲
Environmental Justice	O	O	O	O	▲	▲	▲	O	O	▼	▼▼	O	O	▲	▲	O	O	O	▲	O	▲	▲
Upstream H & H	▼	▼	▼	▲	O	O	▼▼	O	▼	▼	O	▼	O	▼	▼	O	▼	▼	▼	▲▲	O	O
Downstream H & H	▲	▼	▼	▼	O	O	▲	O	▼	▼	O	O	O	▼	▲	O	O	▼	▼	▼	O	O
Flood Damages	▲▲	O	▲	▲	O	O	▼	O	O	O	O	▼	O	▼	▼	O	O	▼	▼	▲	O	▼
Aesthetics	O	▲	O	O	▲	▲	▲▲	O	▼	▼	▼	O	O	▼	▲	▼	O	O	▼	▲▲	▲	▼
Historic andCultural Resources	O	▼	▼	O	O	O	▼	▼	▼	▼	▼	O	O	O	O	O	▼	O	O	▼	O	O

Legend: ▼▼ Moderate Adverse Effects ▼ Slight Adverse Effects O No Affect ▲ Slight Beneficial Effects ▲▲ Moderate Beneficial Effects

Note: Applies to all alternatives in the Final Array of the DFE GRR/EIS, except differences as noted in table.

(1) Corps of Engineers Studies
(2) Elm Fork Floodplain Management Study / Dallas
(3) Dallas County Utility and Reclamation District
(4) Lower end of existing floodway
(5) Roadway footprint and excavation of borrow material
(6) Passenger / Light Rail
(7) Project Pegasus (I-30 and I-35), Sylvan, Commerce, Woodall Rodgers, Loop 12, Hampton, 183, Corinth
(8) Section 404 / 10 Authorities
(9) Including proposed mitigation
(10) Reasonably foreseeable, however, could be constructed in phases by different entities (e.g., Corps / City complete)
(11) NED Plan would impact the design and possibly location of these recreational plans, however the cumulative impact of these features to the area are mostly the same for all DFE and Floodway action alternatives

TABLE 4 - 7
CUMULATIVE IMPACT ANALYSIS

Redevelopment of adjacent neighborhoods and commercial and industrial areas would be cumulatively influenced by the Trinity Tollway project proposed to extend from Hwy 175 to the existing Dallas Floodway along the Lamar Street Levee alignment of the proposed DFE project. The number and location of access ramps, as well as aesthetic treatment and noise reduction measures that would be included with the Trinity Tollway will affect the type and extent of adjacent land use changes. The Federal Highway Administration, Texas Department of Transportation, and the North Texas Tollway Authority will address those effects as those agencies move forward with compliance under the National Environmental Policy Act. One certain effect of the proposed roadway project on land use in the project vicinity would be an economic stimulus resulting from construction. The economic effect of a roadway project on land use within the study area would occur even in the absence of the DFE project or any other proposed flood damage reduction project. The DFE project and a Trinity Tollway project together, however, would have a combined or cumulative effect on land use. The nature, location, and extent of land use changes or economic redevelopment that would occur cannot be predicted with certainty at this time. Economic development within the project study area will be greatly influenced by the City of Dallas' comprehensive floodplain management plan, by the City's Trinity River Corridor Comprehensive Land Use Plan (CLUP), and by features of the proposal for the Trinity Parkway as they move along in the planning and public involvement process.

PUBLIC SERVICES

The cumulative impacts of the reasonably foreseeable projects on public services considered changes in the need or ability of local governments to effectively provide for the safety and welfare of citizens and visitors to the immediate area of the Dallas Floodway and the Dallas Floodway Extension. Reduction in injury and life threatening events would be considered beneficial. Benefits would accrue if emergency services could be provided with minimal delay. Other public service benefits would accrue from protection of wastewater treatment plants and sanitary landfill facilities. Potential adverse cumulative impacts to public services would occur from public gatherings at events with insufficient facilities to accommodate health and safety needs.

ENVIRONMENTAL JUSTICE/COMMUNITY STRUCTURE

Cumulative effects on social, economic, and community well being within proposed project areas are difficult to measure because it requires a delineation of cause-and-effect between the multiple actions and the human communities of concern. Until sufficient scoping of all the project proposals and coordination with affected communities can be completed, only a preliminary discussion of cumulative effect is possible. Both structural and nonstructural alternatives need to consider existing directly affected socioeconomic resources within potential project areas, especially with regard to issues of environmental justice and potential adverse cumulative impacts to communities.

The project area of the Stemmons North Industrial District, now being studied under the Elm Fork Floodplain Management Study, is unlikely to produce any negative, long-term, cumulative impacts to socioeconomic conditions from implementation of the recommendations reviewed. The reduction of flood damages within this portion of the study area would encourage the development of additional businesses and industries in this area. Job growth is already high in this area and could potentially increase even more as additional work opportunities become available.

The consequences to socioeconomic conditions within the area of Feasibility Study for the Dallas Floodway would be generally beneficial to the region at large. Reduction of flooding events, environmental restoration, and development of public use facilities, would generally result in stabilized and slightly increased property values and reduced public and private emergency expenditures. The incorporation of recreational components into any of these projects would provide even greater benefit. Some potentially negative consequences to low-income and minority communities caused by relocations and buy-outs is possible, especially within the area of the Dallas Floodway if the proposed Trinity

Parkway were constructed. The environmental restoration component of the Dallas Floodway (EQ Plan) alone, without the parkway component, is unlikely to have these direct negative impacts. Cumulatively, with other possible projects proposed for the broad study area, the DFE project would result in an enhancement of the area through reductions in flood damages or the threat of flood damage and/or ecosystem restoration and would produce positive benefits for the future.

HYDROLOGY AND HYDRAULICS

Generally, any alternative within the study area that results in alteration of the flood carrying capacity causes direct, indirect and cumulative impacts to some other locations within the floodplain. The hydrology and hydraulic analysis evaluation conducted for the PEIS presented the results of new studies. That study took into consideration the known new construction within the floodplain and considered the recommended plan for Dallas Floodway Extension, including environmental mitigation and recreational development to be in place.

The hydrologic and hydraulic models used for this SEIS follow the same development rationale and the HEC-1 hydrologic models used for the SEIS are the same as the models used for both the DFE GRR/EIS and the PEIS. See Appendix A of this SEIS for explanation of models used. The HEC-2 models developed for the original DFE GRR/EIS alternatives were converted to the HEC-RAS model format and combined with the Upper Trinity CDC HEC-RAS model. This was done in the same manner that the Recommended Plan for the DFE project was combined with the various alternatives for the Dallas Floodway as described on Page A-9 under Dallas Floodway alternatives in the PEIS. Additionally, the same “future conditions” year 2050 hydrologic land use conditions were used to compute the data within this Supplement to the DFE GRR/EIS in order to maintain consistency with the data presented in the PEIS.

Data from several tables in Appendix A of this report and from Appendix A of the PEIS are presented in this section. Tables 4-8 through 4-12 present the hydraulic conditions and impacts (change in water surface elevations) from reasonably foreseeable projects in the Dallas Floodway compared to the final array of alternatives of the DFE GRR/EIS. Table 4-8 provides hydraulic conditions that were predicted based upon there being no Federal Action in the DFE project area for the 100-year and Standard Project Flood conditions. The “No Action” column in this table thus provides the baseline for evaluation of individual and cumulative impacts displayed in this and subsequent H&H tables. .

It was found in the PEIS that subtle differences exist between the various “Lakes” alternatives. For example, the parkways would be protected to the 100-year level, and therefore, they would have less reduction in the water surface than the lakes alone during the 100-year event. However, during the SPF event, the parkways would act as concrete lined channels and allow/cause the water to flow faster and therefore lower the water surface more than just the stand-alone lakes. Regardless, the “Lakes” alternatives are sufficiently similar from a hydraulic perspective so that they can be grouped together. This being the case, and taking into account the magnitude of the reductions in water surface elevations, for the 100-year event, the cumulative impact upstream of the Dallas Floodway would be less than the sum of the DFE and “Lakes” evaluated separately.

Changes to the water surface elevations for the Flood Damage Reduction Alternative are sufficiently small that the change will converge to zero within a relative short distance upstream of the Elm Fork/West Fork confluence. This alternative, when combined with the DFE project would have essentially no impact to the area upstream of the existing Dallas Floodway. Thus, the cumulative hydraulic impacts of the two projects would be similar to the sum.

The EQ plan, because of the additional forest and overbank resistance to flows, causes a significant rise to water surface elevations at the upstream end of the Dallas Floodway. The City’s Elm Fork

TABLE 4-8 HYDRAULIC IMPACTS FOR DALLAS FLOODWAY REASONABLY FORESEEABLE ACTIONS, AT SELECTED TRINITY RIVER LOCATIONS, WITH "NO ACTION" AS THE DFE PROJECT (2050 HYDROLOGY)

100-year Water Surface Elevations (ft.)

Location	No Action	FDR	Change	Pkwy 1side	Change	Lakes/Split Pkwy	Change	Lakes only	Change	EQ	Change
Confluence	424.12	423.96	-0.16	423.57	-0.55	423.61	-0.51	423.49	-0.63	425.30	1.18
Hampton	421.87	421.72	-0.15	421.37	-0.50	421.42	-0.45	421.24	-0.63	422.99	1.12
Commerce	419.40	419.29	-0.11	418.91	-0.49	418.92	-0.48	418.94	-0.46	420.42	1.02
DART Rail	417.61	417.56	-0.05	417.49	-0.12	417.49	-0.12	417.50	-0.11	417.59	-0.02
SH 310	410.80	410.8	0.00	410.83	0.03	410.83	0.03	410.82	0.02	410.74	-0.06
S Loop 12	403.14	403.15	0.01	403.19	0.05	403.19	0.05	403.17	0.03	403.07	-0.07

SPF Water Surface Elevations (ft.)

Location	No Action	FDR	Change	Pkwy 1side	Change	Lakes/Split Pkwy	Change	Lakes only	Change	EQ	Change
Confluence	436.14	436.09	-0.05	435.10	-1.04	435.11	-1.03	435.17	-0.97	437.89	1.75
Hampton	434.00	433.92	-0.08	432.98	-1.02	432.98	-1.02	433.06	-0.94	435.75	1.75
Commerce	430.72	430.63	-0.09	429.84	-0.88	429.82	-0.90	429.96	-0.76	432.39	1.67
DART Rail	427.55	427.14	-0.41	427.27	-0.28	427.27	-0.28	427.26	-0.29	427.41	-0.14
SH 310	421.98	421.95	-0.03	422.09	0.11	422.09	0.11	422.09	0.11	421.85	-0.13
S Loop 12	411.78	411.75	-0.03	411.92	0.14	411.92	0.14	411.91	0.13	411.63	-0.15

Change reflects the differences in water surface elevations from the No Action water surface at the referenced location. A negative change represents a decrease in water surface elevation.

No Action Column provides water surface elevations related to No alternatives being implemented in Dallas Floodway area

TABLE 4-9 HYDRAULIC IMPACTS FOR DALLAS FLOODWAY REASONABLY FORESEEABLE ACTIONS, AT SELECTED TRINITY RIVER LOCATIONS, WITH "NED PLAN" AS THE DFE PROJECT (2050 HYDROLOGY)

100-year Water Surface Elevations (ft.)

Location	No Action	FDR	Change	Pkwy 1side	Change	Lakes/Split Pkwy	Change	Lakes only	Change	EQ	Change
Confluence	422.87	422.62	-0.25	422.35	-0.52	422.37	-0.50	422.23	-0.64	424.18	1.31
Hampton	419.74	419.46	-0.28	419.19	-0.55	419.25	-0.49	418.95	-0.79	421.16	1.42
Commerce	415.80	415.57	-0.23	415.17	-0.63	415.17	-0.63	415.10	-0.70	417.47	1.67
DART Rail	412.26	412.21	-0.05	412.16	-0.05	412.16	-0.10	412.13	-0.13	412.24	-0.02
SH 310	407.17	407.17	0.00	407.19	0.02	407.20	0.03	407.19	0.02	407.10	-0.07
S Loop 12	403.36	403.36	0.00	403.39	0.03	403.39	0.03	403.38	0.02	403.28	-0.08

SPF Water Surface Elevations (ft.)

Location	No Action	FDR	Change	Pkwy 1side	Change	Lakes/Split Pkwy	Change	Lakes only	Change	EQ	Change
Confluence	434.20	434.09	-0.11	433.07	-1.13	433.12	-1.08	433.09	-1.11	435.97	1.77
Hampton	431.37	431.23	-0.14	430.21	-1.16	430.27	-1.10	430.22	-0.15	433.20	1.83
Commerce	426.78	426.64	-0.14	425.58	-1.23	425.58	-1.20	425.72	-1.06	428.83	2.05
DART Rail	421.83	421.69	-0.14	421.60	-0.23	421.60	-0.23	421.60	-0.23	421.67	-0.16
SH 310	417.24	417.21	-0.03	417.34	0.10	417.35	0.11	417.35	0.11	417.10	-0.14
S Loop 12	412.24	412.21	-0.03	412.34	0.10	412.34	0.10	412.34	0.10	412.09	-0.15

TABLE 4-10. HYDRAULIC IMPACTS FOR DALLAS FLOODWAY REASONABLY FORESEEABLE ACTIONS, AT SELECTED TRINITY RIVER LOCATIONS, WITH "LPP" (RECOMMENDED PLAN) AS THE DFE PROJECT (2050 HYDROLOGY)

100-year Water Surface Elevations (ft.)

Location	No Action	FDR	Change	Pkwy 1side	Change	Lakes/Split Pkwy	Change	Lakes only	Change	EQ	Change
Confluence	423.39	423.23	-0.16	422.86	-0.53	422.89	-0.50	422.75	-0.64	424.66	1.27
Hampton	420.70	420.51	-0.15	420.19	-0.51	420.24	-0.46	419.98	-0.72	421.99	1.28
Commerce	417.56	417.51	-0.05	417.05	-0.51	417.06	-0.50	417.01	-0.55	418.87	1.31
DART Rail	415.12	415.12	0.00	415.02	-0.10	415.02	-0.10	415.01	-0.11	415.10	-0.02
SH 310	407.62	407.62	0.00	407.64	0.02	407.64	0.02	407.63	0.01	407.54	-0.08
S Loop 12	403.35	403.35	0.00	403.39	0.04	403.39	0.04	403.38	0.03	403.26	-0.09

SPF Water Surface Elevations (ft.)

Location	No Action	FDR	Change	Pkwy 1side	Change	Lakes/Split Pkwy	Change	Lakes only	Change	EQ	Change
Confluence	435.56	435.71	0.15	434.43	-1.13	434.47	-1.09	434.50	-1.06	437.32	1.76
Hampton	433.24	433.43	0.19	432.10	-1.14	432.14	-1.10	432.18	-1.06	435.01	1.77
Commerce	429.66	429.94	0.28	428.63	-1.03	428.65	-1.01	428.78	-0.88	431.42	1.76
DART Rail	426.24	426.19	-0.05	425.89	-0.35	425.89	-0.35	425.88	-0.36	426.07	-0.17
SH 310	418.08	418.04	-0.04	418.16	0.08	418.17	0.09	418.16	0.08	417.93	-0.15
S Loop 12	412.30	412.27	-0.03	412.40	0.10	412.40	0.10	412.40	0.10	412.16	-0.14

TABLE 4-11 HYDRAULIC IMPACTS FOR DALLAS FLOODWAY REASONABLY FORESEEABLE ACTIONS, AT SELECTED TRINITY RIVER LOCATIONS, WITH NON-STRUCTURAL/STRUCTURAL PLAN AS THE DFE PROJECT (2050 HYDROLOGY)

100-year Water Surface Elevations (ft.)

Location	No Action	FDR	Change	Pkwy 1side	Change	Lakes/Split Pkwy	Change	Lakes only	Change	EQ	Change
Confluence	423.26	423.04	-0.22	422.73	-0.53	422.75	-0.51	422.61	-0.65	424.54	1.28
Hampton	420.46	420.24	-0.22	419.94	-0.52	419.99	-0.47	419.72	-0.74	421.78	1.32
Commerce	417.15	416.98	-0.17	416.62	-0.53	416.62	-0.53	416.57	-0.58	418.54	1.39
DART Rail	414.51	414.45	-0.06	414.42	-0.09	414.42	-0.09	414.40	-0.11	414.49	-0.02
SH 310	407.61	407.62	0.01	407.65	0.04	407.65	0.04	407.64	0.03	407.55	-0.06
S Loop 12	403.35	403.35	0.00	403.39	0.04	403.39	0.04	403.38	0.03	403.27	-0.08

SPF Water Surface Elevations (ft.)

Location	No Action	FDR	Change	Pkwy 1side	Change	Lakes/Split Pkwy	Change	Lakes only	Change	EQ	Change
Confluence	434.93	434.79	-0.14	433.79	-1.14	433.82	-1.11	433.83	-1.10	436.64	1.71
Hampton	432.40	432.20	-0.20	431.23	-1.17	431.26	-1.14	431.27	-1.13	434.12	1.72
Commerce	428.43	428.20	-0.23	427.31	-1.12	427.30	-0.13	427.43	-1.00	430.20	1.77
DART Rail	424.47	424.18	-0.29	424.15	-0.32	424.15	-0.32	424.15	-0.32	424.32	-0.15
SH 310	418.05	418.02	-0.03	418.16	0.11	418.17	0.12	418.16	0.11	417.91	-0.14
S Loop 12	412.30	412.27	-0.03	412.40	0.10	412.40	0.10	412.40	0.10	412.16	-0.14

TABLE 4-12 HYDRAULIC IMPACTS FOR DALLAS FLOODWAY REASONABLY FORESEEABLE ACTIONS, AT SELECTED TRINITY RIVER LOCATIONS, WITH "TFSP" AS THE DFE PROJECT (2050 HYDROLOGY)

100-year Water Surface Elevations (ft.)

Location	No Action	FDR	Change	Pkwy 1side	Change	Lakes/Split Pkwy	Change	Lakes only	Change	EQ	Change
Confluence	423.44	423.24	-0.20	422.92	-0.52	422.94	-0.50	422.80	-0.64	424.70	1.26
Hampton	420.78	420.58	-0.20	420.28	-0.50	420.33	-0.45	420.08	-0.70	422.05	1.27
Commerce	417.70	417.55	-0.15	417.21	-0.49	417.21	-0.49	417.16	-0.54	418.99	1.29
DART Rail	415.32	415.27	-0.05	415.23	-0.09	415.23	-0.09	415.22	-0.10	415.30	-0.02
SH 310	407.61	407.62	0.01	407.65	0.02	407.65	0.04	407.64	0.03	407.55	-0.06
S Loop 12	403.35	403.35	0.00	403.39	0.03	403.39	0.04	403.38	0.03	403.27	-0.08

SPF Water Surface Elevations (ft.)

Location	No Action	FDR	Change	Pkwy 1side	Change	Lakes/Split Pkwy	Change	Lakes only	Change	EQ	Change
Confluence	434.93	434.79	-0.14	433.79	-1.14	433.82	-1.11	433.83	-1.10	436.64	1.71
Hampton	432.40	432.20	-0.20	431.23	-1.17	431.26	-1.14	431.27	-1.13	434.12	1.72
Commerce	428.43	428.20	-0.23	427.31	-1.12	427.30	-0.13	427.43	-1.00	430.20	1.77
DART Rail	424.47	424.18	-0.29	424.15	-0.32	424.15	-0.32	424.15	-0.32	424.32	-0.15
SH 310	418.05	418.02	-0.03	418.16	0.11	418.17	0.12	418.16	0.11	417.91	-0.14
S Loop 12	412.30	412.27	-0.03	412.40	0.10	412.40	0.10	412.40	0.10	412.16	-0.14

proposals could then further increase the 100-year water surface elevation, and thus, the cumulative impacts may slightly exceed the sum of the two projects when evaluated separately. A project scenario such as this would most definitely require other hydraulic mitigation measures, which have yet to be determined.

As indicated by the hydrologic and hydraulic analysis for the Recommended Plan for the DFE, valley storage changes in the project reach would result from both the reduction of peak water surface elevation and the function of levees blocking floodwater access to the areas of the floodplain that would be protected by the levees. The analysis indicates that a reduction in the valley storage in the project reach would result in an increase in the peak discharges. This increase has been computed and is expressed in terms of an increase in the peak water surface profile downstream of the project. The water surface profile elevations would be increased an average of 0.15 feet for the 1 percent chance flood (100-year) and 0.3 feet for the SPF. Based on the small increases downstream of the DFE and the very limited potential for flood damages downstream of the project, a variance from the criteria requiring mitigation for reduction of valley storage based upon the Trinity River Environmental Impact Statement Record of Decision (ROD) has been considered and approved by the District Engineer for the Recommended Plan for the DFE project.

The cumulative effects of the various Dallas Floodway alternatives combined with alternatives downstream in the DFE study area and the results of the hydrologic and hydraulic analysis are discussed in the PEIS. These results are presented in terms of the individual project's impacts to the water surface profiles and flow velocities both upstream and downstream. In general, the data presented indicates that a project which raises the water surface profile upstream of the project results in lowering the water surface profile downstream of the project and vice versa due to the valley storage losses or gains resulting from implementation of the project. These phenomena are also observable in the additional data presented herein and the reasons are essentially the same as those discussed in the PEIS and will not be repeated here. Reference the PEIS for discussion of the valley storage effects of the various Dallas Floodway alternatives. However, one important conclusion can be drawn from the additional data presented in this Supplement. The relative scale of the effects both upstream and downstream for each of the Dallas Floodway alternatives when compared to the No Action Plan for the Dallas Floodway and combined with the final array of alternatives for DFE is very similar to those observed in the PEIS. In fact, the results show that all of the alternatives of the Dallas Floodway cause relatively insignificant impacts downstream. For example, the 100-year water surface (WS) elevation difference for the Recommended Plan DFE/FDR Plan combination in the PEIS is -0.16 ft. and the 100-year WS elevation difference for the No Action DFE/FDR Plan combination is –0.16 ft at the West Fork / Elm Fork confluence. The same comparison for the SPF WS elevation is 0.15 ft. for the Recommended Plan DFE/FDR Plan and is –0.05 ft. for the No Action DFE/FDR Plan. One should keep in mind that all of the data presented in the PEIS includes the Recommended Plan for DFE.

The data also indicates that the difference in the scale of the upstream water surface elevation impacts compared to the downstream impacts of the Dallas Floodway alternatives is quite high. This difference is observed in some cases higher than a 10:1 ratio upstream to downstream which means that an alternative that raises the water surface elevation upstream from the project of about 1.0 foot will generally result in lowering the water surface downstream of about 0.1 feet or less. This same hydrologic and hydraulic phenomenon is observed in the DFE alternatives and works to a distinct advantage for the DFE Recommended Plan which results in lowering the water surface elevation upstream in the Dallas Floodway reach significantly where extremely high flood damage values are located and raises flood levels downstream an insignificant amount where very low flood damage values exist.

Cumulative impacts can also be observed in the data when comparing the same plan for Dallas Floodway with various alternatives for the DFE. For example, the SPF water surface (WS) elevation comparison upstream of the EQ Plan at the West Fork/Elm Fork Confluence for the EQ Plan/No Action DFE combination with the EQ Plan/Recommended Plan in DFE combination equals –0.57 (437.32 - 437.89) and the same comparison downstream at Loop 12 would equal 0.53 (411.63 – 412.16). This comparison yields the results of adding the Recommended Plan for DFE if the EQ Plan were implemented first.

Almost identical results are obtained comparing the No Action in Dallas Floodway/No Action DFE combination and the No Action in Dallas Floodway/Recommended Plan for DFE combination.

Another way of using the data in a cumulative way would be to compare the implementation of two plans simultaneously in both the Dallas Floodway and the DFE area with the No Action Plan for both areas (Existing Conditions). Using the data in the previous example would yield an upstream elevation change for the SPF water surface at the West Fork/Elm Confluence of +1.18 (437.32 – 436.14) and a downstream change at Loop 12 of +0.38 (412.16- 411.78). This example yields the impacts of implementation of the EQ Plan and the Recommended Plan for DFE compared with existing conditions.

Based upon the evaluations conducted for the DFE GRR/EIS and PEIS, it appears that based upon all known reasonably foreseeable projects there would be potential for cumulative impacts to flood elevations both upstream of the Dallas Floodway and downstream of the Floodway Extension. All project proposals currently under investigation, including the Dallas Floodway Feasibility Study and the Trinity Tollway EIS, must take those potential cumulative effects into account. Plan formulation, selection, and design of all reasonably foreseeable projects must account for and must mitigate any determined adverse hydrologic and hydraulic effects.

Since it is would be impossible to combine plan features occupying the same space or that otherwise may have conflicting purposes, it is also not possible to view the hydrologic and hydraulic impacts of these preliminary individual plans developed for the Dallas Floodway as additive. For example, if it was found that one plan raised the water surface one foot at a point and another plan lowered the water surface at the same point the same amount then it might be construed that if the plans were combined the net effect would be approximately no change. This would be invalid because combining plans in most cases would require significant modification to either plan. However, the data provides indications to the overall effects of these types of projects and is valuable in the planning process for ultimately developing multiple purpose recommendations or plans that may individually provide several types of benefits and provide the most efficient means of satisfying the needs of the region both economically and environmentally. It is therefore likely, based on the findings of this data, that a combination of the various features of the reasonably foreseeable actions could be developed to produce an overall plan which results in very insignificant hydraulic impacts both upstream and downstream while providing many of the desired benefits. Some specifics of this process would be that since levee raises impact the design of a riverside Parkway reliever route, the Parkway could be located closer to the river to allow for riverside levee fill required to raise the levees. Also for example, floodplain recreational lakes that tend to lower water surface elevations could be used in some locations while forested areas as in the EQ Plan, that tend to raise water surface elevations could be used in other areas to compensate.

AESTHETICS

The Dallas Floodway alternatives, which would include a Parkway in association with the levees, would have moderate adverse impact on aesthetics as these hard-surface engineered features detract from remnant natural floodplain features. From a natural perspective, positive cumulative aesthetic impacts would result from implementation of the EQ and Lakes only alternative within the Dallas Floodway and from the Lakes alternative with the Parkway located at an alternate site such as the Industrial Boulevard alignment.

CULTURAL RESOURCES

Cumulative effects on cultural resources can be generally considered as limited with regard to individual Federal actions because of the nature of the resources and the actions. Properties that are eligible or listed in the National Register of Historic Places are accounted for and preservation actions would be taken on each property as the effects are identified. However, multiple actions by several agencies over time, and sometimes-separate State or privately sponsored activities within the same areas, have the potential for cumulative negative effects on the broad range of cultural resources. There is a potential for cumulative impacts within the Dallas Floodway project area associated with any of the alternatives being

considered. Any of the alternatives likely would encourage development adjacent to the floodway area. Resources which could be impacted in this project area are the archeological resources which may be present in areas where no survey effort has been completed or is required, buildings and structures which may or may not have been identified as significant, and properties of traditional importance to Native American Indian tribes or other traditional groups.

Construction in the Stemmons North Industrial District could produce adverse cultural resources impacts similar to those associated with the Dallas Floodway project area. Providing additional flood protection within the Stemmons area would encourage development in the protected area. Resources which could be impacted in this project area are the archeological resources which may be present in areas where no survey effort has been completed or is required, buildings and structures which may or may not have been identified as significant, and possibly properties of traditional importance to Native American Indian tribes or other traditional groups. Cumulatively, projects in the Dallas Floodway, Stemmons North Industrial District, and the Trinity Parkway routes, have potential to directly impact built architectural and engineering properties. Mitigation of cultural resources that would be impacted by any aspect of the Federal projects would be required. A programmatic agreement to address types of studies needed and actions necessary to mitigate cultural resource losses has been developed by the Corps of Engineers agreed upon by the SHPO to address Corps of Engineers actions.

Any impacts to cultural and historical resources would be mitigated, according to provisions of the National Historic Preservation Act. Therefore, the proposed federal actions would make no contributions to cumulative impacts of the area.

NOISE

All noise impacts directly attributable to the DFE project would be temporary in nature. Levees would tend to interfere with the distribution of some noises. Roadway traffic noise associated with proposed tollway alignments, bridge upgrades or replacements, and other transportation proposals in the study area must be evaluated by the Federal Highway Administration, TXDOT, NTTA, or other entities as appropriate. The recommended DFE project would not contribute to cumulative noise impacts and noise is not considered to be a significant cumulative impact issue relative to the DFE project.

ENVIRONMENTAL COMPLIANCE

The President's Council on Environmental Quality's Regulations for Implementing the Procedural Provisions of the National Environmental Act require that Environmental Impact Statements list all Federal permits, licenses, and other entitlements which must be obtained in order to implement a proposal. If it is uncertain whether or not any permits, licenses, or other entitlements are required, the EIS must state that as well. The GRR/EIS for the DFE lists those requirements for the DFE project. This section addresses the requirements, to the extent that they are known, for other reasonably foreseeable projects in the study area.

ENDANGERED SPECIES ACT

Several federally protected species may occasionally migrate through the proposed project area. It is known that the Black-capped vireo nests in southwestern Dallas County within the juniper forested area associated with that area. In addition, least tern has been documented nesting within the Southside Wastewater Treatment facility grounds several miles southeast of the Dallas within the mainstem Trinity River floodplain. Preliminary evaluation of the reasonably foreseeable proposals in the study area indicates that none would affect, nor would they have a cumulative affect on federally listed threatened or endangered species or their critical habitat. Each would have to be evaluated on a case-by-case and site-specific basis as planning progresses.

EXECUTIVE ORDER 11988

Executive Order 11988 was considered in preparation of this Supplement. The objective of the EO is to avoid, to the extent possible, long and short-term adverse impacts associated with occupancy and modification of the base floodplain. Further objectives are the avoidance of direct and indirect support of development in the base floodplain wherever there is a practicable alternative and protection and restoration of natural floodplain functions. Feasible alternatives may remain that need to be further evaluated prior to final determination of whether activities proposed within the 100-year floodplain of the Trinity River are compliant with the Executive Order. Corps of Engineers regulations for implementing EO11988 (ER 1165-2-26) defines the base floodplain as the one percent chance, or 100- year floodplain. For the most part, lakes and wetland features and flood damage reduction measures are required to be located within the floodplain to provide their intended function. Parkways, recreational features and associated support do not need to be located within the floodplain to fulfill their basic purposes. Additional analysis will be required of the Corps of Engineers and other Federal decision agencies prior to final determination of compliance of various project alternatives with this Executive Order. Review of policy issues associated with the various project proposals being investigated will continue to assure compliance with Executive Order 11988 directives.

SECTION 202(C) OF THE WATER RESOURCES DEVELOPMENT ACT OF 1996

This guidance requires the preparation of a comprehensive Floodplain Management Plan (FPMP) by the local sponsor for any projects that are cost shared with the Corps of Engineers. This requirement will have future floodplain impacts within the study area. The project sponsors of Corps of Engineers projects are required to develop a FPMP within one year after the signing of the Project Cooperation Agreement, and then must implement the plan within one year after completion of construction of the project. Thus, the City of Dallas, as cost sharing sponsor for the Dallas Floodway Extension, is required to complete a FPMP for that project prior to the development of any additional Corps of Engineers projects within their area of jurisdiction.

CLEAN AIR ACT

Federal agencies are required by this Act to review all air emissions resulting from Federal funded projects or permits to insure conformity with the State Implementation Plans in non-attainment areas. The Dallas/Fort Worth Metropolitan Area is a non-attainment area. Section 176(c) requires Federal agencies to demonstrate that an activity in which they engage, support, permit, or approve conforms to State Implementation Plans. The basic requirement of Section 309(a) is submission of the feasibility-level documents to the EPA for review and comment. The GRR/EIS and both the Draft and Final of this Supplement have been provided to that agency. The project is in compliance with the Clean Air Act and will not contribute to the air quality problem.

SECTION 404 CLEAN WATER ACT

Congress under Section 404 of the Clean Water Act (33 USC 1344) has directed the Corps of Engineers to regulate the discharge of dredge and fill material into all waters of the United States including adjacent wetlands. The intent of Section 404 is to protect the nation's waters from indiscriminate discharge of material capable of causing pollution, and to restore and maintain the chemical, physical and biological integrity of these areas. Although the Corps of Engineers does not issue itself permits for proposed activities that would affect waters of the United States, the Corps of Engineers must meet the legal requirements of the Act.

Each of the potential projects of others in this Supplement to the DFE EIS must be evaluated on its own merits as alternatives are selected and plans are developed. At this point, it is presumed that any of the Dallas Floodway project alternatives would impact jurisdictional areas, including wetlands, and would result in a requirement for the Corps of Engineers to conduct and incorporate Section 404(b)(1) analyses into subsequent NEPA and agency decision documents.

SECTIONS 9 AND 10 RIVERS AND HARBORS ACT

Section 9 (33 USC 401) and Section 10 (33 USC 403) of the Rivers and Harbors Act of 1899 direct the Corps of Engineers to regulate all work or structures in or affecting the course, condition, or capacity of navigable water of the United States. Since no alternative evaluated considers construction of a dam across a navigable waterway, Section 9 need not be considered further. The mainstem Trinity River at Dallas is navigable, as is the West Fork upstream to Riverside Drive; however, no commercial navigation occurs on the Upper Trinity. The Elm Fork is also not navigable and provided activities within the Stemmons area do not induce direct or cumulative impacts downstream on the mainstem, then the activities at Stemmons would be in compliance with Section10.

Project proposals within the Dallas Floodway would have minimal affect on navigation. The footprint of most features would lie within the floodplain adjacent to the mainstem. The construction of a split channel around the lakes and recreational features would cause some impacts to the recreational navigation that occurs on the mainstem. Most of these impacts would be temporary in nature occurring during the construction. Further evaluation of all mainstem alternatives would be required to determine compliance with Section 10.

EXECUTIVE ORDER 11990 - PROTECTION OF WETLANDS

In addition to Section 404 and Executive Order 11988, Executive Order 11990 for Protection of Wetlands was considered during the evaluation of proposed projects. The purpose of this Executive Order is to assure that Federal Agencies in the process of carrying out their missions, take all reasonable action to preserve and protect the functional values of wetlands. Further evaluation will be necessary for proposals within the existing Dallas Floodway as the proposals evaluated in this Supplement would clearly impact jurisdictional areas including wetlands.

SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT

Assessment, avoidance, and potentially, mitigation, of resources identified during future studies that would be impacted by any aspect of the federal projects would be required. For purposes of Section 106 of the National Historic Preservation Act, a programmatic agreement to address types of studies needed and actions necessary to mitigate cultural resource losses is being pursued with the Texas SHPO and Advisory Council on Historic Preservation. Other groups are being consulted with regarding potential properties of traditional significance.

FISH AND WILDLIFE COORDINATION ACT

The Fish and Wildlife Coordination Act requires the Corps of Engineers to coordinate with the U.S. Fish and Wildlife Service on water resources related projects to obtain their views toward preservation of fish and wildlife resource values and mitigation of unavoidable impacts. The Fish and Wildlife Service has provided information that was utilized during the planning of the DFE project and has assisted in the early planning process for other projects being studied by the Corps of Engineers. Subsequent detailed studies, including development of appropriate fish and wildlife resources mitigation plans, will be conducted with the U. S. Fish and Wildlife Service prior to recommendation of any specific project alternatives for construction authorization.

CORPS OF ENGINEERS HABITAT MITIGATION PROCESS

The Corps of Engineers has established a goal of no net loss of resource value for bottomland hardwoods as a part of the planning process. This goal is similar to the mitigation objectives established by the Fish and Wildlife Service as part of its mitigation policy. In light of the cumulative impacts to forested resources in the study area, particularly within the 100-year floodplain, the Corps of Engineers will continue within its planning process to minimize impacts to bottomland hardwoods and to fully mitigate unavoidable losses. The Corps of Engineers will continue to pursue projects such as, wetland restoration associated with the Dallas Floodway Extension, and ongoing ecosystem restoration activities

under the Continuing Authorities Program, including Section 1135. Coordination will continue with resource agencies to determine the most efficient use of program resources to maximize forested resource benefits. In particular, efforts will be pursued to minimize fragmentation of forests and to restore linear corridors of sufficient width to be utilized by migratory songbirds and local wildlife.

Recent trends indicate that emergent wetland resources are being conserved or compensatory mitigation has been appropriately required within the study area. Similar to the Corps of Engineers' mitigation policy for bottomland hardwoods, forested wetlands, and riparian corridors, Corps of Engineers policy specifies no net loss of wetlands. Resource values of emergent wetlands will be considered during the Corps of Engineers planning process. Wetland restoration in addition to mitigation of unavoidable losses will continue to be supported as project features for Corps of Engineers projects. Environmental mitigation under Department of the Army permitting for Section 404 and Section 10 activities within the study follow mitigation guidelines established in the Record of Decision (ROD) for the TREIS.

HYDROLOGY AND HYDRAULICS MITIGATION

The ROD for the Trinity Regional EIS applies to all project actions requiring a permit under Section 10 or Section 404 within the Standard Project Flood (SPF) floodplain of the study area. The ROD established criteria for minimizing cumulative impacts to hydrology and hydraulics.

The TREIS raised awareness that a large area of floodplain lands within the Upper Trinity River could be developed outside the jurisdiction of the Corps of Engineers and that if developed following only FEMA requirements, significant increases in flooding frequency and extent would continue to occur in adjacent and downstream areas. Subsequently, the Corridor Development Certificate (CDC) process was developed as a means to address those floodplain actions that were not within the jurisdictional areas administered by the Corps of Engineers.

CHAPTER 5 – PUBLIC INVOLVEMENT/COORDINATION

The Final General Reevaluation Report for Dallas Floodway Extension (February 1999) and the Final Programmatic Environmental Impact Statement for the Upper Trinity Basin (June 2000) contain extensive discussions of public involvement associated with the investigations for those documents. Incorporated herein by reference as allowed by the CEQ regulations for implementing NEPA (40 CRF Part 1508) are the discussions of public involvement contained in the aforementioned documents. Those documents should be referenced in order to understand the full context of public involvement that has occurred relative to the DFE project and cumulative impacts within the entire Upper Trinity River Basin. A summary of the public involvement process just for this Supplement to the EIS for the Dallas Floodway Extension follows.

SCOPING

A Notice of Intent to prepare a Supplement to the Environmental Impact Statement appeared in the Federal Register on June 28, 2002. On July 3, 2002, interested individuals and agencies were mailed notices of the initiation of the public scoping process and date and location of the scoping meeting. A notice was also placed in the Dallas Morning News on July 14 providing the location, date, and time of the scoping meeting. The Public Scoping Meeting was held on July 16, 2002, at the Ramada Plaza Hotel, 1011 South Akard Street, Dallas, Texas.

Forty-five individuals signed the attendance list for the meeting. Following a brief presentation discussing the background reasons for holding the scoping meeting and the information the Corps of Engineers desired to receive through the process, participants were given the opportunity to review separate displays within the room documenting the location of proposed projects in the geographic area that the Corps of Engineers believed should be considered for identification and assessment of cumulative impacts. The public was afforded the opportunity to provide information regarding these projects, other projects known to them that they believed should be considered and the types of impacts and resources that would be impacted that should be considered in the supplemental EIS. The scoping meeting was held to provide several means for individuals to provide meaningful comment. Open discussion with Corps of Engineers project team members familiar with the Dallas Floodway Extension project was encouraged. In addition, notebooks at each display were available for individuals to list other projects or items that should be considered. Oral statements could be made to a Court Reporter present at the scoping meeting and written statements could be presented at the meeting or later by mail. The scoping period was open until August 31, 2002.

During the Scoping Meeting, six individuals left formal comments with the court reporter. A common theme of all comments received was that the format of the meeting was inhibitory to public participation because it did not provide for open public comment. Several comments expressed a desire for the Supplement to the EIS to reopen the evaluation of alternatives to the DFE. One commenter suggested that the geographic study area cannot be defined by strict boundaries as it relates to hydraulics and hydrology. Projects identified as having cumulative effects that should be examined included the Trinity River Corridor Master Implementation Plan, a Tollway along the West Fork, the Northwest Corridor MIS, the Southeast Corridor MIS, Raising the existing Dallas Floodway Levees by Two Feet, Trinity Parkway, Trinity Tollway, Woodall Rodgers Bridge, Stemmons North Industrial District, Great Trinity Forest Master Plan, Dallas Open Space Plan, Trinity River Bridge Replacements, Ecosystem Restoration Projects, Levees around McCommas Bluff Landfill, Section 404 Fill Permits in Dallas County, and lack of protection to development along White Rock Creek afforded by the Lamar Levee.

Ten written comments were received during the open scoping period. The USFWS stated that projects affecting the watershed, not just the floodplains, should be considered. The attorney for the plaintiffs expressed a number of concerns similar to those in the motion to the Court for the Northern District. The Federal Highway Administration referred the Corps of Engineers to TXDOT and to a listing of about 500 bridges that cross the Trinity River and its tributaries in the hydraulic study area. The Trinity Improvement

Association expressed support for the need for the DFE project and provided information on two potential reasonably foreseeable projects. DCURD expressed concern about the loss and the potential to lose the existing level of flood damage protection for investments within the Las Colinas development. Dallas City Packing requested consideration of slight modification to the proposed Cadillac Levee alignment to minimize disruption to its operations. Four individuals provided information on several activities that they believed should be considered as reasonably foreseeable projects. Individual commenters stated that the Supplement to the DFE EIS should go beyond what the court ordered and use the supplement as a means to disclose a wide variety of specific information about the proposed tollroad including maintenance costs and to include benefits of actions such as voluntary buyouts of Cadillac Heights and raising the elevation of the top of the existing Dallas levee system. One individual also requested that the Corps of Engineers should reevaluate alternatives to the DFE and to conduct the cumulative impact assessment without assuming DFE to be in place.

Overall the comments during the scoping process identified air quality, water quality, recreational, historic and cultural sites and the Great Trinity River and other bottomland hardwood resources such as high quality wildlife habitat, as environmental resources on which the effects of cumulative actions should be evaluated.

To gather additional information on future foreseeable actions that were not presented by meeting participants, letters were sent to federal agencies and state and local government offices, including private and public transportation offices requesting information from them on future projects that might have cumulative impacts to the DFE project. Follow-up telephone calls were made to Dallas Area Rapid Transportation and Dallas District Texas Department of Transportation. Meetings were held with North Texas Tollroad Authority, City of Dallas and the Dallas District TXDOT office. Agency coordination was also conducted to identify projects that were authorized by either Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbor Act since December of 1999, or for which applications have been received but have not been processed to date within a nine county area including Dallas and upstream counties through which flows the West Fork, Clear Fork Elm Fork, Main Stem or tributaries to these segments.

COORDINATION MEETINGS RELATED TO SCOPING

Trinity Interagency Executive Committee Meeting

This is a monthly meeting used to coordinate and update each participating agency on the status of on-going activities along the Trinity River Corridor within the City of Dallas. The agencies which attend this meeting are: City of Dallas, Corps of Engineers (SWF and SWD), Texas Department of Transportation, Texas Commission on Environmental Quality (TCEQ), Dallas County, Environmental Protection Agency (EPA), North Texas Tollway Authority (NTTA), and the North Central Texas Council of Governments (NCTCOG). These monthly meetings started in 1996.

Project Pegasus Work Group Meeting

The agencies attending this monthly meeting are: Texas Department of Transportation, Texas Transportation Institute, North Texas Tollway Authority (NTTA), Dallas Area Rapid Transit (DART), North Central Texas Council of Governments, Federal Highway Administration, Corps of Engineers, and the consultants performing the work. This project is the design and future construction/rebuild of the I-30 and I-35E highways in Dallas. This includes the rebuild of the interstate highway bridges crossing the existing Dallas Floodway. These meetings started in 2001.

Southern Gateway Work Group Meeting

The agencies attending this monthly meeting are: Texas Department of Transportation, Texas Transportation Institute, Dallas Area Rapid Transit (DART), North Central Texas Council of Governments, Federal Highway Administration, Environmental Protection Agency (EPA), City of Cedar Hill, City of Lancaster, Corps of Engineers, and the consultants performing the work. This project is the IH 35E/US 67 MIS/Preliminary Engineering in southern Dallas County. These meetings started in 2001.

Loop 12/IH 35E Corridor MIS Work Group Meeting
The agencies attending this meeting are: Texas Department of Transportation, Texas Transportation Institute, Dallas Area Rapid Transit (DART), North Central Texas Council of Governments, Federal Highway Administration, Environmental Protection Agency (EPA), City of Irving, City of Dallas, Dallas County, Corps of Engineers, and the consultants performing the work. This project is the Loop 12 / IH 35E MIS/Preliminary Engineering in the cities of Dallas and Irving. These meetings started in 1998 as monthly meetings and are now held quarterly.

SH 183 Corridor MIS Work Group Meeting
The agencies attending this meeting are: Texas Department of Transportation, Texas Transportation Institute, Dallas Area Rapid Transit (DART), North Central Texas Council of Governments, Federal Highway Administration, Environmental Protection Agency (EPA), City of Irving, City of Dallas, Dallas County, Corps of Engineers, and the consultants performing the work. This project is the SH 183 Preliminary Engineering and Environmental Assessment in the city of Irving. These meetings started in 1998 as monthly meetings and are now held quarterly.

DRAFT SUPPLEMENT 1 TO THE DFE EIS

Notice of Availability of the Draft Supplement was published in the Federal Register on December 6, 2002, establishing a comment period that was originally scheduled to end on January 21, 2003. Public notices were also mailed to all known individuals interested in the study. Copies of the Draft were provided to EPA, Department of Interior, and State of Texas. Copies were available at the Main Library in Dallas and offices at the City of Dallas. The Draft was available for review at the Fort Worth District Internet web page and were mailed to individuals requesting a copy. A public meeting was held at the Ramada Plaza Hotel in Dallas on January 8, 2003 to allow for public review and input on the Draft Supplement 1 to the EIS for the Dallas Floodway Extension. Several individuals and one agency requested an extension in time to comment on the Draft Supplement. A letter stating the Corps had extended the comment period was until February 4, 2003 was sent to all known interested parties. The extension thus provided an overall comment period on the Draft Supplement of 60 days from the date of the original notice.

A total of 38 individuals registered their attendance at the Public Meeting. Ten individuals made statements at the meeting. Including written copies of comments presented at the public meeting, a total of 21 written statements were received during the entire comment period. Comments received have been included in Appendix B of this Final SEIS. Several commenters continued to question the original plan formulation process for the DFE project and stated belief that modification of the existing Dallas Floodway first would negate the need for construction of a flood damage reduction project in the area of the Dallas Floodway Extension. Other commenters questioned the ability to even identify reasonably foreseeable projects in the study area, particularly within the Dallas Floodway due to the continued review of priorities and preferences for the ultimate use of that area. Several commenters expressed concern that the Corps was basing its cumulative impact assessment solely on the impacts associated with the recommended DFE plan, thus assuming that the DFE were already constructed. Based upon comments received, the Final SEIS was clarified by bringing information from the referenced PEIS, specifically hydraulic impacts, and the DFE GRR/EIS into the SEIS and assessment of cumulative impact was conducted on the final array of alternatives from the DFE GRR/EIS, rather than just on the recommended plan (Locally Preferred Plan).

FINAL SUPPLEMENT 1 TO THE DFE EIS

An additional public review period of at least 30 days will be provided in review of this Final Supplement 1 to the EIS.

CHAPTER 6 - CONCLUSIONS AND RECOMMENDATIONS

This Supplement to the EIS for the Dallas Floodway Extension (DFE) was prepared to address the cumulative effects of reasonably foreseeable projects of the Corps of Engineers and other entities within the geographic area of the Dallas Floodway Extension. It has been prepared in response to the April 10, 2002, order of the U.S. District Court for Northern District of Texas in Fort Worth. That order remanded the DFE project to the Corps of Engineers to address the cumulative impacts of other similar reasonably foreseeable actions in the geographic area of the DFE. An analysis of cumulative impacts of various past, present, and reasonably foreseeable future Corps of Engineers projects and projects of other entities was made in combination with the plan for the DFE project as recommended and approved in the GRR/EIS.

Existing environmental and socioeconomic resources of the study area are described in detail in the General Reevaluation Report and Environmental Impact Statement (GRR/EIS) for the Dallas Floodway Extension dated February 1999. Past actions and potential future projects of the Corps of Engineers and other entities within the study area are identified, along with an analysis of the effects that those actions have had on study area resources of the Upper Trinity River Basin in a Programmatic EIS dated June 2000. The PEIS was prepared to address the cumulative impacts of potential projects being formulated under the Upper Trinity River Feasibility Study. Both the GRR/EIS and the PEIS are incorporated into this document by reference.

The Dallas Floodway Extension Project was originally authorized for construction in 1965 and subsequently the authorization was modified in 1999 to include ecosystem restoration and recreation as project purposes. This document describes reasonably foreseeable Corps of Engineers actions and actions of other entities and takes a hard look at the cumulative effects of the DFE project along with those that are considered to be reasonably foreseeable. In addition to the potential Corps of Engineers projects identified through the Upper Trinity River Feasibility Study, projects other entities are proposing in the study area are identified and addressed. Among the projects under consideration by other entities within the watershed, the Trinity Parkway has the most potential to significantly effect the floodplain and water and related land resources. That project is a proposal of the North Texas Tollway Authority and the City of Dallas. The Federal Highway Administration is presently preparing an Environmental Impact Statement for the Trinity Parkway because Federal funds of that agency are involved. Five potential roadway alignments are being evaluated.

Impacts of each of the potential projects are analyzed to the extent that details of the various alternatives are available. Pertinent resources for which each project is evaluated include hydraulics and hydrology, vegetative cover, terrestrial resources, aquatic resources, air quality, cultural resources, socioeconomics and environmental justice, recreation, and open space. Individually, each of the plans has some positive and some negative effects, depending upon the plan and the resources impacted. In addition to addressing the relative impacts of each individual alternative, this Supplement attempts to address the cumulative effects that implementation of any of the proposals might have on resources of the overall study area in combination with the DFE project . At the level of detail available for these evaluations, none of the impacts of the identified plans, or any combination of plans or alternatives, were found to cause a significant impact to study area resources to prohibit the projects from further consideration. As to be expected, the output and impacts associated with the plans and combinations addressed in this Supplement vary among the projects, with some being more environmentally sustainable over the long term, while others are more focused on addressing the region's economic needs.

Based upon analyses associated with preparation of this Supplement, and with the previous PEIS, it appears that while some of the alternatives are controversial to either the environmental interests or to the developmental interests, any of the projects being considered could be implemented with appropriate mitigative measures. Other than the DFE project, none of the proposals identified has been designed, evaluated, or disclosed to a point yet that a final decision document under the National Environmental Policy Act (NEPA) has been prepared. Each of the projects identified in this Supplement is of a significance that will require more detailed evaluation and public input through separate NEPA documentation on a project specific basis. Further, any project in the study area that is carried forward will be subject to review under

the Corridor Development Certificate process and Section 404 of the Clean Water Act. Any non-Corps of Engineers projects may also be subject to public interest review and individual permitting under Section 404.

Based upon analyses and findings developed as a result of preparation of this Supplement 1 to the EIS for the Dallas Floodway Extension project, it is believed that any of the projects being considered by the Corps of Engineers and other entities could be implemented with appropriate mitigative measures. Corps of Engineers higher authority will continue to review the various proposals as they progress and will have final policy approval of proposed Corps of Engineers project or permit actions. The cumulative impacts of any or all of the projects identified as reasonably foreseeable in this Supplement would need to be carefully ` planned, designed, and mitigated to acceptable levels to avoid, minimize, and mitigate identified adverse environmental effects.

Regardless of which set reasonable foreseeable future actions by the Corps or others may occur in the geographic area of the proposed DFE project, the cumulative effects assessment in this Supplement does not indicate significant adverse cumulative effects to any of the resources considered. Nothing in the analysis indicates the Recommended Plan should be changed from the plan addressed in the 1 December 1999 Record of Decision.

LIST OF PREPARERS

The people primarily responsible for contributing to the preparation of this Supplement 1 to the Environmental Impact Statement for the DFE are listed below.

NAME	DISCIPLINE/ EXPERTISE	EXPERIENCE	ROLE IN DOCUMENT
Gene T. Rice, Jr.	Civil Engineer	20 years, Corps of Engineers	Project Management
Billy K. Colbert	Wildlife Management and Environmental Biology	14 years Corps of Engineers; 15 years U.S. Fish and Wildlife Service	Report Preparation, Impact Assessment
Charissa Kelly	Forestry and Wildlife Management	2 years Forestry experience 1 year with Corps of Engineers	Report Preparation, Forestry
Michelle Dippel	Cultural Resources and Applied Anthropology	1 years Corps of Engineers and 12 years other professional experience	Cultural Resources, Socio-economics, and Environmental Justice Analysis
David Wilson	Hydraulic Engineer	20 years, Corps of Engineers	Hydraulic Analysis
Valerie Sewell	Landscape Architect	1 year, Corps of Eng 5 years NRCS	Recreation Planner
Bryon Haney	Physical Scientist	9 years, Corps of Engineers, 3 years private professional experience	Geographic Information System
Stephen Swihart	Regulatory Specialist	25 years with Corps of Engineers	Regulatory Data gathering and Interpretation

APPENDIX A

HYDROLOGY AND HYDRAULICS

APPENDIX A

HYDROLOGIC AND HYDRAULIC ANALYSIS

GENERAL

The Hydrologic and Hydraulic information presented in this appendix is provided as a supplement to the Dallas Floodway Extension General Re-evaluation Report (DFEGRR) and integrated Environmental Impact Statement dated February 1999, but also is supplemental to the Programmatic Environmental Impact Statement (PEIS) for the Dallas Upper Trinity River Basin dated June 2000. The hydrologic and hydraulic information provided in Appendix A of the PEIS is referenced in full and this final Supplement to the Dallas Floodway Extension Environmental Impact Statement (SDFEEIS) is presented in the same format as the PEIS and the methodology used to determine the effects of the various alternatives is also the same as described in the PEIS. The hydrologic and hydraulic effects are represented in the tables (at the end of this Appendix) indicating the actual computed elevations and flow velocities at selected locations along the Trinity River. The primary purpose of this supplemental information is to show the effects of the various alternative plans that have been preliminarily developed for the Dallas Floodway in combination with each of the final array of alternatives for the DFEGRR. The final array of alternatives for the DFEGRR are 1) No Action Plan, 2) National Economic Development (NED) Plan, 3) Combination Non-Structural / Structural Plan, 4) Tentative Federally Supportable Plan (FSP), and 5) the Locally Preferred Plan as listed on page 4-72 of the DFEGRR. Please refer to the DFEGRR for a detailed description of each of these alternatives. The Dallas Floodway Alternatives presented in the PEIS are 1) No Action Plan, 2) Stemmons Manana Levee Plan, 3) Flood Damage Reduction (FDR) Plan, 4) Environmental Quality (EQ) Plan, 5) Dallas Floodway with Lakes Only Plan, 6) Lakes with Split Parkway – Riverside Alternative, and 7) the Dallas Floodway with Parkway on 1 Levee Plan. Please refer to the PEIS pages A-9 through A-25 for detailed descriptions of each of the Dallas Floodway alternative plans. A brief description of each of the alternatives for both the Dallas Floodway Extension and the Dallas Floodway is provided herein.

HYDROLOGIC AND HYDRAULIC MODELS

The hydrologic and hydraulic models used for this SDFEEIS follow the same development rationale as those used for the PEIS. The HEC-1 hydrologic models used for the SDFEEIS are the same as the models used for both the DFEGRR and the PEIS. These models are described in detail in Appendix A of both the DFEGRR and the PEIS. The hydraulic model development and history are described in detail in Appendix A of the PEIS. The hydraulic models used to analyze the various combinations of alternatives presented herein were developed using as a base the same HEC-RAS Version 2.2 hydraulic models as those described under Corridor Development Certificate (CDC) Model on Pages A-7 and A-8 of the PEIS. For the purpose of analysis of the various additional alternatives for the DFEGRR, the basic input data for these alternatives were converted to the HEC-RAS format since these alternatives were originally developed in the HEC-2 format for the DFEGRR. The original HEC-2 models developed for the DFEGRR alternatives were converted to the HEC-RAS model format and combined with the Upper Trinity CDC HEC-RAS model in the same manner that the Recommended Plan for the DFE project was combined with the various alternatives for the Dallas Floodway as described on Page A-9 under Dallas Floodway alternatives in the PEIS. Additionally, the same “future conditions” year 2050 hydrologic land use conditions were used to compute the data herein to maintain consistency with the data presented in the PEIS.

DALLAS FLOODWAY EXTENSION ALTERNATIVES

No Action Plan

The No Action Plan for the Dallas Floodway Extension (DFE) area is described as the without-project condition for this area meaning that the DFE Recommended Plan has not been implemented. The HEC-RAS hydraulic model for this area was derived from the original HEC-2 models described under Baseline Conditions Models in both the DFEGRR and the PEIS. The description of the Baseline Conditions Models can be found on page A-15 of the DFEGRR and on pages A-6 and A-7 of the PEIS. Even though the same CDC HEC-RAS models used in the PEIS were used in this SDFEEIS analysis, the input data for the CDC HEC-RAS model and the Baseline Conditions model in the DFE area are identical. The only changes made to the Baseline Conditions model to produce the CDC HEC-RAS model were on the West Fork Trinity River as described on Pages A-7 and A-8 of the PEIS and have no effect on the DFE area.

Locally Preferred Plan

The Locally Preferred Plan for the DFEGRR is also referred to as the Recommended Plan and includes the upper and lower chain of wetlands, the Lamar Street Levee, the Cadillac Heights Levee at the SPF level, and the realignment of the river channel at I.H. 45. An important clarification in terminology is needed in order to properly reference the information presented in the PEIS. The PEIS had a primary focus on reasonably foreseeable future projects by the Corps of Engineers and others including the Recommended Plan for DFE. It was determined that a reasonable establishment of the No Action Plan for the purposes of the PEIS would include all the potential projects and alternatives that had reached a level of development for local and federal approval for implementation. Therefore, the No Action Plan for the PEIS was defined as the condition where “no action” or implementation of any floodplain alternatives except the DFE Recommended Plan was considered. For the purposes of this SDFEEIS, the definition of the No Action Plan for the DFE area will be consistent with the DFEGRR and will be as described above under No Action Plan. The No Action Plan as described in the PEIS would more appropriately be called the Locally Preferred Plan in the context of the DFEGRR and this SDFEEIS since it includes the effects of the Recommended Plan for DFE. Therefore, the primary advantage of referencing the information presented in the PEIS is that the information will serve to represent fully the analysis for the Locally Preferred Plan for DFE and will not be repeated in this SDFEEIS.

National Economic Development Plan

The National Economic Development (NED) Plan for the reduction of flood damages within the DFE study reach calls for excavation of overbank swales within two sections along the Trinity River. The lower swale is located on the left overbank looking downstream and extends from about 2,000 feet downstream of Loop 12 to the oxbow river bend near State Highway 310 (Central Expressway) and is 800 to 1200 feet in width. The upper swale is located on the right overbank and extends from the upstream side of the Central Mitigation Swale adjacent to the Central Wastewater Treatment Plant to the confluence with Cedar Creek and is 1000 to 1100 feet in width. The swale is designed to function as a grass-lined floodway to be maintained free of woody vegetation to provide an efficient means of conveying floodwater. A detailed description of the NED Plan is provided on pages A-16 through A-19 of the DFEGRR.

Combination Non-Structural / Structural Plan

The Combination Non-Structural / Structural Plan includes the same structural flood damage reduction measures as the Locally Preferred Plan with the exception of the SPF Cadillac Heights Levee. In lieu of the Cadillac Heights Levee a non-structural alternative for the Cadillac Heights flood damage area would be combined with the remaining components of the Locally Preferred Plan. A non-structural alternative for the Cadillac Heights area would involve the

acquisition and removal of homes and businesses from the floodplain. For economic analysis purposes, this alternative was analyzed for removal of structures at various flood damage levels. For the hydrologic and hydraulic analysis purposes the Cadillac Heights area was modeled as existing conditions without the Cadillac Heights Levee combined with the remaining features of the Locally Preferred Plan. The primary net effect of this alternative compared with the Locally Preferred Plan is the water surface elevations are slightly lower upstream of the Cadillac Heights area.

Tentative Federally Supportable Plan

The Tentative Federally Supportable Plan was so named because at the time of the DFEGRR, the final federal economic participation in this alternative had not been determined. For the purposes of this SDFEEIS, this alternative will be referred to as the FSP. The FSP has the same structural flood damage reduction measures as the Locally Preferred Plan with the exception of the Cadillac Heights Levee. The Cadillac Heights Levee component of the FSP has been designed with a levee height at an approximate 100-year level instead of the SPF Cadillac Heights Levee in the Locally Preferred Plan. The FSP combines the 100-year Cadillac Heights Levee with the remaining features of the Locally Preferred Plan. The primary net effect of this alternative compared with the Locally Preferred Plan is the water surface elevations are slightly lower upstream of the Cadillac Heights area.

DALLAS FLOODWAY ALTERNATIVES

General

The purpose of the hydrologic and hydraulic analysis and the development of the alternatives in the PEIS were to provide planning information for the most reasonably foreseeable alternatives to the extent at which they are known. As previously mentioned, none of these Dallas Floodway alternatives have been developed sufficiently to be locally and federally approved for implementation.

No Action Plan

The No Action Plan for the Dallas Floodway is for “no action” or implementation of any floodplain modifications, either federal or non-federal, within the Dallas Floodway and is represented by the CDC HEC-RAS hydraulic model described in the PEIS. The No Action Plan for the Dallas Floodway has been shown for comparison to each of the alternatives for the Dallas Floodway in the same manner as the PEIS. The No Action Plan for the Dallas Floodway is described herein as applying only to the Dallas Floodway for comparison with the various alternatives for the Dallas Floodway as combined with each of the final array of alternatives in the DFE area. Therefore, when the term “No Action Plan” is used it is used to describe basically current floodplain conditions for each of the Dallas Floodway reach and the Dallas Floodway Extension reach of the Trinity River separately. This is in contrast to the way the No Action Plan was presented in the PEIS which was in combination with the Recommended Plan for DFE.

Stemmons Manana Levee Plan

The Stemmons Manana Levee Plan included in the PEIS has been subsequently determined to lack economic justification for federal participation. Therefore, this alternative has not been included in this SDFEEIS.

Flood Damage Reduction Plan

The Flood Damage Reduction (FDR) Plan was developed with the intent to determine on a preliminary basis the National Economic Development (NED) Plan for the Dallas Floodway and is a federal requirement for determination of cost apportionment. The NED Plan is that plan

which maximizes the net economic benefits for flood damage reduction. This plan appeared to be the NED Plan in the context of the PEIS but since it is preliminary in nature at this stage of development, it was referred to as the FDR Plan instead of the NED Plan. The FDR Plan consists of raising the Dallas Floodway Levees by means of additional earth fill up to a consistent height of 2 feet above the design SPF water surface profile. This design is based on the SPF design water surface profile for the PEIS with the Recommended Plan for the DFE in place. Although this is the same design approach that was used for the existing Dallas Floodway levees designed by the Corps in the 1950's, it is important to note that the levee crest height for this plan is determined at every point along the levee by the SPF design water surface profile and is not determined relative to the existing levee height since the existing levee crest profile was designed from a different design water surface profile. The design water surface profile for the levee system is determined according to the established criteria for determining the SPF discharge and selecting the appropriate design hydraulic conditions for the project reach. The design water surface profile in the Dallas Floodway is based on a specific water surface profile within the Dallas Floodway that is strongly influenced by downstream conditions. Since the DFE Recommended Plan is the only alternative that has reached the final approval stage for implementation, this plan was selected as appropriate for determining the design SPF water surface profile for design of the FDR Plan within the Dallas Floodway. From the hydrologic and hydraulic analysis perspective, the data presented herein combining the FDR Plan for the Dallas Floodway with the various alternatives within the DFE area, the same FDR levee raise plan for the Dallas Floodway has been used. The hydrologic and hydraulic data presented both in the PEIS and this SDEIS is only to show the comparative effects of this one specific plan and is not specifically recommended as a flood damage reduction plan. This is also true of each of the Dallas Floodway alternatives presented.

Environmental Quality Plan

The Environmental Quality (EQ) Plan was developed as a stand-alone plan to restore environmental habitat and aesthetic features to the Dallas Floodway and the river channel. The EQ Plan for the Dallas Floodway consists of excavation of a new meandering low flow channel between the levees, the establishment of forested areas and additional wetlands, and raising the levees to provide a comparable flood damage risk as the No Action Plan condition. The meandering channel is designed to mimic the original natural Trinity River channel with respect to plan form, side slope, and capacity. The meandering channel alignment diverges from the existing channel alignment upstream of the Dallas Area Rapid Transit (DART) Bridge at the downstream end and diverges from the existing channel near the confluence of the Elm Fork and the West Fork at the upstream end. The plan includes features that provide for increased forest and wetland area within the floodway which increase flood levels within the floodway and upstream. The plan includes the raising of the existing Dallas Floodway Levees sufficiently to compensate for the increased flood damage risk due to the environmental features such that the flood overtopping risk is approximately the same as the No Action Plan. This plan was developed for the PEIS and with the DFE Recommended Plan in place. Therefore, the flood damage risk in the Dallas Floodway for this plan combined with other alternatives in the DFE area would not be the same as for this plan combined with the DFE Recommended Plan.

Lakes with Split Parkway – Riverside Alternative

The plan consists of a series of lakes, split channels, floodwalls, wetlands, parkland, grasslands, and toll roads on the riverside slopes of the East and West Levees. As evaluated within the main text of the PEIS, this alternative is referred to as the "Lakes with Split Parkway - Riverside Alternative".

Parkway on 1 Levee Plan

The Parkway on 1 Levee Plan was developed with specific modifications to the Lakes with Split Parkway – Riverside Alternative. The plan was developed for the H&H analysis by assuming that the Parkway would be constructed only on the riverside of the East Levee rather

than on both levees. The Parkway on 1 Levee Plan has been modeled with an earthen embankment having a traffic lanes width of 150 feet for all of the traffic lanes in both directions on the riverside of the East Levee.

Lakes Only Plan

The "Lakes Only" plan was adapted from the Lakes with Split Parkway - Riverside Alternative by the Corps of Engineers to determine the hydrologic and hydraulic effects of a plan that provides primarily recreational and aesthetic benefits but may provide modest flood damage reduction benefits when combined with other plans due to the localized reduction of hydraulic roughness within the Dallas Floodway. The plan was developed for the H&H analysis by assuming that the Parkway would not be constructed between the levees of the Dallas Floodway. Using the Lakes with Split Parkway - Riverside Alternative hydraulic model as a base, the hydraulic model for the Lakes Only Plan was developed by modeling the East and West Levee slopes in their existing configuration and using all other modeled features of the Lakes with Split Parkway - Riverside Alternative. This plan is conceptual and prepared for the purposes of determining the approximate H&H impacts only.

PRESENTATION OF DATA

The presentation of the hydrologic and hydraulic effects follows the same format as those presented in the PEIS. Comparison tables are provided for water surface elevation and average flow velocity at selected points along the Trinity River. Comparison is made in each table for the No Action Plan for the Dallas Floodway versus the various Dallas Floodway Alternatives in combination with each of the remaining final array of alternatives for the DFE study area. The PEIS provides these comparison tables for the combination of the Dallas Floodway Alternatives with the Recommended Plan for the DFE study area.

CONCLUSIONS

Flow Velocities

The computed flow velocities provided in the tables are very similar to the results indicated in the PEIS. The conclusions described in the PEIS for average flow velocities are applicable to the additional data provided herein and no significant changes to flow velocity have been observed.

Cumulative Impacts

The cumulative effects of the various Dallas Floodway alternatives combined with alternatives downstream in the DFE study area and the results of the hydrologic and hydraulic analysis are discussed in the PEIS. These results are presented in terms of the individual projects impacts to the water surface profiles and flow velocities both upstream and downstream. In general, the data presented indicates that a project which raises the water surface profile upstream of the project results in lowering the water surface profile downstream of the project and vice versa due to the valley storage losses or gains resulting from implementation of the project. These phenomena are also observable in the additional data presented herein and the reasons are essentially the same as those discussed in the PEIS and will not be repeated here. Please see the PEIS for discussion of the valley storage effects of the various Dallas Floodway alternatives. However, one important conclusion can be drawn from the additional data presented in the SDFEEIS. The relative scale of the effects both upstream and downstream for each of the Dallas Floodway alternatives when compared to the No Action Plan for the Dallas Floodway and combined with the final array of alternatives for DFE is very similar to those observed in the PEIS. In fact, the results show that all of the alternatives of the Dallas Floodway cause relatively insignificant impacts downstream. For example, the 100-year water surface (WS) elevation difference for the Recommended Plan DFE/FDR Plan combination in the PEIS is -

0.16 ft. and the 100-year WS elevation difference for the No Action DFE/FDR Plan combination is –0.16 ft at the West Fork / Elm Fork confluence. The same comparison for the SPF WS elevation is 0.15 ft. for the Recommended Plan DFE/FDR Plan and is –0.05 ft. for the No Action DFE/FDR Plan. One should keep in mind that all of the data presented in the PEIS includes the Recommended Plan for DFE. Also the data indicates that the difference in the scale of the upstream water surface elevation impacts compared to the downstream impacts of the Dallas Floodway alternatives is quite high. This difference is observed in some cases higher than a 10:1 ratio upstream to downstream which means that an alternative that raises the water surface elevation upstream from the project of about 1.0 foot will generally result in lowering the water surface downstream of about 0.1 feet or less. This same hydrologic and hydraulic phenomenon is observed in the DFE alternatives and works to a distinct advantage for the DFE Recommended Plan which results in lowering the water surface elevation upstream in the Dallas Floodway reach significantly where extremely high flood damage values are located and raises flood levels downstream an insignificant amount where very low flood damage values exist.

The cumulative impacts can also be observed in the data when comparing the same plan for Dallas Floodway with various alternatives for DFE. For example, the SPF water surface (WS) elevation comparison upstream of the EQ Plan at the West Fork/Elm Fork Confluence for the EQ Plan/No Action DFE combination with the EQ Plan/Recommended Plan in DFE combination equals –0.57 (437.32 - 437.89) and the same comparison downstream at Loop 12 would equal 0.53 (411.63 – 412.16). This comparison yields the results of adding the Recommended Plan for DFE if the EQ Plan were implemented first. Almost identical results are obtained comparing the No Action in Dallas Floodway/No Action DFE combination and the No Action in Dallas Floodway/Recommended Plan for DFE combination.

Another way of using the data in a cumulative way would be to compare the implementation of two plans simultaneously in both the Dallas Floodway and the DFE area with the No Action Plan for both areas (Existing Conditions). Using the data in the previous example would yield an upstream elevation change for the SPF water surface at the West Fork/Elm Confluence of +1.18 (437.32 – 436.14) and a downstream change at Loop 12 of +0.38 (412.16-411.78). This example yields the impacts of implementation of the EQ Plan and the Recommended Plan for DFE compared with existing conditions.

Dallas Floodway Project Combinability

Each Dallas Floodway alternative presented has been developed individually by focusing on specific benefits to the environment or the economy. For example, the FDR Plan would provide primarily flood damage reduction benefits for the levee protected areas and the EQ Plan would provide primarily terrestrial and aquatic habitat benefits. As mentioned previously, none of the Dallas Floodway alternatives presented have reached a level of development to be recommended for implementation but have been developed sufficiently to determine the plan's economic and environmental feasibility, the hydrologic and hydraulic effects and the potential for mitigating any negative effects. It can be seen from the detailed descriptions of each plan in the PEIS that some of the plans conflict with one another and even have features that if plans were combined would need to occupy the same space. Since it is would be impossible to combine plan features occupying the same space or that otherwise may have conflicting purposes it is also not possible to view the hydrologic and hydraulic impacts of these preliminary individual plans developed for the Dallas Floodway as additive. For example, if it was found that one plan raised the water surface one foot at a point and another plan lowered the water surface at the same point the same amount then it might be construed that if the plans were combined the net effect would be approximately no change. This would be invalid because combining plans in most cases would require significant modification to either plan. However, the data provides indications to the overall effects of these types of projects and is valuable in the planning process for ultimately developing a recommended plan that may individually provide several types of benefits and provide the most efficient means of satisfying the needs of the region both economically and environmentally. It is therefore likely, based on the findings of this data that a combination of the various features of the preliminary alternatives could be developed to produce a plan which

results in very insignificant hydrologic hydraulic impacts both upstream and downstream while providing many of the desired benefits. Some specifics of this process would be that since levee raises impact the design of a riverside Parkway reliever route, the Parkway could be located farther toward the river to allow for riverside levee fill required to raise the levees. Also for example, floodplain recreational lakes that tend to lower water surface elevations could be used in some locations while forested areas as in the EQ Plan, that tend to raise water surface elevations could be used in other areas to compensate.

Flood Damage Reduction Plan For Dallas Floodway

The FDR Plan for Dallas Floodway is a plan for raising the existing levees to a height based on the SPF design water surface profile. This plan as presented herein was developed with the SPF design water surface profile resulting from implementation of the DFE Recommended Plan. Under these design conditions, the plan has tentatively been determined to optimally provide significant additional flood damage reduction benefits to the Dallas Floodway protected areas of West Dallas and the Central Business District. These benefits are additional to those benefits gained from implementation of the Recommended Plan for DFE. The claim has been made that a plan for raising the Dallas Floodway Levees without the Recommended Plan for DFE would be more cost effective in terms of providing benefits to the Dallas Floodway area. This claim has been made by opponents of the Recommended Plan for DFE without the benefit of an economic analysis of such a plan and without due consideration of the significant additional design constraints. The claim might seem to be reasonable in terms of the goal of providing flood damage reduction benefits solely for the Dallas Floodway protected area but would be totally ignorant of the primary purpose of the Recommended Plan for DFE which is to provide substantial flood damage reduction benefits to the DFE area. A levee raise plan such as the FDR Plan or any levee raise plan implemented solely for the existing Dallas Floodway levees would provide absolutely no flood damage reduction benefits to the DFE area. So it obviously would be ludicrous to only consider plans to increase flood damage protection for an area that already has a high level of flood protection and ignore a significant development center such as the DFE area that has none. However, the questions of whether or not the DFE Recommended Plan would be economically justified or would be significantly altered if a levee raise plan for the Dallas Floodway levees were implemented prior to the DFE Recommended Plan are valid. An economic analysis for this scenario has been completed for a Dallas Floodway levee raise plan with the same crest height as the FDR Plan and costs reflecting the additional features required to function without the DFE Recommended Plan. It should be noted that this stand-alone levee raise plan without the DFE Recommended Plan would cost more and provide less flood damage reduction benefits for the Dallas Floodway area than the FDR Plan. This is due to the fact that without the DFE Recommended Plan the SPF design water surface profile is higher. Therefore, this levee plan would be at risk of overtopping more frequently than the FDR Plan. The plan costs substantially more because the East Levee extension to high ground at the DART bridge consisting partly of earth embankment and partly of concrete floodwall would also need to be raised and extended. This lateral extension portion of the East Levee is no longer needed if the DFE Recommended is implemented because the downstream end of the East Levee and the upstream end of the Lamar St. Levee as part of the DFE recommended Plan would form one continuous levee. The economic analysis indicates that the DFE Recommended Plan is economically feasible both as a first added and a last added plan when compared to this levee raise plan for Dallas Floodway. Also the implementation of the DFE Recommended Plan prior to a levee raise plan for the Dallas Floodway is advantageous both from the elimination of the need to reconstruct the lateral extension of the East Levee but also from the standpoint of providing a comparable level of protection for the Dallas Floodway as the DFE Recommended plan provides. In order for a levee raise plan for Dallas Floodway to provide the same benefits to the Dallas Floodway area without the DFE Recommended Plan as with the DFE Recommended Plan, it would need to be raised higher than the FDR Plan because of the difference in the SPF water surface profile. Raising the levees higher would likely cause additional impacts to highway bridges which mostly cross the levees at or near the current crest of the levees and will also result in extending the length of East Levee farther in order to tie to high ground. Therefore,

implementation of the DFE Recommended Plan prior to raising the Dallas Floodway levees makes good economic sense and is appropriate for providing the best overall flood damage reduction benefits for the Dallas Floodway protected areas and the DFE area.

H&H DATA TABLES

No Action in DFE
100-year Water Surface Elevations (ft.)

Location	No Action Plan	EQ Plan	Difference
West Fork/Elm Fork Confl.	424.12	425.30	1.18
Hampton Road	421.87	422.99	1.12
Commerce Street	419.40	420.42	1.02
DART Rail Line	417.61	417.59	-0.02
State Highway 310	410.80	410.74	-0.06
State Highway 12	403.14	403.07	-0.07

No Action in DFE
SPF Water Surface Elevations (ft.)

Location	No Action Plan	EQ Plan	Difference
West Fork/Elm Fork Confl.	436.14	437.89	1.75
Hampton Road	434.00	435.75	1.75
Commerce Street	430.72	432.39	1.67
DART Rail Line	427.55	427.41	-0.14
State Highway 310	421.98	421.85	-0.13
State Highway 12	411.78	411.63	-0.15

No Action in DFE
100-year Flow Velocities (feet per second)

Location	No Action Plan			EQ Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.1	5.0	2.0	2.1	3.8	2.3	0.0	-1.2	0.3
Hampton Road	1.9	4.3	2.0	1.8	3.0	1.9	-0.1	-1.3	-0.1
Commerce Street	2.6	6.1	2.6	2.8	4.5	2.8	0.2	-1.6	0.2
DART Rail Line	1.7	4.9	1.7	1.7	4.9	1.7	0.0	0.0	0.0
State Highway 310	1.7	6.3	2.5	1.7	6.3	2.5	0.0	0.0	0.0
State Highway 12	2.2	8.1	2.2	2.2	8.1	2.2	0.0	0.0	0.0

No Action in DFE
SPF Flow Velocities (feet per second)

Location	No Action Plan			EQ Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.9	6.0	2.8	2.8	4.5	3.0	-0.1	-1.5	0.2
Hampton Road	2.8	5.5	2.9	2.7	3.8	2.7	-0.1	-1.7	-0.2
Commerce Street	4.2	8.5	4.0	4.3	6.1	4.2	0.1	-2.4	0.2
DART Rail Line	2.8	7.4	2.8	2.8	7.3	2.8	0.0	-0.1	0.0
State Highway 310	2.1	8.7	2.4	2.1	8.7	2.4	0.0	0.0	0.0
State Highway 12	2.1	11.8	2.3	2.1	11.8	2.2	0.0	0.0	-0.1

No Action in DFE
100-year Water Surface Elevations (ft.)

Location	No Action Plan	FDR Plan	Difference
West Fork/Elm Fork Confl.	424.12	423.96	-0.16
Hampton Road	421.87	421.72	-0.15
Commerce Street	419.40	419.29	-0.11
DART Rail Line	417.61	417.56	-0.05
State Highway 310	410.80	410.80	0.00
State Highway 12	403.14	403.15	0.01

No Action in DFE
SPF Water Surface Elevations (ft.)

Location	No Action Plan	FDR Plan	Difference
West Fork/Elm Fork Confl.	436.14	436.09	-0.05
Hampton Road	434.00	433.92	-0.08
Commerce Street	430.72	430.63	-0.09
DART Rail Line	427.55	427.14	-0.41
State Highway 310	421.98	421.95	-0.03
State Highway 12	411.78	411.75	-0.03

No Action in DFE
100-year Flow Velocities (feet per second)

Location	No Action Plan			FDR Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.1	5.0	2.0	2.1	4.9	1.9	0.0	-0.1	-0.1
Hampton Road	1.9	4.3	2.0	2.0	4.4	2.1	0.1	-0.1	0.1
Commerce Street	2.6	6.1	2.6	2.7	6.2	2.7	0.1	0.1	0.1
DART Rail Line	1.7	4.9	1.7	1.5	4.2	1.4	-0.2	-0.7	-0.3
State Highway 310	1.7	6.3	2.5	1.7	6.3	2.5	0.0	0.0	0.0
State Highway 12	2.2	8.1	2.2	2.2	8.1	2.2	0.0	0.0	0.0

No Action in DFE
SPF Flow Velocities (feet per second)

Location	No Action Plan			FDR Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.9	6.0	2.8	2.9	5.8	2.7	0.0	-0.2	-0.1
Hampton Road	2.8	5.5	2.9	2.8	5.6	2.9	0.0	0.1	0.0
Commerce Street	4.2	8.5	4.0	4.2	8.7	4.1	0.0	0.2	0.1
DART Rail Line	2.8	7.4	2.8	2.4	6.2	2.4	-0.4	-1.2	-0.4
State Highway 310	2.1	8.7	2.4	2.1	8.7	2.4	0.0	0.0	0.0
State Highway 12	2.1	11.8	2.3	2.1	11.8	2.2	0.0	0.0	-0.1

No Action in DFE
100-year Water Surface Elevations (ft.)

Location	No Action Plan	Pkwy on 1 Levee	Difference
West Fork/Elm Fork Confl.	424.12	423.57	-0.55
Hampton Road	421.87	421.37	-0.50
Commerce Street	419.40	418.91	-0.49
DART Rail Line	417.61	417.49	-0.12
State Highway 310	410.80	410.83	0.03
State Highway 12	403.14	403.19	0.05

No Action in DFE
SPF Water Surface Elevations (ft.)

Location	No Action Plan	Pkwy on 1 Levee	Difference
West Fork/Elm Fork Confl.	436.14	435.10	-1.04
Hampton Road	434.00	432.98	-1.02
Commerce Street	430.72	429.84	-0.88
DART Rail Line	427.55	427.27	-0.28
State Highway 310	421.98	422.09	0.11
State Highway 12	411.78	411.92	0.14

No Action in DFE
100-year Flow Velocities (feet per second)

Location	No Action Plan			Pkwy on 1 Levee			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.1	5.0	2.0	2.1	5.2	2.1	0.0	0.2	0.1
Hampton Road	1.9	4.3	2.0	1.2	2.9	2.3	-0.7	-1.4	0.3
Commerce Street	2.6	6.1	2.6	2.4	4.0	2.2	-0.2	-2.1	-0.4
DART Rail Line	1.7	4.9	1.7	1.6	4.7	1.7	0.0	-0.2	0.0
State Highway 310	1.7	6.3	2.5	1.7	6.3	2.5	0.0	0.0	0.0
State Highway 12	2.2	8.1	2.2	2.2	8.2	2.2	0.0	0.1	0.0

No Action in DFE
SPF Flow Velocities (feet per second)

Location	No Action Plan			Pkwy on 1 Levee			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.9	6.0	2.8	3.0	6.3	2.9	0.1	0.3	0.1
Hampton Road	2.8	5.5	2.9	2.2	3.8	3.3	-0.7	-1.7	0.4
Commerce Street	4.2	8.5	4.0	7.1	5.5	3.1	2.9	-3.0	-0.9
DART Rail Line	2.8	7.4	2.8	2.7	6.9	2.7	-0.1	-0.5	-0.1
State Highway 310	2.1	8.7	2.4	2.1	8.7	2.4	0.0	0.0	0.0
State Highway 12	2.1	11.8	2.3	2.1	11.8	2.3	0.0	0.0	0.0

No Action in DFE
100-year Water Surface Elevations (ft.)

Location	No Action Plan	Lakes/Split Pkwy	Difference
West Fork/Elm Fork Confl.	424.12	423.61	-0.51
Hampton Road	421.87	421.42	-0.45
Commerce Street	419.40	418.92	-0.48
DART Rail Line	417.61	417.49	-0.12
State Highway 310	410.80	410.83	0.03
State Highway 12	403.14	403.19	0.05

No Action in DFE
SPF Water Surface Elevations (ft.)

Location	No Action Plan	Lakes/Split Pkwy	Difference
West Fork/Elm Fork Confl.	436.14	435.11	-1.03
Hampton Road	434.00	432.98	-1.02
Commerce Street	430.72	429.82	-0.90
DART Rail Line	427.55	427.27	-0.28
State Highway 310	421.98	422.09	0.11
State Highway 12	411.78	411.92	0.14

No Action in DFE
100-year Flow Velocities (feet per second)

Location	No Action Plan			Lakes/Split Pkwy			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.1	5.0	2.0	2.1	5.2	2.1	0.0	0.2	0.1
Hampton Road	1.9	4.3	2.0	1.2	2.8	2.3	-0.7	-1.5	0.3
Commerce Street	2.6	6.1	2.6	2.2	3.9	2.3	-0.4	-2.2	-0.3
DART Rail Line	1.7	4.9	1.7	1.6	4.7	1.7	-0.1	-0.2	0.0
State Highway 310	1.7	6.3	2.5	1.7	6.3	2.5	0.0	0.0	0.0
State Highway 12	2.2	8.1	2.2	2.2	8.2	2.2	0.0	0.0	0.0

No Action in DFE
SPF Flow Velocities (feet per second)

Location	No Action Plan			Lakes/Split Pkwy			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.9	6.0	2.8	3.0	6.3	2.9	0.1	0.3	0.1
Hampton Road	2.8	5.5	2.9	1.9	3.8	3.4	-0.9	-1.7	0.5
Commerce Street	4.2	8.5	4.0	4.2	5.3	4.5	0.0	-3.2	0.5
DART Rail Line	2.8	7.4	2.8	2.7	6.9	2.7	-0.1	-0.5	-0.1
State Highway 310	2.1	8.7	2.4	2.1	8.7	2.4	0.0	0.0	0.0
State Highway 12	2.1	11.8	2.3	2.1	11.8	2.3	0.0	0.0	0.0

No Action in DFE
100-year Water Surface Elevations (ft.)

Location	No Action Plan	Lakes Only Plan	Difference
West Fork/Elm Fork Confl.	424.12	423.49	-0.63
Hampton Road	421.87	421.24	-0.63
Commerce Street	419.40	418.94	-0.46
DART Rail Line	417.61	417.50	-0.11
State Highway 310	410.80	410.82	0.02
State Highway 12	403.14	403.17	0.03

No Action in DFE
SPF Water Surface Elevations (ft.)

Location	No Action Plan	Lakes Only Plan	Difference
West Fork/Elm Fork Confl.	436.14	435.17	-0.97
Hampton Road	434.00	433.06	-0.94
Commerce Street	430.72	429.96	-0.76
DART Rail Line	427.55	427.26	-0.29
State Highway 310	421.98	422.09	0.11
State Highway 12	411.78	411.91	0.13

No Action in DFE
100-year Flow Velocities (feet per second)

Location	No Action Plan			Lakes Only Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.1	5.0	2.0	2.1	5.3	2.1	0.0	0.3	0.1
Hampton Road	1.9	4.3	2.0	1.2	2.8	2.3	-0.7	-1.5	0.3
Commerce Street	2.6	6.1	2.6	2.0	3.8	2.1	-0.6	-2.3	-0.5
DART Rail Line	1.7	4.9	1.7	1.5	4.4	1.6	-0.2	-0.5	-0.1
State Highway 310	1.7	6.3	2.5	1.7	6.3	2.5	0.0	0.0	0.0
State Highway 12	2.2	8.1	2.2	2.2	8.2	2.2	0.0	0.0	0.0

No Action in DFE
SPF Flow Velocities (feet per second)

Location	No Action Plan			Lakes Only Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.9	6.0	2.8	3.0	6.2	2.9	0.1	0.2	0.1
Hampton Road	2.8	5.5	2.9	1.8	3.9	3.4	-1.0	-1.6	0.5
Commerce Street	4.2	8.5	4.0	3.1	5.5	3.3	-1.1	-3.0	-0.7
DART Rail Line	2.8	7.4	2.8	2.5	6.7	2.6	-0.3	-0.7	-0.2
State Highway 310	2.1	8.7	2.4	2.1	8.7	2.4	0.0	0.0	0.0
State Highway 12	2.1	11.8	2.3	2.1	11.8	2.3	0.0	0.0	0.0

NED Plan in DFE
100-year Water Surface Elevations (ft.)

Location	No Action Plan	FDR Plan	Difference
West Fork/Elm Fork Confl.	422.87	422.62	-0.25
Hampton Road	419.74	419.46	-0.28
Commerce Street	415.80	415.57	-0.23
DART Rail Line	412.26	412.21	-0.05
State Highway 310	407.17	407.17	0.00
State Highway 12	403.36	403.36	0.00

NED Plan in DFE
SPF Water Surface Elevations (ft.)

Location	No Action Plan	FDR Plan	Difference
West Fork/Elm Fork Confl.	434.20	434.09	-0.11
Hampton Road	431.37	431.23	-0.14
Commerce Street	426.78	426.64	-0.14
DART Rail Line	421.83	421.69	-0.14
State Highway 310	417.24	417.21	-0.03
State Highway 12	412.24	412.21	-0.03

NED Plan in DFE
100-year Flow Velocities (feet per second)

Location	No Action Plan			FDR Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.2	5.5	2.1	2.2	5.4	2.1	0.0	-0.1	0.0
Hampton Road	2.2	4.9	2.3	2.2	5.1	2.3	0.0	0.2	0.0
Commerce Street	3.1	7.5	3.1	3.2	7.7	3.2	0.1	0.2	0.1
DART Rail Line	2.0	6.6	2.1	1.8	5.8	1.8	-0.2	-0.8	-0.3
State Highway 310	3.2	4.5	1.6	3.2	4.5	1.6	0.0	0.0	0.0
State Highway 12	2.2	8.2	2.3	2.3	8.2	2.3	0.0	0.0	0.0

NED Plan in DFE
SPF Flow Velocities (feet per second)

Location	No Action Plan			FDR Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	3.1	6.5	3.0	3.1	6.4	2.9	0.0	-0.1	-0.1
Hampton Road	3.1	6.1	3.2	3.1	6.2	3.2	0.0	0.1	0.0
Commerce Street	4.7	9.9	4.6	4.8	10.2	4.7	0.1	0.3	0.1
DART Rail Line	3.4	9.3	3.4	2.9	7.8	2.8	-0.5	-1.5	-0.6
State Highway 310	4.3	6.1	2.1	4.3	6.1	2.1	0.0	0.0	0.0
State Highway 12	2.1	11.6	2.3	2.1	11.6	2.2	0.0	0.0	-0.1

NED Plan in DFE
100-year Water Surface Elevations (ft.)

Location	No Action Plan	EQ Plan	Difference
West Fork/Elm Fork Confl.	422.87	424.18	1.31
Hampton Road	419.74	421.16	1.42
Commerce Street	415.80	417.47	1.67
DART Rail Line	412.26	412.24	-0.02
State Highway 310	407.17	407.10	-0.07
State Highway 12	403.36	403.28	-0.08

NED Plan in DFE
SPF Water Surface Elevations (ft.)

Location	No Action Plan	EQ Plan	Difference
West Fork/Elm Fork Confl.	434.20	435.97	1.77
Hampton Road	431.37	433.20	1.83
Commerce Street	426.78	428.83	2.05
DART Rail Line	421.83	421.67	-0.16
State Highway 310	417.24	417.10	-0.14
State Highway 12	412.24	412.09	-0.15

NED Plan in DFE
100-year Flow Velocities (feet per second)

Location	No Action Plan			EQ Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.2	5.5	2.1	2.2	4.2	2.4	0.0	-1.3	0.3
Hampton Road	2.2	4.9	2.3	2.0	3.4	2.1	-0.2	-1.5	-0.2
Commerce Street	3.1	7.5	3.1	3.2	5.4	3.2	0.1	-2.1	0.1
DART Rail Line	2.0	6.6	2.1	2.0	6.6	2.1	0.0	0.0	0.0
State Highway 310	3.2	4.5	1.6	3.3	4.5	1.6	0.1	0.0	0.0
State Highway 12	2.2	8.2	2.3	2.2	8.2	2.2	0.0	0.0	-0.1

NED Plan in DFE
SPF Flow Velocities (feet per second)

Location	No Action Plan			EQ Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	3.1	6.5	3.0	3.0	4.8	3.2	-0.1	-1.7	0.2
Hampton Road	3.1	6.1	3.2	2.9	4.3	3.0	-0.2	-1.8	-0.2
Commerce Street	4.7	9.9	4.6	4.8	7.0	4.7	0.1	-2.9	0.1
DART Rail Line	3.4	9.3	3.4	3.3	9.3	3.4	-0.1	0.0	0.0
State Highway 310	4.3	6.1	2.1	4.3	6.1	2.1	0.0	0.0	0.0
State Highway 12	2.1	11.6	2.3	2.1	11.6	2.2	0.0	0.0	-0.1

NED Plan in DFE
100-year Water Surface Elevations (ft.)

Location	No Action Plan	Pkwy on 1 Levee	Difference
West Fork/Elm Fork Confl.	422.87	422.35	-0.52
Hampton Road	419.74	419.19	-0.55
Commerce Street	415.80	415.17	-0.63
DART Rail Line	412.26	412.16	-0.05
State Highway 310	407.17	407.19	0.02
State Highway 12	403.36	403.39	0.03

NED Plan in DFE
SPF Water Surface Elevations (ft.)

Location	No Action Plan	Pkwy on 1 Levee	Difference
West Fork/Elm Fork Confl.	434.20	433.07	-1.13
Hampton Road	431.37	430.21	-1.16
Commerce Street	426.78	425.58	-1.20
DART Rail Line	421.83	421.60	-0.23
State Highway 310	417.24	417.34	0.10
State Highway 12	412.24	412.34	0.10

NED Plan in DFE
100-year Flow Velocities (feet per second)

Location	No Action Plan			Pkwy on 1 Levee			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.2	5.5	2.1	2.3	5.8	2.2	0.1	0.3	0.1
Hampton Road	2.2	4.9	2.3	2.3	3.3	2.6	0.1	-1.6	0.3
Commerce Street	3.1	7.5	3.1	2.8	5.0	2.5	-0.3	-2.5	-0.6
DART Rail Line	2.0	6.6	2.1	2.0	6.4	2.0	0.0	-0.2	-0.1
State Highway 310	3.2	4.5	1.6	3.2	4.5	1.6	0.0	0.0	0.0
State Highway 12	2.2	8.2	2.3	2.3	8.2	2.3	0.0	0.0	0.0

NED Plan in DFE
SPF Flow Velocities (feet per second)

Location	No Action Plan			Pkwy on 1 Levee			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	3.1	6.5	3.0	3.2	6.9	3.1	0.1	0.4	0.1
Hampton Road	3.1	6.1	3.2	2.3	4.3	3.7	-0.8	-1.8	0.5
Commerce Street	4.7	9.9	4.6	8.1	6.5	3.6	3.4	-3.4	-1.0
DART Rail Line	3.4	9.3	3.4	3.2	8.9	3.3	-0.2	-0.4	-0.1
State Highway 310	4.3	6.1	2.1	4.3	6.1	2.1	0.0	0.0	0.0
State Highway 12	2.1	11.6	2.3	2.1	11.7	2.3	0.0	0.1	0.0

NED Plan in DFE
100-year Water Surface Elevations (ft.)

Location	No Action Plan	Lakes/Split Pkwy	Difference
West Fork/Elm Fork Confl.	422.87	422.37	-0.50
Hampton Road	419.74	419.25	-0.49
Commerce Street	415.80	415.17	-0.63
DART Rail Line	412.26	412.16	-0.10
State Highway 310	407.17	407.20	0.03
State Highway 12	403.36	403.39	0.03

NED Plan in DFE
SPF Water Surface Elevations (ft.)

Location	No Action Plan	Lakes/Split Pkwy	Difference
West Fork/Elm Fork Confl.	434.20	433.12	-1.08
Hampton Road	431.37	430.27	-1.10
Commerce Street	426.78	425.58	-1.20
DART Rail Line	421.83	421.60	-0.23
State Highway 310	417.24	417.35	0.11
State Highway 12	412.24	412.34	0.10

NED Plan in DFE
100-year Flow Velocities (feet per second)

Location	No Action Plan			Lakes/Split Pkwy			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.2	5.5	2.1	2.2	5.8	2.2	0.0	0.3	0.1
Hampton Road	2.2	4.9	2.3	1.3	3.2	2.6	-0.9	-1.7	0.3
Commerce Street	3.1	7.5	3.1	2.5	4.8	2.6	-0.6	-2.7	-0.5
DART Rail Line	2.0	6.6	2.1	2.0	6.4	2.0	0.0	-0.2	-0.1
State Highway 310	3.2	4.5	1.6	3.2	4.5	1.6	0.0	0.0	0.0
State Highway 12	2.2	8.2	2.3	2.3	8.2	2.3	0.0	0.0	0.0

NED Plan in DFE
SPF Flow Velocities (feet per second)

Location	No Action Plan			Lakes/Split Pkwy			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	3.1	6.5	3.0	3.2	6.9	3.1	0.1	0.4	0.1
Hampton Road	3.1	6.1	3.2	2.1	4.3	3.7	-1.0	-1.8	0.5
Commerce Street	4.7	9.9	4.6	4.7	6.3	5.0	0.0	-3.6	0.4
DART Rail Line	3.4	9.3	3.4	3.2	8.9	3.3	-0.2	-0.4	-0.1
State Highway 310	4.3	6.1	2.1	4.3	6.1	2.1	0.0	0.0	0.0
State Highway 12	2.1	11.6	2.3	2.1	11.7	2.3	0.0	0.1	0.0

NED Plan in DFE
100-year Water Surface Elevations (ft.)

Location	No Action Plan	Lakes Only Plan	Difference
West Fork/Elm Fork Confl.	422.87	422.23	-0.64
Hampton Road	419.74	418.95	-0.79
Commerce Street	415.80	415.10	-0.70
DART Rail Line	412.26	412.13	-0.13
State Highway 310	407.17	407.19	0.02
State Highway 12	403.36	403.38	0.02

NED Plan in DFE
SPF Water Surface Elevations (ft.)

Location	No Action Plan	Lakes Only Plan	Difference
West Fork/Elm Fork Confl.	434.20	433.09	-1.11
Hampton Road	431.37	430.22	-0.15
Commerce Street	426.78	425.72	-1.06
DART Rail Line	421.83	421.60	-0.23
State Highway 310	417.24	417.35	0.11
State Highway 12	412.24	412.34	0.10

NED Plan in DFE
100-year Flow Velocities (feet per second)

Location	No Action Plan			Lakes Only Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.2	5.5	2.1	2.3	5.8	2.2	0.1	0.3	0.1
Hampton Road	2.2	4.9	2.3	1.3	3.3	2.6	-0.9	-1.6	0.3
Commerce Street	3.1	7.5	3.1	2.4	4.7	2.5	-0.7	-2.8	-0.6
DART Rail Line	2.0	6.6	2.1	1.9	6.1	1.9	-0.1	-0.5	-0.2
State Highway 310	3.2	4.5	1.6	3.2	4.5	1.6	0.0	0.0	0.0
State Highway 12	2.2	8.2	2.3	2.3	8.2	2.3	0.1	0.0	0.0

NED Plan in DFE
SPF Flow Velocities (feet per second)

Location	No Action Plan			Lakes Only Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	3.1	6.5	3.0	3.2	6.9	3.1	0.1	0.4	0.1
Hampton Road	3.1	6.1	3.2	2.0	4.4	3.8	-1.1	-1.7	0.6
Commerce Street	4.7	9.9	4.6	3.6	6.5	3.9	-1.1	-3.4	-0.7
DART Rail Line	3.4	9.3	3.4	3.1	8.5	3.2	-0.3	-0.8	-0.2
State Highway 310	4.3	6.1	2.1	4.3	6.1	2.1	0.0	0.0	0.0
State Highway 12	2.1	11.6	2.3	2.1	11.7	2.3	0.0	0.1	0.0

Federal Supportable Plan in DFE
100-year Water Surface Elevations (ft.)

Location	No Action Plan	FDR Plan	Difference
West Fork/Elm Fork Confl.	423.44	423.24	-0.20
Hampton Road	420.78	420.58	-0.20
Commerce Street	417.70	417.55	-0.15
DART Rail Line	415.32	415.27	-0.05
State Highway 310	407.61	407.62	0.01
State Highway 12	403.35	403.35	0.00

Federal Supportable Plan in DFE
SPF Water Surface Elevations (ft.)

Location	No Action Plan	FDR Plan	Difference
West Fork/Elm Fork Confl.	434.93	434.79	-0.14
Hampton Road	432.40	432.20	-0.20
Commerce Street	428.43	428.20	-0.23
DART Rail Line	424.47	424.18	-0.29
State Highway 310	418.05	418.02	-0.03
State Highway 12	412.30	412.27	-0.03

Federal Supportable Plan in DFE
100-year Flow Velocities (feet per second)

Location	No Action Plan			FDR Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.1	5.3	2.1	2.1	5.2	2.0	0.0	-0.1	-0.1
Hampton Road	2.0	4.6	2.1	2.1	4.7	2.2	0.1	0.1	0.1
Commerce Street	2.8	6.7	2.8	2.9	6.8	2.9	0.1	0.1	0.1
DART Rail Line	1.8	5.5	1.8	1.6	4.8	1.6	-0.2	-0.7	-0.2
State Highway 310	1.5	6.3	4.2	1.5	6.3	4.2	0.0	0.0	0.0
State Highway 12	2.2	8.2	2.2	2.2	8.2	2.3	0.0	0.0	0.1

Federal Supportable Plan in DFE
SPF Flow Velocities (feet per second)

Location	No Action Plan			FDR Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	3.0	6.3	2.9	3.0	6.2	2.8	0.0	-0.1	-0.1
Hampton Road	2.9	5.8	3.0	3.0	5.9	3.1	0.1	0.1	0.1
Commerce Street	4.4	9.2	4.3	4.5	9.4	4.4	0.1	0.2	0.1
DART Rail Line	3.0	8.2	3.1	2.6	6.8	2.6	-0.4	-1.4	-0.5
State Highway 310	2.3	7.5	5.5	2.3	7.5	5.5	0.0	0.0	0.0
State Highway 12	2.1	11.7	2.3	2.1	11.6	2.3	0.0	-0.1	0.0

Federal Supportable Plan in DFE
100-year Water Surface Elevations (ft.)

Location	No Action Plan	EQ Plan	Difference
West Fork/Elm Fork Confl.	423.44	424.70	1.26
Hampton Road	420.78	422.05	1.27
Commerce Street	417.70	418.99	1.29
DART Rail Line	415.32	415.30	-0.02
State Highway 310	407.61	407.55	-0.06
State Highway 12	403.35	403.27	-0.08

Federal Supportable Plan in DFE
SPF Water Surface Elevations (ft.)

Location	No Action Plan	EQ Plan	Difference
West Fork/Elm Fork Confl.	434.93	436.64	1.71
Hampton Road	432.40	434.12	1.72
Commerce Street	428.43	430.20	1.77
DART Rail Line	424.47	424.32	-0.15
State Highway 310	418.05	417.91	-0.14
State Highway 12	412.30	412.16	-0.14

Federal Supportable Plan in DFE
100-year Flow Velocities (feet per second)

Location	No Action Plan			EQ Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.1	5.3	2.1	2.2	4.0	2.3	0.1	-1.3	0.1
Hampton Road	2.0	4.6	2.1	1.9	3.2	2.0	-0.1	-1.4	-0.1
Commerce Street	2.8	6.7	2.8	3.0	4.9	3.0	0.2	-1.8	0.2
DART Rail Line	1.8	5.5	1.8	1.8	5.5	1.8	0.0	0.0	0.0
State Highway 310	1.5	6.3	4.2	1.5	6.3	4.2	0.0	0.0	0.0
State Highway 12	2.2	8.2	2.2	2.2	8.2	2.2	0.0	0.0	0.0

Federal Supportable Plan in DFE
SPF Flow Velocities (feet per second)

Location	No Action Plan			EQ Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	3.0	6.3	2.9	3.0	4.7	3.1	0.0	-1.6	0.2
Hampton Road	2.9	5.8	3.0	2.8	4.1	2.9	-0.1	-1.7	-0.1
Commerce Street	4.4	9.2	4.3	4.6	6.6	4.4	0.2	-2.6	0.1
DART Rail Line	3.0	8.2	3.1	3.0	8.2	3.0	0.0	-1.4	-0.1
State Highway 310	2.3	7.5	5.5	2.3	7.5	5.5	0.0	0.0	0.0
State Highway 12	2.1	11.7	2.3	2.1	11.6	2.2	0.0	-0.1	-0.1

Federal Supportable Plan in DFE
100-year Water Surface Elevations (ft.)

Location	No Action Plan	Pkwy on 1 Levee	Difference
West Fork/Elm Fork Confl.	423.44	422.92	-0.52
Hampton Road	420.78	420.28	-0.50
Commerce Street	417.70	417.21	-0.49
DART Rail Line	415.32	415.23	-0.09
State Highway 310	407.61	407.65	0.04
State Highway 12	403.35	403.39	0.04

Federal Supportable Plan in DFE
SPF Water Surface Elevations (ft.)

Location	No Action Plan	Pkwy on 1 Levee	Difference
West Fork/Elm Fork Confl.	434.93	433.79	-1.14
Hampton Road	432.40	431.23	-1.17
Commerce Street	428.43	427.31	-1.12
DART Rail Line	424.47	424.15	-0.32
State Highway 310	418.05	418.16	0.11
State Highway 12	412.30	412.40	0.10

Federal Supportable Plan in DFE
100-year Flow Velocities (feet per second)

Location	No Action Plan			Pkwy on 1 Levee			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.1	5.3	2.1	2.2	5.5	2.1	0.1	0.2	0.0
Hampton Road	2.0	4.6	2.1	1.3	3.0	2.5	-0.7	-1.6	0.4
Commerce Street	2.8	6.7	2.8	2.6	4.4	2.3	-0.2	-2.3	-0.5
DART Rail Line	1.8	5.5	1.8	1.8	5.3	1.8	0.0	-0.2	0.0
State Highway 310	1.5	6.3	4.2	1.5	6.3	4.2	0.0	0.0	0.0
State Highway 12	2.2	8.2	2.2	2.3	8.2	2.3	0.1	0.0	0.1

Federal Supportable Plan in DFE
SPF Flow Velocities (feet per second)

Location	No Action Plan			Pkwy on 1 Levee			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	3.0	6.3	2.9	3.1	6.6	3.0	0.0	0.3	0.1
Hampton Road	2.9	5.8	3.0	2.3	4.0	3.5	-0.6	-1.8	0.5
Commerce Street	4.4	9.2	4.3	7.6	6.0	3.4	3.2	-3.2	-0.9
DART Rail Line	3.0	8.2	3.1	3.0	7.7	3.0	0.0	-0.5	-0.1
State Highway 310	2.3	7.5	5.5	2.3	7.5	5.5	0.0	0.0	0.0
State Highway 12	2.1	11.7	2.3	2.1	11.7	2.3	0.0	0.0	0.0

Federal Supportable Plan in DFE
100-year Water Surface Elevations (ft.)

Location	No Action Plan	Lakes/Split Pkwy	Difference
West Fork/Elm Fork Confl.	423.44	422.94	-0.50
Hampton Road	420.78	420.33	-0.45
Commerce Street	417.70	417.21	-0.49
DART Rail Line	415.32	415.23	-0.09
State Highway 310	407.61	407.65	0.04
State Highway 12	403.35	403.39	0.04

Federal Supportable Plan in DFE
SPF Water Surface Elevations (ft.)

Location	No Action Plan	Lakes/Split Pkwy	Difference
West Fork/Elm Fork Confl.	434.93	433.82	-1.11
Hampton Road	432.40	431.26	-1.14
Commerce Street	428.43	427.30	-1.13
DART Rail Line	424.47	424.15	-0.32
State Highway 310	418.05	418.17	0.12
State Highway 12	412.30	412.40	0.10

Federal Supportable Plan in DFE
100-year Flow Velocities (feet per second)

Location	No Action Plan			Lakes/Split Pkwy			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.1	5.3	2.1	2.2	5.5	2.1	0.1	0.2	0.0
Hampton Road	2.0	4.6	2.1	1.2	3.0	2.5	-0.8	-1.6	0.4
Commerce Street	2.8	6.7	2.8	2.4	4.3	2.4	-0.4	-2.4	-0.4
DART Rail Line	1.8	5.5	1.8	1.8	5.3	1.8	0.0	-0.2	0.0
State Highway 310	1.5	6.3	4.2	1.5	6.3	4.2	0.0	0.0	0.0
State Highway 12	2.2	8.2	2.2	2.3	8.2	2.3	0.0	0.0	0.1

Federal Supportable Plan in DFE
SPF Flow Velocities (feet per second)

Location	No Action Plan			Lakes/Split Pkwy			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	3.0	6.3	2.9	3.1	6.6	3.0	0.1	0.3	0.1
Hampton Road	2.9	5.8	3.0	2.0	4.0	3.5	-0.9	-1.8	0.5
Commerce Street	4.4	9.2	4.3	4.4	5.8	4.8	0.0	-3.4	0.5
DART Rail Line	3.0	8.2	3.1	3.0	7.7	3.0	0.0	-0.5	-0.1
State Highway 310	2.3	7.5	5.5	2.3	7.5	5.5	0.0	0.0	0.0
State Highway 12	2.1	11.7	2.3	2.1	11.7	2.3	0.0	0.0	0.0

Federal Supportable Plan in DFE
100-year Water Surface Elevations (ft.)

Location	No Action Plan	Lakes Only Plan	Difference
West Fork/Elm Fork Confl.	423.44	422.80	-0.64
Hampton Road	420.78	420.08	-0.70
Commerce Street	417.70	417.16	-0.54
DART Rail Line	415.32	415.22	-0.10
State Highway 310	407.61	407.64	0.03
State Highway 12	403.35	403.38	0.03

Federal Supportable Plan in DFE
SPF Water Surface Elevations (ft.)

Location	No Action Plan	Lakes Only Plan	Difference
West Fork/Elm Fork Confl.	434.93	433.83	-1.10
Hampton Road	432.40	431.27	-1.13
Commerce Street	428.43	427.43	-1.00
DART Rail Line	424.47	424.15	-0.32
State Highway 310	418.05	418.16	0.11
State Highway 12	412.30	412.40	0.10

Federal Supportable Plan in DFE
100-year Flow Velocities (feet per second)

Location	No Action Plan			Lakes Only Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.1	5.3	2.1	2.2	5.6	2.2	0.1	0.3	0.1
Hampton Road	2.0	4.6	2.1	1.2	3.1	2.5	-0.8	-1.5	0.4
Commerce Street	2.8	6.7	2.8	2.2	4.1	2.3	-0.6	-2.6	-0.5
DART Rail Line	1.8	5.5	1.8	1.7	5.0	1.7	-0.1	-0.5	-0.1
State Highway 310	1.5	6.3	4.2	1.5	6.3	4.2	0.0	0.0	0.0
State Highway 12	2.2	8.2	2.2	2.3	8.2	2.3	0.1	0.0	0.1

Federal Supportable Plan in DFE
SPF Flow Velocities (feet per second)

Location	No Action Plan			Lakes Only Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	3.0	6.3	2.9	3.1	6.6	3.0	0.1	0.3	0.1
Hampton Road	2.9	5.8	3.0	1.9	4.1	3.6	-1.0	-1.7	0.6
Commerce Street	4.4	9.2	4.3	3.4	6.0	3.6	-1.0	-3.2	-0.7
DART Rail Line	3.0	8.2	3.1	2.8	7.5	2.9	-0.2	-0.7	-0.2
State Highway 310	2.3	7.5	5.5	2.3	7.5	5.6	0.0	0.0	0.1
State Highway 12	2.1	11.7	2.3	2.1	11.7	2.3	0.0	0.0	0.0

Non-Structural / Structural Plan in DFE
100-year Water Surface Elevations (ft.)

Location	No Action Plan	FDR Plan	Difference
West Fork/Elm Fork Confl.	423.26	423.04	-0.22
Hampton Road	420.46	420.24	-0.22
Commerce Street	417.15	416.98	-0.17
DART Rail Line	414.51	414.45	-0.06
State Highway 310	407.61	407.62	0.01
State Highway 12	403.35	403.35	0.00

Non-Structural / Structural Plan in DFE
SPF Water Surface Elevations (ft.)

Location	No Action Plan	FDR Plan	Difference
West Fork/Elm Fork Confl.	434.93	434.79	-0.14
Hampton Road	432.40	432.20	-0.20
Commerce Street	428.43	428.20	-0.23
DART Rail Line	424.47	424.18	-0.29
State Highway 310	418.05	418.02	-0.03
State Highway 12	412.30	412.27	-0.03

Non-Structural / Structural Plan in DFE
100-year Flow Velocities (feet per second)

Location	No Action Plan			FDR Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.1	5.4	2.1	2.2	5.3	2.0	0.1	-0.1	-0.1
Hampton Road	2.1	4.7	2.2	2.1	4.8	2.2	0.0	0.1	0.0
Commerce Street	2.9	6.9	2.9	3.0	7.1	3.0	0.1	0.2	0.1
DART Rail Line	1.9	5.8	1.9	1.7	5.0	1.6	-0.2	-0.8	-0.3
State Highway 310	1.5	6.3	4.2	1.5	6.3	4.2	0.0	0.0	0.1
State Highway 12	2.2	8.2	2.2	2.2	8.2	2.3	0.0	0.0	0.1

Non-Structural / Structural Plan in DFE
SPF Flow Velocities (feet per second)

Location	No Action Plan			FDR Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	3.0	6.3	2.9	3.0	6.2	2.8	0.0	-0.1	-0.1
Hampton Road	3.0	5.9	3.0	3.0	6.0	3.1	0.0	0.1	0.1
Commerce Street	4.5	9.3	4.3	4.5	9.5	4.4	0.0	0.2	0.1
DART Rail Line	3.1	8.3	3.1	2.6	6.9	2.6	-0.5	-1.4	-0.5
State Highway 310	2.3	7.5	5.5	2.3	7.5	5.5	0.0	0.0	0.0
State Highway 12	2.1	11.7	2.3	2.1	11.6	2.3	0.0	-0.1	0.0

Non-Structural / Structural Plan in DFE
100-year Water Surface Elevations (ft.)

Location	No Action Plan	EQ Plan	Difference
West Fork/Elm Fork Confl.	423.26	424.54	1.28
Hampton Road	420.46	421.78	1.32
Commerce Street	417.15	418.54	1.39
DART Rail Line	414.51	414.49	-0.02
State Highway 310	407.61	407.55	-0.06
State Highway 12	403.35	403.27	-0.08

Non-Structural / Structural Plan in DFE
SPF Water Surface Elevations (ft.)

Location	No Action Plan	EQ Plan	Difference
West Fork/Elm Fork Confl.	434.93	436.64	1.71
Hampton Road	432.40	434.12	1.72
Commerce Street	428.43	430.20	1.77
DART Rail Line	424.47	424.32	-0.15
State Highway 310	418.05	417.91	-0.14
State Highway 12	412.30	412.16	-0.14

Non-Structural / Structural Plan in DFE
100-year Flow Velocities (feet per second)

Location	No Action Plan			EQ Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.1	5.4	2.1	2.2	4.1	2.3	0.1	-1.3	0.2
Hampton Road	2.1	4.7	2.2	2.0	3.3	2.0	-0.1	-1.4	-0.2
Commerce Street	2.9	6.9	2.9	3.1	5.0	3.1	0.2	-1.9	0.2
DART Rail Line	1.9	5.8	1.9	1.9	5.8	1.9	0.0	0.0	0.0
State Highway 310	1.5	6.3	4.2	1.5	6.3	4.2	0.0	0.0	0.0
State Highway 12	2.2	8.2	2.2	2.2	8.2	2.2	0.0	0.0	0.0

Non-Structural / Structural Plan in DFE
SPF Flow Velocities (feet per second)

Location	No Action Plan			EQ Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	3.0	6.3	2.9	3.0	4.7	3.1	0.0	-1.6	0.2
Hampton Road	3.0	5.9	3.0	2.8	4.1	2.9	-0.2	-1.8	-0.1
Commerce Street	4.5	9.3	4.3	4.6	6.7	4.5	0.1	-2.6	0.2
DART Rail Line	3.1	8.3	3.1	3.1	8.3	3.1	0.0	0.0	0.0
State Highway 310	2.3	7.5	5.5	2.3	7.5	5.5	0.0	0.0	0.0
State Highway 12	2.1	11.7	2.3	2.1	11.6	2.2	0.0	-0.1	-0.1

Non-Structural / Structural Plan in DFE
100-year Water Surface Elevations (ft.)

Location	No Action Plan	Pkwy on 1 Levee	Difference
West Fork/Elm Fork Confl.	423.26	422.73	-0.53
Hampton Road	420.46	419.94	-0.52
Commerce Street	417.15	416.62	-0.53
DART Rail Line	414.51	414.42	-0.09
State Highway 310	407.61	407.65	0.04
State Highway 12	403.35	403.39	0.04

Non-Structural / Structural Plan in DFE
SPF Water Surface Elevations (ft.)

Location	No Action Plan	Pkwy on 1 Levee	Difference
West Fork/Elm Fork Confl.	434.93	433.79	-1.14
Hampton Road	432.40	431.23	-1.17
Commerce Street	428.43	427.31	-1.12
DART Rail Line	424.47	424.15	-0.32
State Highway 310	418.05	418.16	0.11
State Highway 12	412.30	412.40	0.10

Non-Structural / Structural Plan in DFE
100-year Flow Velocities (feet per second)

Location	No Action Plan			Pkwy on 1 Levee			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.1	5.4	2.1	2.2	5.6	2.2	0.1	0.2	0.1
Hampton Road	2.1	4.7	2.2	1.3	3.1	2.5	-0.8	-1.6	0.3
Commerce Street	2.9	6.9	2.9	2.6	4.6	2.4	-0.3	-2.3	-0.5
DART Rail Line	1.9	5.8	1.9	1.8	5.5	1.9	-0.1	-0.3	0.0
State Highway 310	1.5	6.3	4.2	1.5	6.3	4.2	0.0	0.0	0.0
State Highway 12	2.2	8.2	2.2	2.3	8.2	2.3	0.1	0.0	0.1

Non-Structural / Structural Plan in DFE
SPF Flow Velocities (feet per second)

Location	No Action Plan			Pkwy on 1 Levee			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	3.0	6.3	2.9	3.2	6.7	3.0	0.2	0.4	0.1
Hampton Road	3.0	5.9	3.0	2.3	4.1	3.5	-0.7	-1.8	0.5
Commerce Street	4.5	9.3	4.3	7.7	6.1	3.4	3.2	-3.2	-0.9
DART Rail Line	3.1	8.3	3.1	3.0	7.9	3.0	-0.1	-0.4	-0.1
State Highway 310	2.3	7.5	5.5	2.3	7.5	5.5	0.0	0.0	0.0
State Highway 12	2.1	11.7	2.3	2.1	11.7	2.3	0.0	0.0	0.0

Non-Structural / Structural Plan in DFE
100-year Water Surface Elevations (ft.)

Location	No Action Plan	Lakes/Split Pkwy	Difference
West Fork/Elm Fork Confl.	423.26	422.75	-0.51
Hampton Road	420.46	419.99	-0.47
Commerce Street	417.15	416.62	-0.53
DART Rail Line	414.51	414.42	-0.09
State Highway 310	407.61	407.65	0.04
State Highway 12	403.35	403.39	0.04

Non-Structural / Structural Plan in DFE
SPF Water Surface Elevations (ft.)

Location	No Action Plan	Lakes/Split Pkwy	Difference
West Fork/Elm Fork Confl.	434.93	433.82	-1.11
Hampton Road	432.40	431.26	-1.14
Commerce Street	428.43	427.30	-1.13
DART Rail Line	424.47	424.15	-0.32
State Highway 310	418.05	418.17	0.12
State Highway 12	412.30	412.40	0.10

Non-Structural / Structural Plan in DFE
100-year Flow Velocities (feet per second)

Location	No Action Plan			Lakes/Split Pkwy			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.1	5.4	2.1	2.2	5.6	2.2	0.1	0.2	0.1
Hampton Road	2.1	4.7	2.2	1.2	3.1	2.5	-0.9	-1.6	0.3
Commerce Street	2.9	6.9	2.9	2.4	4.4	2.5	-0.5	-2.5	-0.4
DART Rail Line	1.9	5.8	1.9	1.8	5.5	1.9	-0.1	-0.3	0.0
State Highway 310	1.5	6.3	4.2	1.5	6.3	4.2	0.0	0.0	0.0
State Highway 12	2.2	8.2	2.2	2.3	8.2	2.3	0.1	0.0	0.1

Non-Structural / Structural Plan in DFE
SPF Flow Velocities (feet per second)

Location	No Action Plan			Lakes/Split Pkwy			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	3.0	6.3	2.9	3.2	6.7	3.0	0.2	0.4	0.1
Hampton Road	3.0	5.9	3.0	2.0	4.1	3.6	-1.0	-1.8	0.6
Commerce Street	4.5	9.3	4.3	4.5	5.9	4.8	0.0	-3.4	0.5
DART Rail Line	3.1	8.3	3.1	3.0	7.9	3.0	-0.1	-0.4	-0.1
State Highway 310	2.3	7.5	5.5	2.3	7.5	5.5	0.0	0.0	0.0
State Highway 12	2.1	11.7	2.3	2.1	11.7	2.3	0.0	0.0	0.0

Non-Structural / Structural Plan in DFE
100-year Water Surface Elevations (ft.)

Location	No Action Plan	Lakes Only Plan	Difference
West Fork/Elm Fork Confl.	423.26	422.61	-0.65
Hampton Road	420.46	419.72	-0.74
Commerce Street	417.15	416.57	-0.58
DART Rail Line	414.51	414.40	-0.11
State Highway 310	407.61	407.64	0.03
State Highway 12	403.35	403.38	0.03

Non-Structural / Structural Plan in DFE
SPF Water Surface Elevations (ft.)

Location	No Action Plan	Lakes Only Plan	Difference
West Fork/Elm Fork Confl.	434.93	433.83	-1.10
Hampton Road	432.40	431.27	-1.13
Commerce Street	428.43	427.43	-1.00
DART Rail Line	424.47	424.15	-0.32
State Highway 310	418.05	418.16	0.11
State Highway 12	412.30	412.40	0.10

Non-Structural / Structural Plan in DFE
100-year Flow Velocities (feet per second)

Location	No Action Plan			Lakes Only Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	2.1	5.4	2.1	2.2	5.6	2.2	0.1	0.2	0.1
Hampton Road	2.1	4.7	2.2	1.2	3.1	2.5	-0.9	-1.6	0.3
Commerce Street	2.9	6.9	2.9	2.3	4.3	2.4	-0.6	-2.6	-0.5
DART Rail Line	1.9	5.8	1.9	1.7	5.3	1.8	-0.2	-0.5	-0.1
State Highway 310	1.5	6.3	4.2	1.5	6.3	4.2	0.0	0.0	0.0
State Highway 12	2.2	8.2	2.2	2.3	8.2	2.3	0.1	0.0	0.1

Non-Structural / Structural Plan in DFE
SPF Flow Velocities (feet per second)

Location	No Action Plan			Lakes Only Plan			Difference		
	Left	Chan	Right	Left	Chan	Right	Left	Chan	Right
West Fork/Elm Fork Confl.	3.0	6.3	2.9	3.2	6.7	3.0	0.2	0.4	0.1
Hampton Road	3.0	5.9	3.0	1.9	4.2	3.6	-1.1	-1.7	0.6
Commerce Street	4.5	9.3	4.3	3.4	6.0	3.6	-1.1	-3.3	-0.7
DART Rail Line	3.1	8.3	3.1	2.8	7.6	2.9	-0.3	-0.7	-0.2
State Highway 310	2.3	7.5	5.5	2.3	7.5	5.6	0.0	0.0	0.1
State Highway 12	2.1	11.7	2.3	2.1	11.7	2.3	0.0	0.0	0.0

APPENDIX B

COMMENT AND RESPONSE

APPENDIX B

COMMENT AND RESPONSE

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Post Office Box 649
Albuquerque, New Mexico 87103

IN REPLY REFER TO:

January 24, 2003

ER 02/1115

Gene T. Rice, Jr., Project Manager
U.S. Army Corps of Engineers
Fort Worth District, CESWF-PM-C
P.O. Box 17300
Fort Worth, TX 76102-0300

Dear Mr. Rice:

1. The U.S. Department of the Interior has reviewed Draft Supplement No. 1 to the Environmental Impact Statement for the Dallas Floodway Extension, Trinity River, Dallas County, TX. As the U.S. Army Corps of Engineers has incorporated all the recommendations provided previously by the U.S. Fish and Wildlife Service, we have no further comments. Thank you for the opportunity to review this document.

Sincerely,

Stephen R. Spencer
Acting Regional Environmental Officer

1. The Corps incorporated planning aid recommendations by the U.S. Fish and Wildlife Service and support from the Service through the Fish and Wildlife Coordination Act, including Texas Parks and Wildlife Department concurrence, for the development of emergent wetlands in the DFE project and in determining environmental mitigation for resource impacts from project features.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

JAN 15 2003

Mr. Gene T. Rice, Jr.
U.S. Army Corps of Engineers
Fort Worth District
P.O. Box 17300
Fort Worth, TX 76102-0300

Dear Mr. Rice:

In accordance with the responsibilities established under Section 309 of the Clean Air Act, the Region 6 Office of the U.S. Environmental Protection Agency (EPA) has completed the review of Supplement 1 to the Final Environmental Impact Statement (EIS) and General Reevaluation Report for the Dallas Floodway Extension (DFE) within the Trinity River Basin in city limits of Dallas, Texas.

EPA found the Final EIS dated June 2000 to adequately respond to EPA comments offered on the Draft EIS filed in December of 1999. Our review and comments on the DFE EIS have been limited to the scope of the Congressionally authorized Federally assisted flood control project. It was subsequent to a court order, and not at EPA's request, that this supplement was developed. This information supplements the earlier EIS that was prepared for the DFE project.

We understand that the Fort Worth District Corps of Engineers completed a Programmatic Environmental Impact Statement (PEIS) under NEPA for the Upper Trinity River Basin dated June 2000, but additional potential activities were identified as well. An additional Draft EIS is now under preparation by the Federal Highway Administration and the Corps of Engineers to fully address all future actions and their cumulative impacts affecting the Trinity River and the Dallas Floodway; including the Trinity Parkway and the Chain of Lakes and related features of these proposals as they affect the Trinity River and the environment. EPA agrees that none of the projects addressed in the Supplement have been developed in sufficient detail that this document could represent a final decision document under NEPA, except for the DFE project itself. Further, any project in the study area that is carried will need to be reviewed under the Corridor Development Certificate process, adopted by local study participants, and will likely require individual permitting and public interest review under Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act.

Response: Thank you for your comments.

EPA appreciates this opportunity to comment and requests a copy of the Final Supplement be provided for our files. If you have any questions regarding these comments, please call me at (214) 665-2258 for assistance.

Sincerely yours,

Robert D. Lawrence, Chief
Office of Planning and
Coordination (6ENXP)

CITY OF DALLAS

January 28, 2003

U.S. Army Corps of Engineers
Fort Worth District
Mr. Gene T. Rice. Jr., P.E.
ATTN: CESWF-PM-C
P.O. Box 17300
Fort Worth, Texas 76102-0300

RE: City Comments for the Draft SEIS in support of the DFE Project

Dear Mr. Rice:

The following are the City of Dallas's comments regarding the U.S. Army Corps of Engineers' draft Supplement to the Environmental Impact Statement (SEIS) for the Dallas Floodway Extension (DFE) Project dated December 2002. I understand that the public review and comment period is scheduled to conclude on February 4, 2003 and the Final SEIS is due to be completed during the summer of 2003.

1. Elm Fork; page IV (fourth para), and pages 3-10 and 3-27. The Elm Fork Floodplain Management Study by the City is a preliminary design approach to a master plan for the Elm Fork corridor within Dallas. The City is expecting to brief City Council in March 2003 on the proposed project components and seek City Council adoption. The City has an estimated $30 million in Trinity Bond Funds approved by voters and dedicated towards these Elm Fork project components.

2. Trinity Parkway; page VII (first para) and page 3-19 / 3-21. The Trinity Parkway also has a sixth alternative, the "no-build" alternative.

3. Completed Section 205 Projects; page 3-2. Since Dry Branch and Delaware Creek are included, it seems that Johnson Creek (Grand Prairie) project should also be included.

TRINITY RIVER CORRIDOR PROJECT / PUBLIC WORKS AND TRANSPORTATION 1500 MARILLA, 6BS DALLAS, TEXAS 75201 TELEPHONE 214/671-8500 FAX 214/670-3226

1. We understand that there are no specific reasonably foreseeable projects identified by the City in the Elm Fork area at this time.

2. The second paragraph on page 3-19 was modified to indicate that NTTA is also evaluating the no-build alternative.

3. Johnson Creek Grand Prairie Section 205 project has been added.

4. Comprehensive Land Use Plan (CLUP); page 3-18 (Current Status) and page 3-26 (fourth para). The CLUP study has yet to be briefed to City Council. This is expected to occur during mid-2003. The study in now expected to be completed by end of 2003.

5. Bridge Crossings of the Trinity River; page 3-22. IH-30 and IH-35 have been identified as possible signature bridges by the City. The $12 million is for pursuit of signature bridge I-30 design.

6. Woodall Rodgers Extension and Bridge; page 3-22. The last sentence of this paragraph needs to be changed to establish that the Continental Avenue Bridge would be totally converted to a pedestrian bridge as part of the Woodall Rodgers Extension project.

7. Beckley Avenue Enhancement; page 3-22. The schedule for design and construction is dependent on the Trinity Parkway selection. At worst, this Beckley project is expected to be completed during 2008.

8. Elm Fork Area; page 3-27. This Elm Fork Floodplain Management Study includes *intermodal* transportation initiatives, but not transportation projects as project components to be carried forward as funded initiatives. Example; the Luna Road expansion, Luna Road and NW Highway interchange, DART initiatives, Walnut Hill extension to Luna Road, etc. are projects that would not be funded by the Trinity Bond Funds as part of the Elm Fork Study.

9. Equestrian Center and Trinity Interpretive Center; page 3-28. The first two sentences should be as follows; "A feasibility study and master plan for the Interpretive Center, Equestrian Center and other associated components is being contracted by the City of Dallas to the Brown Reynolds Watford Architects' team. The study/design was initiated in October 2002 and should be completed by March 2004.

10. ISTEA Trails; page 3-28. Replace the full paragraph with the following; "Three ISTEA-T21 grants have been awarded to the City of Dallas for two projects. Two of the grants are being applied to the Santa Fe Trestle Trail, which is described in its own section. The other grant was issued in the mid-1990's for the Trinity Trails, which is a trail project that is planned to extend 14 miles in length between Westmoreland and Corinth within the Dallas Floodway. The Trinity Trails project is pending the further development of the Urban Design Study and the concurrent Lakes Study for the Dallas Floodway.

4. Current status was updated based upon this information.

5. This section has been corrected.

6. This statement has been corrected.

7. The section has been revised to indicate City's estimated time schedule.

8. The paragraph was clarified to indicate that Trinity Bonds funds wouldn't be used to build transportation projects within the Elm Fork Floodplain Management Study area.

9. The information in this paragraph has been updated.

10. The information in this paragraph has been clarified.

11. South Loop 12 Boat Ramp; page 3-29. Regarding the last sentence, the final design is completed and construction is expected to commence during mid-2003.

11. This section has been updated.

12. Moore Park; page 3-30. A sentence should be included as follows; "Detailed design should be completed during 2003 and construction completed during 2004.

12. The updated information has been included.

13. The Texas Parks and Recreation Department Master Plan; page 3-32. It should be noted that this master plan is otherwise known as the Great Trinity Forest Park Master Plan that was finalized in 1997 and adopted by Dallas County and the City of Dallas in 1997. The City of Dallas subsequently produced the Master Implementation Plan for the Dallas Floodway and the Great Trinity Forest vicinity in 1999 that embraced the Great Trinity Forest Park Master Plan.

13. Noted.

14. McCommas Bluff Landfill Extension; page 3-33. A final sentence could be added to establish that final design is expected to be completed during 2003.

14. The scheduled design completion date was added.

15. Other Dallas Floodway Projects or Activities; page 3-34. The last sentence of this paragraph should be modified as follows; "The City of Dallas is contracting with Camp, Dresser & McKee on a Lakes Study for the Dallas Floodway to fulfill three objectives. First; review previous work and make a recommendation regarding the best approach for lake configuration, on-channel lakes verses on-channel lakes. Secondly; provide technical guidance and input to the Urban Design Study consultant. Lastly; address in further detail the functionality and operability issues of the preferred lake configuration for the Dallas Floodway. The overall Lakes Study is anticipated to be completed by end of 2003."

15. Additional information has been included in this section.

16. Other Developments; page 3-34. The Center is now scheduled to be completed in February 2003. The word, Landfill, should be capitalized. The word, "three", should be changed to "other".

16. Updates and corrections have been made.

17. Table 4-2; page 4-7.

a. Water Quality: Comment ---- Floodway Lakes should be shown with a green arrow. Such lakes are proposed to use some effluent discharge from the CWWTP for lake recharge. As part of the lakes system, nutrient removal (phosphorous and nitrogen) would be required through the use of new wetland complexes or a special treatment unit at the CWWTP. Such an improvement to the recharge water is a water quality improvement for the overall Trinity River, as this recharge water will have a higher water quality before discharge to the river.

b. Aquatic Resources: Comment ---- The Combined Riverside and the Split Riverside should have the same quantification.

c. Floodplain Recreation: Comment ---- The ATSF bridge transformation into a major pedestrian access to the Dallas Floodway via the Fair Park vicinity, Moore Park vicinity, 8th Street DART facility, and the zoo vicinity would provide very important high-volume public access potential. This should be rated a double green arrow.

d. Floodplain Recreation: Comment ---- The Combined, Split Riverside, and Split Landside alternatives require floodway excavation that would create a 120-acre lake for recreation in the Westmoreland and Hampton vicinity of the Dallas Floodway. These three alternatives should be given a green arrow. Whereas, the Industrial alternative would result in no near term funding capability for the 120-acre lake.

e. Environmental Justice: Comment ---- The Split Riverside alternative would not have any more adverse impact than the Combined or Industrial alternatives.

f. Upstream H&H: Comment ---- The Floodway Levee Raise should be shown to have a "no affect" symbol. The excavation to produce the levee raise would come from inside the Dallas Floodway, which would actually improve conveyance and lower upstream H&H.

17. a. The general plans we have seen include some wetlands adjacent to the lake or lakes, however, absent specific design and operational information, it is not possible to say they will provide an improvement in effluent water quality. By the same token, the water if derived from the CWWTP will be subject to evaporation within the lake causing potential concentration of some water quality constituents. We believe that a neutral impact, non-significant benefit to water quality would be derived from the descriptions of the floodplain lakes.

17. b. We disagree. While the acreages of existing aquatic habitat that would be impacted as indicated in Table 4-1 of the DSEIS are similar, the Split Riverside would affect more individual drainage areas.

17. c. While we agree the bridge could be modified to provide the linkages described, we do not believe the bridge would provide more than minor intensification of floodplain recreation.

17. d. The currently available information from NTTA indicates that they would likely excavate the material needed to build the road bed from the area between the levees. It would be up to some future activity to complete construction of the lake. The cumulative impacts of a Lake alternative therefore were evaluated under the Recreation section of Table 4-2.

17. e. The Split Riverside would cause potential impacts to access to the floodway and increased noise levels to the area along the West Levee. No other road alternatives would produce that impact.

17. f. For the assumptions used to date by the Corps for the Dallas Floodway levee raise, the statement is true for the 100-yr event, however the SPF event causes a slightly elevated water surface in the upstream reaches (see pages 4-14 and 4-15 of PEIS).

g. Upstream H&H: Comment ---- The Combined and Split Riverside alternatives should be shown to have a "no affect" symbol. The excavation to produce the road bench would come from inside the Dallas Floodway, which would actually improve conveyance and lower upstream H&H. This was demonstrated in H&H modeling for the TxDOT MTIS and the Corps' PEIS.

h. Upstream H&H: Comment ---- The Frazier Dam project should be shown to have a "no affect" symbol. The project includes hydraulic mitigation to produce no upstream H&H impact.

i. Flood Damages: Comment ---- The Elm Fork initiatives carry significant improvements for providing flood protection within the study area with respect to channel improvements, ring levee, and removal of properties from flood risk. This alternative should warrant a green arrow.

j. Flood Damages: Comment ---- The Combined and Split Riverside alternatives should be shown with a "no affect" symbol. Both alternatives allow for increased levee strengthening, possible upstream H&H improvements (no change at worst), and a no significant increase in flood damage potential downstream.

k. Cultural Resources: Comment ---- The Industrial alternative should be shown with a red arrow. This alternative has significant potential of impacting cultural resources due to buildings of historical significance.

If you should have any questions about the above comments to the draft SEIS, please contact me at 214-671-9504. The City of Dallas continues efforts to acquire real estate in preparation for a construction start by end of 2003. The City looks forward to the full implementation of this very important project in a timely manner.

Sincerely,

Greg Ajemian

Greg Ajemian, P.E.
Executive Coordinator
Trinity River Corridor Project
City of Dallas

17. g. The Corps of Engineers through review of existing Corps projects such as the Dallas Floodway, the procedures implemented as a result of the Trinity River Programmatic EIS for permit actions and the CDC process all establish criteria to minimize cumulative H&H impacts. However at this stage of planning, the plans for this alternative have not been sufficiently completed to state absolutely there would be no affect. However, assuming sufficient H&H mitigation is incorporated, our own modeling exercises and information provided to us indicate the potential, for any changes in H&H can be minimized to a point the affects would not be significant.

17. h. This proposed permit action is still being reviewed as this SEIS is being finalized. At this point, it appears that some project modification would be required to eliminate potential impacts to existing levees in the area. The modifications under consideration would have to be further evaluated to determine the H&H mitigation requirements; therefore, we believe that it is most appropriate to consider that the proposal has potential upstream H&H affects.

17.i. Until the Elm Fork Study initiatives by the City of Dallas progress further and more details are available, we believe it is appropriate to consider that the potential for upstream and downstream impacts remain, as should the no affect determination for cumulative flood damages at the Elm Fork study area.

17. j After further review, we concur and have made the changes. The rationale behind the original assignment of impact was based upon the fact that the Riverside alignments will be placed just above the 100-yr floodplain elevation and will be subject to significant economic damages when floods reach that level (a direct impact to the road structure and function.). The cumulative flood damages to outside of the Floodway won't be increased however.

17.k. We agree that the Industrial alternative might impact visual aspects of some historic buildings or structures.

FER
of. PM-C

OFFICE OF THE GOVERNOR

RICK PERRY
GOVERNOR

Thursday, February 20, 2003

MJM 3/28
Mr. Michael J. Mocek, P.E., Deputy Dist. Engineer
Department of the Army, Ft. Worth DCE
P.O. Box 17300
Fort Worth, TX 76102

RE: TX-R-20021209-0005-50

EIS-Draft Supplement #1 for Dallas Floodway Extension

Dear Mr. Mocek:

Your application for assistance referenced above has been reviewed. The comments received are summarized below.

1. This application was submitted for comment to the Texas Commission on Environmental Quality, the General Land Office, the Texas Water Development Board, the Texas Department of Transportation, the State Water and Conservaton Board and the North Central Council of Governments. The Texas Commission on Environment Quality stated that any domolition, construction, rehabilitation or repair project will produce dust and particulate emmissions, these action should pose o significant impact upon air quality standards. All the other agencies listed did not respond. No other substantive comments were received.

We appreciate the opportunity to review your proposal. Please let me know if we can be of further assistance.

Sincerely,

for Denise S. Francis, State Single Point of Contact
DSF/dsi

POST OFFICE BOX 12428 AUSTIN, TEXAS 78711 (512) 463-2000 (VOICE)/(512) 475-3165 (TDD)

1. Management practices will be put into place during construction of the DFE project to control dusts and particulates. We appreciate TCEQ concurrence that no significant impacts to air quality will result from DFE project implementation.

TEXAS COMMITTEE ON NATURAL RESOURCES
4144 COCHRAN CHAPEL ROAD
DALLAS, TEXAS 75209
(214) 352-8370

WITHDRAW THE 1998 DESTRUCTIVE BOND APPROACH
AND SAVE THE TRINITY RIVER AND GREAT TRINITY FOREST
By Edward C. Fritz, Chair Emeritus
January 8, 2003

1. The Army Corps and Dallas staff have failed to present adequate facts and data on several aspects of their Trinity River bond program, including proposed lakes and highway between the levees, and digging a swale through the Great Trinity Forest.

The swale would involve cutting of thousands of good trees where we now take walks in the forest, inviting all citizens, many of whom participate. Our next walk there is on Sunday, January 19, at 3:00 p.m., starting at a parking lot on the north side of Martin Luther King bridge. The entire public is invited, as usual.

The terrible bond plan for a proposed Dallas Floodway Extension includes new levees downstream, along with the swale. Theoretically, they would protect the Cadillac Heights houses from a highest flood. It would be far better to offer a voluntary buyout of all houses and lots in Cadillac Heights, a plan that was supported by Mayor Laura Miller.

2. Some other cities, such as Boston and Washington, D.C., provide popular walks through forests along rivers. The Great Trinity Forest is even better, containing numerous species of trees, flowers, birds and animals. Visitors from the rest of the world would relish such walks. Digging swales and building levees would vastly damage the Great Trinity Forest.

Attached hereto is my answer to the U.S. Corps Draft Supplemental EIS, of December, 2002.

1. Comments on specific allegations of inadequacy are addressed as presented on the "attached hereto answer to U.S. Corps Draft Supplemental EIS"

2. The DFE, including recreational trails proposed, would facilitate recreational access to and through the Great Trinity Forest. Cumulative recreational benefits could occur from incorporation of features at Moore Park and the Equestrian Center, and the ATSF railroad modification.

TEXAS COMMITTEE ON NATURAL RESOURCES
4144 COCHRAN CHAPEL ROAD
DALLAS, TEXAS 75209
(214) 352-8370

Comments on Draft Supplemental EIS of December , 2002
By Edward C. Fritz
January 8, 2003

The Army Corps has attempted to slip through its analysis of the Court's order without presenting data or even key facts, but mainly with self-serving claims. They also are inadequate.

3. On page 4-6, under Aquatic Resources, the draft says that the downstream project "would not generate as many acres of surface waters as plans consisting of lakes between the Dallas Floodway levees, but the quality of the aquatic habitat created would be greater". This almost admits that the upstream lakes would reduce the habitat between the levees. It further implies that such reduction would be less downstream. It fails to provide data. It evades an admission that the more lakes or new channels the Corps would create between existing channels, the less forest and natural plants would remain there, and the more flooding would occur downstream (an excuse for new swales).

4. The draft does not even present acreages much less damages, of destroyed or harmed areas.

5. On page 4-6, the Corps further states, "Most of the flood damage reduction projects identified have only a minor potential to cause direct impacts to wetlands." It presents no data. Actually, the projects would wipe out huge acreages of natural wetlands. The projects also would cut swales through excellent natural forests.

It says, "these impacts would only be minor from a cumulative standpoint". Once again it fails to present data. Actually, the impacts will include ruination of an immense part of the Great Trinity Forest.

3. The statement on page 4-6 references the cumulative aquatic resources impacts to projects both upstream and downstream of the DFE. The statement indicates that the EQ plan in the Dallas Floodway, which emphasizes restoration of a meandering river and associated overbank wetlands would provide more aquatic benefits than a lake at the same location. Data identified to the Corps related to acreage impacts within the Dallas Floodway caused by the floodway lakes are presented in Table 4-1.

4. The data is in Table 4-1. The data indicates that the projects, as identified to us, would vary in their cumulative impacts. Cumulatively, the data indicates that, depending on which tollroad alternative is selected, following ecosystem restoration and the suggested mitigation of existing plans would result in a net gain of emergent wetlands ranging from 269 acres to 416 acres. The Dallas Floodway Extension data reflects the changes in future without a project conditions. Of the DFE area to be impacted, approximately 50% has been classified as wetland, most already forested with the future conditions projected to be forest.

5. Table 4-1 data shows that the net cumulative impact would be a net gain of over 1300 acres in forested lands that are protected and improved through acquisition, preservation and management following implementation and identified mitigation within the area of the Great Trinity Forest.

6.

Toward the bottom of page 4-6, it finally claims it would conduct mitigation (which would never make up for the loss of forest) but adds, without data, "cumulative impacts would be minor, primarily resulting from the relocation of these resources at a different site from where they occurred". It never gives data or details. We say that the replacement of natural resources would be highly destructive and virtually meaningless.

7.

On p. 4-9, the Army Corps writes vaguely of two losses of areas and loss of 70 acres of forest, "the majority of which has been identified within the White Rock Creek corridor". It does

8.

not say exactly where. Actually, an extension of levees downstream from existing levees, plus a series of wide swales, would eliminate more of the Great Trinity Forest, barely mentioned by the Army Corps as the "bottomland hardwood forest ecosystem". The Corps says vaguely, "In addition, the recommended environmental restoration project feature, which includes the development of emergent wetlands, would help reverse the trend to losses to this important

9.

resource, by restoring 123 acres". It never says how, or precisely where. Actually, cutting the forest for swales and levees would ruin much more of the ancient forest and will never be adequately replaceable anywhere else, no matter where the Corps might offer to replace it.

10.

As to air quality, the Corps, at top of p. 4-10, evades data, especially as to new roads between levees, by saying it would be determined during detailed studies. Obviously, toll roads between levees would inflict harmful air on any persons walking or boating between levees, and on any animals or birds there.

On p. 4-10, the draft refers to "some forestlands that have developed during the past 30 to 40 years', but never says where they are, how valuable they are environmentally, nor how much

6. The data has been provided in Table 4-1 as a basis to determine cumulative impacts from reasonably foreseeable activities. Mitigation of forest impacts will be conducted following development of detailed plans and specifications for Corps of Engineers projects. The Corps planning process requires us to try to avoid impacts to resources where possible, then minimize impacts if unavoidable. Mitigation is required for unavoidable impacts. The DFE project goes a step farther by incorporation of a plan to restore emergent wetlands as an integral part of the flood damage reduction swales. On the contrary, we believe that replacement of impacted natural resources is totally necessary and hardly meaningless.

7. The 70 acres of impacts to vegetation from the SE Dart Corridor implementation would mostly be in the White Rock Creek drainage along Scyene and Jim Miller roads. The route and areas of vegetation impact from that proposal are shown on Figures 5.29 through 5.37 of the Dart Southeast Corridor Draft Environmental Impact Statement dated February 2002.

8. All features of the DFE project are fully described in the Chapter 6 of the DFE GRR/EIS.

9. There are a few old trees in the area that would be impacted by the DFE, but the impacted area of the majority of the forest is neither old growth, ancient nor rare (See Table 4-25, DFE GRR/EIS).

10.The air quality discussion provided in the DSEIS is accurate. The discussion continues onto page 4-10, where it is noted that traffic introduced to the levee area could increase site-specific air quality problems.

11. The DFE impacts by acre and by value to forestlands were thoroughly described and documented in the DFE GRR/EIS, which the SEIS supplements and incorporates by reference.

12. it would cost to mitigate them, as proposed. They would probably be better for society left as they are, and better for birds and animals. Trees in Great Trinity Forest are in ages up to hundreds of years.

13. On p. 4-11, the Draft Supplement mentions Cadillac Heights but fails to consider the alternative of a voluntary buyout, which environmentalists have urged. Laura Miller supported it, as councilwoman, and now supports at least a partial buyout as mayor. A buyout would enable all the residents to move out of the floodplain, including out of the area where residents are subject to unhealthful soil contaminated by previous business operations. The City of Dallas is now planning about the voluntary buyout of at least part of Cadillac Heights. A full buyout would relieve the houses from needing a swale and levee through the Great Trinity Forest. The Army Corps should consider this, making a swale and levee unnecessary, and thereby saving the Great Trinity Forest for all.

14. On p. 4-14, the Corps' Draft says, "recommended DFE project would not contribute to cumulative noise impacts". Actually, the proposed toll roads would create loud noises, as well as harmful air discharges for quite a distance from wherever such roads would be built. Inside the existing levees, the noises and bad air will harm everyone who walks or boats between the levees.

15. On p. 4-14, the Draft admits that unnamed endangered species may migrate through the proposed area, and that the least tern nests in the Wastewater Treatment Facility. Actually, the least tern also nests in other parts of the natural area involved in this proposal. All endangered species in the area would be even more endangered by the proposal.

12. The forested areas and the quality of those forests that would be impacted, and the location and cost of mitigation of those forested areas were clearly identified in the DFE GRR/EIS, (see Table 4-25).

13. The Corps of Engineers has revisited the potential for a non-structural buyout of the Cadillac Heights area on several occasions during the iterative planning process and continually finds that it is not in the federal interest to do so. There is not sufficient federal interest to justify a buyout of Cadillac Heights. The City has every right to reject the Corps of Engineers project and go forward on their own, but we have no indication that there is any intention to do so; therefore, it is not a reasonable foreseeable action. The SEIS will document cumulative impacts in relation to the DFE alternatives of all other reasonably foreseeable actions in the DFE area, including the partial buyout of a few homes in the Cadillac Heights area that are located above the 100-yr floodplain elevation.

14. The DFE project would not cumulatively contribute to noise in the study area. The proposed roads under any alignment would contribute to noise in the study area, regardless of whether the DFE was constructed or not.

15. The least tern has been documented to nest in the Southside Water Treatment Plant area, far south of the DFE project area. The U.S. Fish and Wildlife Service has concurred with our assessment that the proposed DFE project would not threaten or jeopardize this species.

16. On p. 4-16, the Corps Draft agrees "to maximize forested resource benefits". It should Present data on locations, specify costs, and benefits. Actually, virtually all species would survive far better if none of the proposed roads, lakes, new swales, and new levees were built.

17. On p. 4-16, the Corps states that "its policy specifies no net loss of wetlands". It should provide new plans in conformance with this policy before further Court orders. The Corps cannot carry out the 1998 bond program, including swales and levees through the Great Trinity Forest, without a net loss of the wild wetlands scheduled to be heavily cut, swaled, and levied by the Corps.

16. The Corps and resource agencies evaluations of the existing DFE area do not support your conclusions. The area that would be impacted by the DFE alignment has been selected to minimize impacts to those areas of younger trees consisting primarily of green ash, cottonwood, willow, cedar elm and other light seeded invader or early colonizer trees. There are a few older trees that would be unavoidably impacted by the channel realignment. The mitigation plan would provide 1179 acres of forest and grassland that would be improved by planting mast trees that would increase habitat diversity and functional quality.

17. The City of Dallas, not the Corps of Engineers is responsible for carrying out any bond programs. The Corps of Engineers will not carry out the Dallas 1998-bond program. Our data indicates there would be a long-term net improvement of habitat acreage and quality following implementation of the DFE with the approved mitigation features. In addition, to the strong flood damage reduction benefits the project would also provide much sought after public recreational access

STATEMENT AT JANUARY 8, 2003
MEETING RE TRINITY FLOODWAY EXTENSION
BY EDWARD C. FRITZ

1.

WITH\YOUR HELP WE CAN PREPARE A NEW APPROPRIATE PLAN FOR TRINITY RIVER IN DALLAS.

THE ARMY CORPS AND THE CITY HAVE FAILED TO PRESENT ADEQUATE DATA ON THE HARMFUL RESULTS OF BUILDING HIGHWAYS AND LAKES BETWEEN EXISTING LEVEES AND CUTTING SWALES DOWNSTREAM THROUGH THE CITY'S GREAT TRINITY FOREST, AND OTHER HARMFUL FACTORS.

THE TOLLROADS WOULD RAISE THE FLOOD LEVELS AND SPREAD AIR POLLUTION WITHIN THE LEVEES. A LAKE WOULD NARROW DOWN THE WALKING AREA NEXT TO DOWNTOWN DALLAS AND

1. This is a written copy provided by Mr. Fritz's following his statement at the Public Meeting on January 8, 2003. These general and more detailed comments were included in a letter from Mr. Fritz representing the Texas Committee on Natural Resources dated January 8, 2003. Since the January 8, 2003 letter is more inclusive, responses to Mr. Fritz's comments were provided there.

WIPE OUT MUCH OF THE FLOWERS AND OTHER NATURAL PLANTS THERE. THERE IS ALREADY A LAKE SOUTH OF THE SYLVAN BRIDGE. ANOTHER BAD EFFECT OF NEW ROADS BETWEEN LEVEES, AND MAYBE OF THE LAKES AND A SWALE WOULD BE MORE FLOODING OF THE GREAT TRINITY FOREST. PEOPLE ARE ENTITLED TO FAR MORE DETAILS ABOUT THE HARMFUL RESULTS THAT THE TRINITY FLOODWAY EXTENSION WOULD BRING.

WE REFER TO APPENDIX A OF THE AMERICAN INSTITUTE OF ARCHITECTS, DALLAS CHAPTER, TRINITY POLICY OF 2001 SHOWING VARIOUS ERRORS OF THE 1998 BOND PLAN, WITH ONLY 1.6% MAJORITY.

I PRESENT COPIES OF TWO FAITHFUL COMMENTS.
1. NOTHING IN THE 1998 -2- REFERENCE BOND PROPOSITION
2. COMMENTS ON DRAFT SUPPLEMENTAL EIS OF DECEMBER 2002.

Draft MV

Statement for USACE, Jan.8. 2003 re: supplement #1, DFE-EIS

By Mary Vogelson, LWVD, Trinity River Study chair

Good Evening. I am Mary Vogelson, representing the LWV of Dallas. Our League has been involved with the Trinity River studies by the Corps and others for over 35 years. We understand the need to proceed with a project that has been pending since 1965, and we understand the frustration of trying to work with the city of Dallas when the city itself has been unable to establish guidelines for a cooperative program with the Corps for most of this time.

LWVD wrote extensively in response to the 1998 DFE-GRR EIS draft that the Corps had not met NEPA's requirements to evaluate the cumulative effects of all foreseeable projects including its own DFE proposals & alternatives. Our concerns, in part, echo the, Office of Management and Budget when they state: "the corps elected not to evaluate" the flood solution proposals having the highest net economic benefits, and that decision, in effect, removed from consideration an entire set of reasonable options...." Thus, the OMB states, "The Corps presented an incomplete picture of the available choices and their impacts, and prevented an informed public discussion of the merits of the proposed project."

The Corps has still not made a public evaluation of its own DFE project in conjunction with other known proposals and discussing the cumulative environmental impacts on the city and its citizens. Furthermore, evaluating cumulative impacts of the newly proposed EQ plan, a plan much more in keeping with the "new, green" Corps, against currently existing conditions might have resulted in very different NEPA outcomes, but unfortunately we do not know this as a result of this document.

Attempting to secure the Corps DFE project and THEN evaluating the cumulative impacts of known future proposals/alternatives as this document purports to do, is not our understanding of meeting the NEPA requirements (see Federal Court for the Northern District of Texas' ruling, p.54- 57 of the opinion, April, 10, 2002 which demands that "the cumulative impacts of these projects" be addressed "WITH the DFE project").

1. This is a written copy of the statement presented by Ms. Vogelson at the Public Meeting held January 8, 2003. Please see responses within the Official Record for that meeting.

The League of Women Voters is concerned about the best use of public funds, cumulative affects on the environment upstream and downstream, meeting the requirements of NEPA, and accurate and complete information being given to the citizens of Dallas in order to make democracy work for all Dallas' citizens. We hope to continue to work with the Corps of engineers to meet these goals.

We will be sending written comments and would appreciate a two-week extension of the comment period.

Thank you.

LEAGUE OF WOMEN VOTERS *of Dallas*

Feb. 4, 2003

USACE, Ft. Worth District
ATTN: CESWF-PM-C (Mr. Gene T. Rice, Jr.)
Fax: 817-886-6442

Comment for League of Women Voters of Dallas
Re: supplement #1, DFE-EIS

By Mary Vogelson, LWVD, Trinity River Study chair MV

The LWV of Dallas has been involved with the Trinity River studies by the Corps and others for over 35 years. We understand the need to proceed with a project that has been pending since 1965, and we understand the frustration of trying to work with the city of Dallas when the city itself has been unable to establish guidelines for a cooperative program with the Corps for most of this time.

1. LWVD wrote extensively in response to the 1998 DFE-GRR EIS draft that the Corps had not met NEPA's requirements to evaluate the cumulative effects of all foreseeable projects including its own DFE proposals & alternatives. Our concerns, in part, echo the, Office of Management and Budget when they state: "the corps elected not to evaluate" the flood solution proposals having the highest net economic benefits, and that decision, in effect, removed from consideration an entire set of reasonable options...." Thus, the OMB states, "The Corps presented an incomplete picture of the available choices and their impacts, and prevented an informed public discussion of the merits of the proposed project."

2. The Corps has still not made a public evaluation of its own DFE project in conjunction with other known proposals and discussing the cumulative environmental impacts on the city and its citizens. Comments, for instance, like those on p.4-12 and 4-13 are examples of the kind of analysis we had hoped for without the DFE as a baseline. In the Stemmons Corridor the Corps states that job growth could "potentially increase " as a result of flood reduction programs. Under the H&H heading, the Corps

2720 N. Stemmons Freeway • Suite 510 • Stemmons Tower South • Dallas, TX 75207 • (214) 688-4125 • Fax (214) 688-4126

1. Flood solution proposals were evaluated in the formation of the DFE GRR-EIS. All available choices were considered and fully evaluated. The final document addressed the five final alternatives of the Dallas Floodway Extension with various reasonably foreseeable by others to determine the cumulative impacts of each scenario using the best available data for each of the projects,. None of the reasonable foreseeable projects have been fully studied or designed.

2. The SEIS has analyzed the DFE project along with other reasonably foreseeable projects without the DFE as a baseline. The final document addressed the five final alternatives of the Dallas Floodway Extension with various potential projects by others to determine the cumulative impacts of each scenario using the best available data for each of the projects, which have not been fully studied or designed.

notes that the prospective toll road could "act as concrete lined channels" to propel the water faster through the floodway. These example statements express, variously, the Corps' concern for job creation and increased velocities in river flows. They are troublesome in that they ignore the environmental impacts of sluicing the water into the DFE area (and therefore the forest) but without the analysis off what the impacts might have been without the current DFE project. Also, we do not have the comparative analysis with no DFE project of "job creation" vs. increasing the health of those residents who might have been bought out and moved to less toxic lands. These are but two examples of issues that could have been helpful to the public decision-making process on whether or not to pursue the present DFE alternatives, or, indeed if there were better alternatives based on undisclosed information.

3 There is one problem stated in regard to the Cadillac Heights "zoning" and impacts for environmental justice. The Corps states that this residential area was never "re-zoned" and carries the same zoning since 1965, but that the city had gone through a change in zoning "definitions". Since the LWV participated heavily in this process, it may be helpful to point out that prior to this "re definition" process, land with "higher" use zoning was allowed to support "lower" usages until or unless the owner chose to act upon the higher zoning designation. With the 1985-87 "redefinition" of zoning categories, the only use to be allowed of the land is that which is in compliance with the zoning designation. In other words, any industrially zoned land with residences on it, previously allowed under the old system, would now render these residences as being in "non-compliance" with the zoning category. While this is not technically a re-zoning, we understand how the comment could have been made to the Corps by someone who was familiar with the impact on the Cadillac Heights community even though perhaps not technically correct.

4 In any event, the result is the same for this community. Residences, in this case, in non-compliance with the zoning have limited chances of being able to get money for upgrading or repairing their homes, and they live not knowing when a toxin producing user might move next door! All previous and present comments in relation to the importance of having a buy-out, non- structural solution for this neighborhood is still more important in terms of an environmental justice solution than the Corps seems to have addressed to date. Comparing the buy out cost for this neighborhood with the swale required for the largest levee proposal, and

3. Examination of Dallas zoning maps indicate the re-definition process has impacted a small area of Cadillac Heights. Since these few homes are being allowed to remain even under the re-definition the existing conditions remain unchanged. The future with and without project conditions for those few homes might be slightly different, however, it would appear that if they were in an area of non-compliance, that it might be difficult to resell or borrow funds for maintenance.

4. The Dallas Floodway project as authorized is in compliance with the Executive Order on Environmental Justice. All analyses of the various alternatives have been conducted pursuant to applicable laws and regulations. After completing our analysis, it was concluded that there was not sufficient federal interest to justify a non-structural approach for Cadillac Heights.

the cost of that larger levee does not honestly reflect a true cost comparison. We suggest that, again, the public should be afforded the opportunity to compare the smaller levee/swale cost that would ensue with a buy out of the neighborhood, or a buyout without the DFE FSP levee assumptions.

5 Evaluating cumulative impacts of the newly proposed EQ plan, a plan much more in keeping with the "new, green" Corps, against currently existing conditions might have resulted in very different NEPA outcomes, as well as better environmental justice outcomes. Unfortunately we do not have this information as a result of this document. We thank the Corps for this extremely important plan and the suggested future thrust of Corps thinking on flood plain, flood control and floodway issues

6 Attempting to secure the Corps DFE project and THEN evaluating the cumulative impacts of known future proposals/alternatives as this document purports to do, is not our understanding of meeting the NEPA requirements (see Federal Court for the Northern District of Texas' ruling, p.54- 57 of the opinion, April, 10, 2002 which demands that "the cumulative impacts of these projects" be addressed "WITH the DFE project").

7 The League of Women Voters is concerned about the best use of public funds, cumulative effects on the environment upstream and downstream, meeting the requirements of NEPA, and long range planning to ensure a better, healthier quality of life for all Dallas citizens. In order to make democracy work for all Dallas' citizens, accurate and complete information must be available. We hope to continue to work with the Corps of engineers to meet these goals.

Thank you.

5. Thank you for your comment. The EQ plan will be fully investigated and analyzed when the existing Dallas Floodway Feasibility Study is completed.

6. The EIS addresses the cumulative impacts of all reasonably foreseeable projects including the DFE. Authority for the DFE was provided under Section 351 of the Water Resources Development Act of 1996 and 356 of the Water Resources Development Act of 1999. Neither the GRR-EIS nor the SEIS attempt to secure the project but rather considered various alternatives for the DFE together with the impacts of reasonably foreseeable projects. The final document addressed the five final alternatives of the Dallas Floodway Extension with various potential projects by others to determine the cumulative impacts of each scenario using the best available data for each of the projects, which have not been fully studied or designed.

7. Thank you for your comment.

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Mixmaster Business Association
6060 North Central Expressway
Suite 333 Dallas, Texas 75206-5204
214-739-4025 Fax 214-739-4026
E-mail: mba@advico.com

January 17, 2003

U.S. Army Corps of Engineers
Fort Worth District
ATTN: CESWF-PM-C (Mr. Gene T. Rice, Jr.)
P. O. Box 17300
Fort Worth, TX 76102-0300

Subject: Dallas Floodway Extension (DFE), Trinity River, Texas
RE: DRAFT Supplement No. 1 to Environmental Impact Statement (EIS)

We continue to strongly support the Dallas Floodway Extension as described in the Record of Decision signed on December 1, 1999. Implementation of that decision should occur without further delay. The City of Dallas is vulnerable now to at least $8 billion of flood damages if a large flood event should occur, and Dallas does not have Standard Project Flood protection along the existing Dallas Floodway. 1.

This organization represents an area most critically impacted if a flood event were to occur before completion of the DFE. This area lies along the downtown Dallas side of the current Dallas Floodway from Continental Avenue near the American Airline Arena south to the Dallas Area Rapid Transit Light Rail line to Oak Cliff. Although the current levee protects this area from three hundred year (300-year) event floodwaters, a lesser flood event (>140-year) would seriously damage our properties and businesses. This damage will occur because the sanitary sewage treatment facility for a major portion of Dallas will flood and raw sewage will be released into the old Trinity River channel that flows through our area. It is likely that sewage and floodwaters will be in most buildings. Sewage pumps and treatment facilities will be out of operation for an extended period of time, even weeks or months. 2.

The cumulative effects of possible projects affecting the DFE have been properly considered, and the Supplement No. 1 is sufficient for the US District Court for the Northern District of Texas to rule in favor of the Corps. We urge the Courts, Congress, and the Corps to implement the Dallas Floodway Extension before monumental flood damage occurs. 3.

Mixmaster Business Association

Marcus Wood
Executive Vice President

MW/s

1. Cumulative impacts from many past actions have led to hydrology and hydraulics and economic conditions described in the DFE/GRR.

2. Recent flooding in San Antonio and particularly Houston and the results of the major water supply break in downtown Dallas indicate that severity of flood damages, mainly in subsurface storage and facilities handing areas have likely been underestimated in the past.

3. The Corps is complying with the Courts and Federal regulations to move forward with construction of the DFE.

Mixmaster Business Association
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January 21, 2003

U.S. Army Corps of Engineers
Fort Worth District
ATTN: CESWF-PM-C (Mr. Gene T. Rice, Jr.)
P. O. Box 17300
Fort Worth, TX 76102-0300

Subject: Dallas Floodway Extension (DFE), Trinity River, Texas
RE: DRAFT Supplement No. 1 to Environmental Impact Statement (EIS)

Our January 17, 2003 letter summarized our overall support for the Dallas Floodway Extension as described in the Record of Decision signed on December 1, 1999 and the Draft Supplement No. 1.

The purpose of this letter is to describe detail comments and suggestions regarding specific wording in the Draft Supplement No.1. In some instances these are simply typographical corrections. These comments are attached hereto.

Mixmaster Business Association

Marcus Wood
Executive Vice President

MW/s

COMMENTS REGARDING DRAFT SUPPLEMENT NO. 1
DALLAS FLOODWAY EXTENSION, TRINITY RIVER, TEXAS

	PAGE	Comments
1.	i	The description mentions levee construction, but does not mention that an extension of existing Corps levees is involved. This wording should be added.
2.	ii	**It is very important to state that the existing Dallas floodway no longer provides SPF protection. In fact, the Summary states just the opposite which is inaccurate.** (See paragraph 3: "Both levees are designed to provide SPF level of protection (estimated at about 800-year frequency of occurrence) to the adjacent neighborhoods, *which is comparable to the protection provided by the existing Dallas Floodway to the Central Business District.").*
3.	1-3	Last paragraph has typographic error of "or" rather than "of".
4.	Fig 3-1	It would be helpful to show which of the highways would not be covered by a SPF under current protection. Or does it already accurately show that all highways would be flooded?
5.	3-19	The descriptions of the Industrial alignments are inaccurate. Neither alignment follows the existing city street, but rather curves gently for higher speeds. Thus some of the data shown in the report may be in error (particularly Table 4-1) (contact NTTA).
6.	3-19+	The descriptions of the various alternatives as to right-of-way and costs are misleading. For some alternatives much of the right of way is already publicly owned and not that case for others. One suggestion would be to differentiate the public/private right of way amounts; another would be to use the total project costs (contact NTTA for data).
7.	3-22	The description of the Corinth Street Bridge is not accurate since a couplet bridge is proposed (contact TxDOT).
8.	3-29	Reference is made to "Medical City", but that hospital is located many miles away near US 75 and Forest Lane. Better wording might be "the hospital and medical school area along Harry Hines Boulevard."
9.	4-2	There is no mention of Transportation Projects in the West Fork of the Trinity area. Are there not any?
10.	Table 4-1	Question accuracy of Industrial impacts, particularly Elevated and the Forest Conversion. This is particularly true since the Industrial Parkway alignments do not exactly follow the current roadway.
11.	4-6	The Wetlands section wording seems inconsistent in that there is no sponsor for an EQ plan, so it should be described in "not well defined" terms similar to other such plans.
12.	Table 4-2	The Transportation Improvements should all show improved air quality because of reduced traffic congestion. As presented here, it is inconsistent with NCTCOG studies and planning.

1. The intent of the Dallas Floodway Extension Project is to provide flood damage reduction benefits to an area downstream of the existing federal project downstream. The levee construction would link the existing levee on the east side with the existing downstream Rochester levee and would link the existing levee with the existing Central Wastewater Treatment Plant levee on the west side of the river. These details were thoroughly provided with the GRR/EIS.
2. Statement in FSEIS has been revised to clarify that with DFE in place, the DF would be restored to provide SPF level protection.
3. Error has been corrected.
4. The intent of this figure is to show the extent of the SPF as currently known in the Upper Trinity River area. Many local, state and federal roadways would be impassible should an SPF even occur in any area shown. In addition thousands of homes, and businesses could be isolated or partially inundated.
5. Information in Table 4-1 was provided by NTTA.
6. The details of the Parkway/tollroad alternatives are being fully developed by the NTTA and will be disclosed in a Draft EIS. We have attempted to provide sufficient description of those alternatives being considered to adequately consider the cumulative impacts of those alternatives with the Dallas Floodway Extension alternatives.
7. The description has been modified.
8. The description has been changed.

9. Only transportation projects believed to have cumulative impacts to the DFE alternatives were carried forward and assessed in Chapter 4.

10. Impacts were obtained for Parkway alternatives directly from NTTA documentation.

11. The EQ plan was developed by the Corps of Engineers for consideration as an alternative scenario for the modification of the Dallas Floodway and documented in the Corps PEIS dated June 2000. Therefore we have a better-defined description of what that plan could be. There is no current sponsor for the EQ plan, however, it will be further refined as the Corps continues studies on the existing Dallas Floodway.

12. The cumulative impacts of all the transportation projects could result in regional improvement, but the relocation of traffic to other areas, could result in degradation at that new alignment. We believe that the minimal improvement in traffic conditions from the parkway project if implemented would produce very minor air quality changes on a regional basis. Based upon results in other metropolitan areas, the new roads will also quickly become congested resulting in further reducing the potential of improving air quality.

13.	Table 4-2	There is no section or description of "Public Services".
14.	Table 4-2	It is difficult to understand there being any Water Quality differences between those Parkway alternatives within the river since all would result in improved water quality.
15.	Table 4-2	We do not agree with the differences shown between the Parkway comparisons, particularly the Combined and Split Riverside with Industrial. The effects are not consistent with the PEIS table. The Industrial and Landside routes negatively impact Environmental Justice, Cultural Resources, and economic development.
16.	Table 4-2	Sump capacity is likely to be reduced with Industrial and Landside alignments. This negative impact is not properly reflected in the Flood Damages section.
17.	4-11	Because the areas along the Dallas floodway do not have SPF protection today, the lack of such protection negatively impacts both existing property uses and redevelopment potential that no new transportation improvement is going to overcome completely. The current draft wording implies otherwise.
18.	4-13	We suggest that the Aesthetic statement is subjective and open to dispute. We know that vast numbers of people would like to drive along a parkway and see the area within the floodway. The majority of Dallas voters support such a riverside parkway. This difference of opinion should be reflected in the Supplement wording.

13. A description of "Public Services" has been added to the final.
14. The parkway was evaluated as presented without any mitigation. Without mitigation, we fail to see how the parkway alignments would improve water quality.

15. Environmental Justice impacts were considered based on the foreseeable projects potential effects to minority and economically depressed populations. These impacts would occur along the West side of the floodway, if a project decreases the ability to access the floodway or increases noise levels effects. Although we are not aware of studies done that show cultural resources would be impacted by the Industrial alignment, we concur that the potential is always possible for buried resources to be along the alignment. We are aware that there is consensus that construction of the Industrial alignment would be more costly from a real estate acquisition standpoint, we believe that cumulatively, within the DFE area, the alignment would make little to no impacts to economic development.

16. The City of Dallas is legally responsible for maintaining sump capacity associated with the existing Dallas Floodway. For the analysis we determined that the City would continue to fulfill its requirements and would require that sump capacity be maintained.

17. Discussion in the 3rd full paragraph of page 4-11 clearly identifies that cumulative change to property uses would occur following implementation of both a reliever route and the DFE flood damage reduction project.

18. We concur that aesthetic evaluations are subjective by nature. Some would enjoy the view of the floodway from atop the levee. However the view would likely be greatly minimized due to the fact that a large length of the parkway, if located on the inside of the levee, either as a split or on one side, would be shielded by floodwalls that would be necessary to protect the parkway to the 100 yr flood elevation. A statement was added to the FSEIS to discuss the opposing aesthetic viewpoint.

Mr. Hunter
Speaker # 1

"The cause of America is, in a great measure, the cause of all mankind. Many circumstances have, and will arise, which are not local, but universal, and through which the principles of all lovers of mankind are affected, and in the event of which, their affections are interested. The laying a country desolate with fire and sword, declaring war against the natural rights of all mankind, and extirpating the defenders thereof from the face of the earth, is the concern of every man to whom nature hath given the power of feeling; of which class, regardless of party."
--Thomas Paine, Februrny 14, 1776 in Common Sense.

A Petition for Global Peace, Security and Justice

WHEREAS we citizens of North Texas are also citizens of the United States of America who consider ourselves citizens of the world, as well;

WHEREAS when our nation differs with another on matters of either nation's 'national security' the result is often institutionalized violence which typically kills and maims not only many of our fellow U.S. citizens but many others, both civilian and military, in other parts of the world as well;

1.

WHEREAS the Congress has granted President George W. Bush its approval in advance for any violence he may wish to undertake as our military's commander-in-chief against the present government of Iraq and the Iraqi people;

WHEREAS since renewals of UN inspections for weapons of mass destruction in Iraq no evidence of any such weapons has been reported by the UN inspectors, nor have they reported any undue interference in their searches by the Iraqi government or its military

THEREFORE we the undersigned urge President Bush to authorize no military action against Iraq –or against any other nation– unless and until such nation actually deploys its weapons outside its own borders with an obvious intent to harm others, a situation which would far more clearly justify a military response.

WE FURTHER urge President Bush and the U.S. Congress —

a) to recognize that as the 1.4 billion Chinese and millions of other people the world over increasingly seek to emulate America's vaunted and envied 'standard of living' the capability of the planet to provide the necessary natural resources will –absent our nation's leadership to prevent it– finally be outstripped, and that we must begin now deciding upon what the 'rightful share' of those natural resources for our own population/consumption is and will be five, twenty and fifty years down the road

b) to consider that if USAans, a mere 4.6% of the world's people, continue to consume 25% of the world's energy, this will likely generate a great deal of resentment against us by many hundreds of millions of the less fortunate among the remaining six billion *other* humans on the planet – *especially* among those living under non-elected tyrants, who maintain their wealth and regimes by selling their nation's natural resources, notably its *oil*, to U.S. and other foreign corporations, *and*

c) to direct the Office of Homeland Security to establish a Quality of Life Commission to develop a USSPPP –a U.S. Sustainable Population Policy Program– aimed at bringing our nation's energy consumption down to not over *three* times the world average nor over 2/3 present levels by 2008 or earlier and at making us at least 80% energy independent by 2038 *without* drilling in the Arctic National Wildlife Refuge (ANWR) or in any other wildlife sanctuary, to help other nations establish and activate similar programs to stabilize their own populations at sustainable levels and to work with them to forestall the ecological catastrophe to which we are by all accounts now headed.

[over, please..]

1. Thank you for your comments. Unfortunately, these are outside the scope of this document and do not address the issues being considered for this SEIS.

Growth debate offers choice ranging from A to B
–by Al Knight, *Denver Post* Columnist August, 2000

As recently as the 1970s, most environmental groups were on record urging a stabilized population. The reasoning was simple–damage to the environment, they said, can be reduced in only two ways:

"Consumption by institutions and individuals can be lessened *and/or* the number of groups and individuals can be reduced."

Makes perfect sense. What doesn't make any sense is trying to reduce the consumption factor while allowing the number of groups and individuals to increase without limit. Yet that is precisely what is taking place right now in many countries, most notably in the United States.

Total population growth, 70 percent of which is driven by recent immigration (–and 100% in the U.S. by its immigrants of the past twenty-five years and their progeny!)– is wiping out any advances that have been made in lessening individual and institutional environmental impacts through greater efficiency and reducing consumption.

The U.S. Census Bureau says current trends will continue and predicts a U.S. Population of 400 million in the next 50 years. Meanwhile, environmental groups that once talked of stabilizing our population by 1990 have accepted these numbers as a kind of inevitable fate and prattle on about conservation of resources as though nothing has happened.

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"I endorse the *'Petition for Global Peace...'* And I (1-Strongly agree / 2-Agree / 3-Not sure / 4-Disagree / 5-Strongly disagree) that we need to begin now to stabilize local/regional population at present levels or below:
(To vote on stabilizing population levels place the appropriate number *after* your name– this 'Vote' is *optional.*)

Name	Vote?	Address	Zip	City / State	e-mail / Phone
1 Bruce Hunter	1	7418 Daingerfield	75227	Dallas, TX	earthlife@juno.com
Stephanie Frizzell	1	5444 Peterson #1023	75240	Dallas TX	frizzell11@yahoo.co
Russell Frizzell	5	5444 Peterson #1023	75240	Dallas TX	972-387-8846
AJ Anderson		[illegible] Village Glen #4239	75[illegible]	Dallas, TX	ajanders@mail.smu.[illegible]
Joe Wicks	1	[illegible]	[illegible]	[illegible]	[illegible]
Jo Hage mcgrath?	1	3310 Fairmount		Dallas TX 75204	214-526-6598
Elijah [illegible]		9524 Miltary	[illegible]	Dallas, TX	214-873-025[illegible]

February 4, 2003

US. Army Corp of Engineers
Fort Worth District
P.O. Box 17300
Fort Worth, Texas 76102
ATTN: CESWF-PM-C Mr. Gene Rice

Dear Mr. Rice:

1. Save Open Space (SOS) is very concerned about Supplement #1 to the DFE EIS. The response does not meet the requirements of either the NEPA or the Federal Court Order.

2. To meet the NEPA and Federal Court requirements, Supplement #1 cannot start with a baseline of the Dallas Floodway Extension being built. The starting point for Supplement #1 must be the current un-built condition downstream from the existing Dallas Floodway.

3. Both NEPA and the Federal Court Order say the Army Corps of Engineers must analyze, evaluate and compare the cumulative impacts of diffderent aspects of the Dallas Floodway Project (which is immediately upstream from the Dallas Floodway extension). The Dallas Floodway Project has not yet been fully designed. The design is not projected to be ready until late summer of 2003. At that time the Dallas Public Works Department of the City of Dallas will present its plans for the Dallas Floodway Project.

4. The Dallas Floodway Project, also known as Dallas' Trinity River Plan, will include lakes, roads and bridges. After those designs have been presented in the summer of 2003, the Army Corps will be in a position to analyze, evaluate and compare the cumulative impacts of the Dallas Floodway Project and the Dallas Floodway Extension alternatives.

5 There must be, according to NEPA and the Federal court, analysis, evaluation and comparison of the cumulative impacts of all alternatives to each component of the Dallas Floodway Project and the Dallas Floodway Extension.

6. SOS supports the Environmental Quality Plan for the Dallas Floodway Project.

Sincerely,

Ms. Joanne Hill

Ms. Joanne Hill
President, Save Open Space

1. This document is designed to bring the GRR-EIS in full compliance with NEPA.

2. The SEIS has been amended. The new baseline does not assume that the DFE is in place.

3. The final document addressed the five final alternatives of the Dallas Floodway Extension with various potential projects by others to determine the cumulative impacts of each scenario using the best available data for each of the projects, which have not been fully studied or designed.

4. The final document addressed the five final alternatives of the Dallas Floodway Extension with various potential projects by others to determine the cumulative impacts of each scenario using the best available data for each of the projects which have not been fully studied or designed.

5. The cumulative impacts to all alternatives to the DFE have been addressed in the SEIS. The cumulative impacts of the Dallas Floodway project have been addressed to the extent known. Since this project has not been finalized or authorized, all possible alternatives are not known at this time.

6. Thank you. That potential project will be fully studied at a later date.

Comments on Supplement No. 1
To the
Environmental Impact Statement
Dallas Floodway Extension
Trinity River, Texas

January 8, 2003

David B. Gray
9432 Viewside Dr.
Dallas, Texas 75231

General

1. This SEIS is intrinsically flawed for summarizing the "cumulative impacts" of one only alternative for the DFE, the Recommended Plan. The Corps has assumed that for the purposes of this Supplement the DFE has been built in place according to the Recommended Plan. But the purpose of an EIS is conduct an evaluation of the alternatives and impacts of those alternatives in order to be sure the most optimal plan is chosen.

2. The federal judge has remanded the DFE EIS back to the Corps to conduct an analysis of cumulative impacts. It is insufficient to simply say that all "reasonable and foreseeable actions" will add some more or less cumulative impacts to the DFE. It is necessary to compare the cumulative impacts of such actions with each of the alternatives, e.g., the No Action plan. Only with a comparison of the full impacts of all related actions can a reasonable and informed choice of the least damaging and most beneficial alternative be made.

3. Furthermore, there are no data or evidence with analysis presented to back up any of the specious claims made by the SEIS. There are no cost-benefit estimates for any of the proposed, reasonably foreseeable, or other actions in combination with or without the DFE.

SUMMARY
Summary of Major Environmental Effects, p. vii

4. "These bridges were not evaluated in this Supplement..." The proposed Calatrava suspension bridges could very well provide beneficial flood water elevations effects in the Dallas Floodway, reducing the need for the badly damaging swale of the DFE's Recommended Plan. (It could, however, expand the floodplain of the DFE project area.)

Areas of Controversy, p. vii

5. "The potential for resultant adverse impacts created the need to address the environmental consequences of the reasonably foreseeable actions." This is a wise statement, but this SEIS completely fails to carry it out. We still do not what the flood surface elevations of all the reasonably foreseeable actions (DFE, toll roads inside the levees, Chain of Lakes, AT&SF bridge, suspension bridges, etc.) Without data and without comparisons, we are unable to determine whether or not, in fact, the DFE actually does provide any benefits that other actions already proposed or planned don't also provide, which if proven would make the DFE a huge waste of money with devastating ecological impacts.

CHAPTER 3--AFFECTED ENVIRONMENT

FLOOD DAMAGE REDUCTION
Removal/Replacement of ATSF , p. 3-26

6. "...thus potentially providing hydraulic relief while while maintaining possible trail access." Well, how much relief? Is this a significant and inexpensive way to relieve flood elevations in the Dallas Floodway? If so, this action would reduce the extent and cost of the DFE swale.

1. The final array of alternatives from the DFE GRR/EIS have been evaluated in the final SEIS.

2. The analysis has been conducted including the cumulative impacts of reasonably foreseeable projects for all all DFE alternatives considered in the final array as indicated in response 1.

3. NEPA does not require that the agency consider the costs benefits of reasonably foreseeable actions. 40 CFR 1508.25(c) requires the agency to consider cumulative impacts which are defined under 40 CFR 1508.7 as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions..." A cost benefit analysis does not fit within this definition. We have carefully reviewed the cost benefits of the DFE project alternatives, as we will do for other Corps of Engineer project proposals.

4. There are no known benefits from any of the proposed bridges. The bridges are potential obstructions creating backwaters increasing the flood damages.

5. This information was provided in the PEIS, and is incorporated by reference in the SEIS. For clarity, that information has been included in final SEIS.

6. Any relief from removal of portions of the ATSF would be minor and accrue upstream of the DFE and only if backwater from downstream obstructions has been removed. The DFE was not formulated to provide optimum benefits to the CBD, and therefore removal of ATSF would not reduce the size or cost of the DFE flood damage reduction measures.

CHAPTER 4--ENVIRONMENTAL CONSEQUENCES

CUMULATIVE IMPACTS, p. 4-1

"Administrative priorities promoting nonstructural flood damage projects including buy-outs and environmental protection alternatives are becoming more prevalent." These priorities don't seem to be taken seriously by the Ft. Worth District. A reasonable and affordable nonstructural alternative to the Recommended Plan of the DFE is available that would offer much less environmental impact and better flood damage reduction. This alternative is outlined in a letter from the White House OMB director, Mitchell Daniels, to the Army Corps.

FLOOD DAMAGE REDUCTION PROJECTS, p. 4-1

"Studies underway by the City of Dallas indicate a potential for future actions to protect existing investments in the Stemmons industrial area may eventually evolve, however, nothing has been specifically elevated to the point of any specific project could be considered as reasonably foreseeable." How elevated does it have to get? We already know the Corps has fully evaluated this alternative from evidence found in the administrative record. Why the Corps continues to keep this information from us is a mystery. It's a well known fact that the Corps and the City plan to propose just such a project, but only *after* the DFE is built. This statement was given by Corps representatives, in my presence, to Mayor Miller.

7.

CUMULATIVE IMPACT IDENTIFICATION, p. 4-5

"In other cases, the information may have been developed but has not been made available to the Corps of Engineers." It is well known that the Corps has participated regularly in multi-agency meetings about the Trinity Corridor and the related projects. The fact that NTTA (through its contractor Halff Associates) has studied the hydrology and hydraulics of the toll roads and Chain of Lakes cannot be a secret to the Corps. Regardless, the fact that the toll roads EIS has been delayed, expanded to include the Chain of Lakes, and delayed again, should not prevent the Corps from asking to see it. The fact that fairly advanced and detailed schematics have been shown to the public for the toll roads alignment might suggest to the Corps that there is a large amount of study already done on the toll road project and the various alignments. The Corps does not need to wait for the data for these proposed actions "to be made available" to do a serious, factual analysis of the cumulative impacts of these mega-projects. They merely need to ask to see it.

8.

TABLE 4-2, CUMULATIVE IMPACT ANALYSIS, p. 4-6

In this table, we some indication of the importance of the data that is missing from the SEIS. Under the Floodway Levee Raise column in the Flood Damages row, we have two green triangles that mean Moderate Beneficial Effects. (There are no better effect labels than Moderate listed in the table.) People living in the Stemmons area where these beneficial effects might be felt would probably like to know how beneficial they are, and so would we. In fact, the benefits might so beneficial as to eliminate the need for the DFE swale, and prevent the devastation of the Great Trinity Forest that the DFE project would entail. Similarly, the column ATSF Bridge Modification is listed in the same row as Slight Beneficial Effects. How slight? Many slight effects might add up to a sum of Vast Beneficial Effects. Other Slight Beneficial Effects include the column Floodway Lake.

9.

On the other hand, under the column Combined Riverside and Split Riverside (toll roads) we have Slight Adverse Effects. It is reasonable to think that if we remove Slight Adverse Effects and add Slight to Moderate Beneficial Effects we get an overall Vast Beneficial Effect. So vast, in fact, that the need for the DFE (except for the protection of residents in the floodplain through a voluntary buyout) would be totally obviated.

10.

LAND USE / FLOODPLAIN VALUES, p. 4-10

"Most flood damage reduction projects, such as being evaluated in the feasibility study of the Dallas Floodway, require siting within the floodway, however, the multipurpose study and construction authorities associated with Corps of Engineers projects could ameliorate and even enhance the natural floodplain values[. (sic)]" Please explain this sentence. The Corps is claiming that the toll roads and Chain of Lakes projects within the Dallas Floodway would have basically

11.

7. The Corps disclosed in the PEIS the affects of a potential Stemmons levee. We have further accurately stated that preliminary investigations reveal this alternative doesn't appear to be feasible for implementation by the Corps. The City has indicated that if some of the proposed actions in the study were to be implemented there would be beneficial impacts to upstream and downstream H&H. Insufficient information is available to ascertain that this is a reasonably foreseeable project for the Stemmons area, other than the ongoing filling in that area that was previously permitted by the City. These fills do cause cumulative minor impacts to the adjacent areas and included that assessment in our DSEIS and in the FSEIS.

8. No agency is required to provide information to the Corps of Engineers merely because we ask. However, we have previously provided in the PEIS an analysis of the effects on H&H the various tollroad/parkway alignments would have. That information was incorporated by reference in the DSEIS and has been included in the FSEIS and utilized in our analysis of the cumulative impacts.

9. No alternatives that have been identified in the Floodway or within the Stemmons area evaluated singularly or in combination would minimize the quantity and/or timing of flood events within the downstream area of DFE to any significant level. There is a possibility however for some of the reasonably foreseeable alternatives to cause minor negative impacts to hydrology and hydraulics.

10. The authorized DFE project is to provide flood damage reduction to the residents of South Dallas. Other benefits to the CBD occur as a result of the authorized DFE project.

11. The statement indicates that the Corps has broad authority to consider multipurpose water resource related projects generating outputs and benefits such as wetlands, fish and wildlife habitat, recreation, water quality etc. The statement in no way intended to indicate the tollroads have neutral affects. Please see Tables 4-1 and 4-2 of the draft report.

"neutral effects". Well, since many of us disagree with that claim, we would like to seem some evidence or at least some data to backup that general, unsubstantiated foregone conclusion.

12. "Physical features of the project would directly impact some forestlands...; however, these losses would be mitigated, resulting in a larger area of preserved and reestablished floodplain forests." This is a misleading claim, since mitigation is intended to protect habitat equivalent to or better than that being destroyed. But this does not increase the area of the specific habitat since the area being used for mitigation could also be preserved without the necessity of mitigation, and especially because the project destroys the original area being mitigated for. In fact, habitat of rare, old-growth, bottomwood, hardwood habitat is not sufficiently available for one-to-one "mitigation" of such habitat.

p. 4-11

13. "The economic stimulus associated with the project,...would result in a higher order of economic use of the affected lands..." This intent of the DFE project contradicts the purpose of an Executive Order forbidding flood control projects intended to foster economic development (on the backs of taxpayers).

14. "The nature, location, and extent of land use changes or economic redevelopment that would occur cannot be predicted with certainty at this time." The Comprehensive Land Use Plan has already presented preliminary growth figures and maps to the City Council and to the public, so this statement would appear to be false.

ENVIRONMENTAL JUSTICE / COMMUNITY STRUCTURE, p. 4-11

15. "Until sufficient scoping of all the project proposals and coordination with affected communities can be completed, only a preliminary discussion of cumulative effect is possible." It would seem that this scoping should be the exact objective of this SEIS, but the Corps apparently admits that is has not accomplished that objective.

p. 4-12

16. "...the DFE project would result in an enhancement of the area through reductions in flood damages...and would produce positive benefits for the future." This seems like an inflated assumption, especially since the Corps just admitted that the economic redevelopment "cannot be predicted with certainty" and only a "preliminary discussion" is possible. But the most disturbing figure is we don't yet know what the cumulative flood predictions for the area would be and no data is available to compare various combinations of components or alignments.

HYDROLOGY AND HYDRAULICS, p. 4-12

17. "Thus, the cumulative hydraulic impacts would be similar to the sum of the two projects." While most of this section is speculative, generalized, unsubstantiated, unjustified conclusions, there is no data, evidence, or analysis to support any sort of impact. Furthermore, no conclusions are even presented on the impact of the Flood Damage Reduction Alternative downstream nor is it clear what the Flood Damage Reduction Alternative is. The Corps should say exactly what the impacts of the sum of the two projects would be, and provide evidence and analysis to support it.

12. The statement is correct and true. The Great Trinity Forest is currently unprotected, that is existing land owners have the option of removing the trees for firewood, clearing the lands, or whatever other purpose they should desire. Acquisition and management would protect and improve the value of these areas. In addition the mitigation plan calls for conversion of 223 acres of existing grassland to bottomland hardwood forest, thus accelerating the development of the forest. There are a few old trees within the project area that would be impacted, but the majority of the forest is neither old growth nor rare.

13. Executive Order 11988 on Floodplain Management does not prohibit floodplain development; rather it requires federal agencies to determine that there are no practicable alternatives to implementing an alternative action within the 100-yr floodplain and to take practical steps to minimize adverse impacts to the floodplain from project implementation. The authorized DFE project as designed complies with the Executive Order.

14. The CLUP is a master plan lacking official City approval and funding.

15. The statement was revised. The word "scoping" was used, inappropriately in this case, to indicate that the reasonably foreseeable project plans are not mature for decision on their own. Given these circumstances the social issues impacts assessments don't provide the accuracy that other evaluation elements have.

16. The statement is true. The DFE project would generate significant economic benefits through reduction of flood damages once implemented. Cumulative flood predications are provided in the H&H analysis.

17. The statement has been clarified in the final SEIS. In addition, data within the PEIS, incorporated by reference in the DSEIS has been included in the FSEIS.

Date: Jan. 8, 2003

To : US Corps of Engineers

From: Joe Wells, Dallas Sierra Club 2726 Kingston St. Dallas 75211

Subject: Comments on Dallas Floodway Extension SEIS

1. The SEIS fails to meet the intent of the National Environmental Policy Act because it does not adequately address how other projects in the floodplain relate to the DFE nor does it adequately quantify the cumulative impacts of these proposed projects (i.e. Trinity Parkway and Floodway Lakes) will have in combination with the DFE. These SEIS should include alternatives without the DFE project in place and should look at variations of the DFE alternatives including voluntary buy out in lieu of levees and swales.

2. The Sierra Club requests the Corps include cost-benefit figures for raising the levees by various amounts, not just by 2 to 2.5 feet.

3. The SEIS should not be completed until studies of the Proposed Toll roads and Floodway Lakes commissioned by the City of Dallas are complete (probably in April or May of 2003 according).

4. The SEIS fails to include meaningful analysis of the cumulative impacts of the Trinity Parkway and the lakes in the DFE. To Date the Corps DFE EIS, PEIS and now the SEIS have failed to comply with NEPA requirements. A Federal Court will have the opportunity to correct this repeated violation of federal law unless the Corps comply with NEPA requirements by amending this SEIS.

The Dallas Sierra Club adopts and supports comments about the SEIS, which are attached as submitted by David Gray, Ned Fritz and Campbell Green. (AS ATTACHED) AND REITERATES COMMENTS SUBMITTED EARLIER BY THE SIERRA CLUB (DALLAS CHAPTER) (ATTACHED)

Because of the significant and controversial nature of this project and lack of compliance as ruled previously by a Federal District Court with NEPA requirements the Dallas Sierra Club requests that the Corps extend the deadline for written comments.

1. The final Supplement to the DFE EIS has been modified to include disclosure of cumulative impacts of each of the final array of alternatives for the DFE as disclosed in the DFE /GRR.
2. A preliminary cost estimate for raising the existing levees by 2-feet has been included in this Supplement. More detailed evaluations are pending, awaiting decisions on potential roadway alignments or other potential developments within the floodway. Various levels of levee modifications will be analyzed during any subsequent Corps formulation within the Dallas Floodway.
3. The draft SEIS disclosed known cumulative impacts from reasonably foreseeable projects, including the parkway and lakes within the existing Dallas Floodway. Where available the hydraulic impacts were incorporated by reference to the Corps PEIS dated June 2000. Additional hydrology and hydraulic information has been included in the final SEIS to address cumulative impacts of the DFE/GRR final array of alternatives rather than just the recommended DFE plan.
4. The comment period was extended as requested.

Date: January 22, 2000
To: U.S. Army Corps of Engineers, Fort Worth District
From: Joe Wells, Dallas Sierra Club , Trinity Pkwy MIS/EIS CAC
2726 Kingston St.
Dallas, Tx. 75211
Subject: Comments on PEIS Upper Trinity River Basin DRAFT

Following review of the DRAFT PEIS on the Upper Trinity River Basin I am submitting these comments and requesting a copy of the FINAL PEIS be mailed to my home address indicated above.

1. The Dallas Sierra Club urges protection and preservation of the Trinity River floodplain, and Dallas floodway and the Trinity River's environmental values. The Dallas Sierra Club opposes proposals to construct public works projects including floodway Tollroads and Dallas Floodway Extension Levees and Swales due to the environmental damages that these proposed floodplain alteration projects will cause.

The DRAFT PEIS analysis of various public works projects does not justify the radical shift in purpose and use of the Dallas Floodway which local sponsors propose. These projects including the placement of eight lanes of Tollroads within the Dallas Floodway and the construction of Levees and a swale below the existing Dallas Floodway damage and unwisely and inappropriately convert use of the Dallas Floodway and Trinity River floodplain from its primary purpose, which is to protect over a third of the City of Dallas' tax base from flooding. Flood protection is the reason Federal and local taxpayers funded the construction of the Dallas Floodway. Flood protection should remain its primary purpose.

This DRAFT PEIS of the Upper Trinity River is a insufficient, unscientific, vague and after the fact analysis of cumulative impacts of proposed Corps of Engineers and other public works projects. The PEIS does not evaluate all direct and indirect environmental consequences of these proposed floodplain development projects per EPA guidance correspondence dated June 15, 1999. The PEIS is unclear which projects have been considered in combination in order to evaluate their combined affects of reducing flood protection, increasing flood damages and causing significant adverse impacts on environmental resources of the Upper Trinity River. While the Draft PEIS was in development significant changes in proposed public works projects have occurred. It is unclear whether these changes have been evaluated. If not the final PEIS should evaluate the combined affects of all proposed projects as they are currently proposed to be built: including City of Dallas Masterplan Lakes, park access roads, Spilt Channels, Dallas Floodway Extension, Trinity Parkway, raising current Dallas Levees and the impacts of future development activity which proponents of these combined projects claim will occur as a result.

1. See responses to this attachment within the Final Programmatic Environmental Impact Statement, Upper Trinity River Basin, Trinity River, Texas. June 2000

The Draft PEIS avoids through consideration of the indirect affects of assumed economic development which will be attracted to previously unprotected areas of floodplain along the DFE ,and in the Industrial / Stemmons area as a result of the doubling (or more) of traffic carrying capacity by proposed Stemmons Freeway and Trinity Tollroad improvements. What will the air quality and non point water pollution impacts of this new development adjacent to the floodway be on the Trinity River and its floodplain? What amount of increased flood damages will occur if flood protection is inadequate for a future flood of these newly developed properties?

The PEIS has avoided necessary consideration of EPA Section 309 and Executive Order #12898 Environmental Justice impacts of the Dallas Floodway Extension projects by inclusion of the DFE within the baseline. The direct and indirect impacts of extension of Levees are anticipated by project proponents to encourage commercial development of primarily minority low income neighborhoods including Cadillac Heights. The DFE EIS failed to consider a voluntary buyout option, which would be based on replacement costs not market values which is likely to be offered by commercial developers seeking buy out residents and rent house absentee owners following construction of Levees. Similarly Sec 309 Executive Order #12898 Environmental Justice evaluation of the local air and water pollution impacts of doubling of the freeway capacity along and within the Trinity Corridor through construction of the Trinity Tollroads and with doubling Stemmons Freeway capacity should be evaluated as a direct and indirect consequence of floodway projects evaluated in the PEIS. There is no such evaluation in the Draft PEIS.

This assessment of combined cumulative impacts should include air quality assessments since the Dallas Fort Worth area is currently designated Serious non attainment Ozone and is in the process of being further designated Severe non attainment. The PEIS should evaluate the air quality impacts associated with the construction of 8 lanes of freeway and its increased traffic volumes adjacent to the already traffic congested and future increased traffic capacity of the Stemmons Freeway and Central Business District Freeway and road systems. The PEIS should also evaluate traffic and area air pollution impacts on the proposed floodway parks and lakes which the Corps of Engineers and local sponsors propose for development adjacent to Floodway Tollroads.

This PEIS should have been completed prior to the development and Corps of Engineers adoption of the Record of Decision on the Dallas Floodway Extension Project. All current and potential future projects, which will have significant hydrological impact on the Upper Trinity River, should have been evaluated for their cumulative impacts including the Dallas Floodway Extension Project. Instead the Fort Worth District Corps of Engineers has chosen to segment the analysis of environmental impacts of various projects in order to minimize evaluation of the cumulative impacts caused by the combination of projects. The inclusion of the Dallas Floodway Extension within the baseline excludes the PEIS evaluation of its various elements (Levee and swale) on cumulative impacts that should be evaluated for the entire basin.

The 1988 Corps of Engineers Record of Decision and Corridor Development Certificate Process were developed at the urging of the Corps of Engineers in order to reduce and prevent the adverse cumulative consequences of floodplain developments and loss of Trinity River Floodplain storage capacity.

The PEIS cites the 1988 Corps of Engineers Upper Trinity Feasibility Study Record of Decision and Corridor Development Certificate criteria which state projects should not cause a rise in flood elevation, nor increases in erosive velocities, nor losses of Valley Storage. Further the Corps of Engineers has a regulatory responsibility to review and quantify projects as they relate to these criteria. The PEIS DRAFT fails in indicate the extent to which the projects evaluated violate each of these criteria. Apparently there has been no analysis of these Corps of Engineers criteria as they relate to the placement of Tollroads within the Dallas Floodway. By inclusion of the Dallas Floodway Extension in the baseline The PEIS ignores these criteria as related to the DFE construction of Levees and swale. The PEIS should include estimates based on currently available design of each proposed public works project indicating 1988 Record of Decision and CDC criteria evaluation for each project evaluated. (see attached City of Dallas July 7, 1999 correspondence to Joe Wells detailing estimates of CDC criteria variances caused by the Trinity Tollroad proposals: "10% loss of valley storage in the floodway which results in a quarter inch rise in the height of the flood discharges...velocities increase by approximately 8%") The PEIS should provide this level of assessment for each project evaluated including the Dallas Floodway Extension. In addition the Corps of Engineers should provide clear analysis in the PEIS of the combined impacts of the CDC, Record of Decision variances these projects will require, as well as the Corps of Engineers rationale for consideration of the granting of such variances. The public has a right to review this information in a timely manner and to comment on Corps of Engineers decisions related to the granting of variances.

The PEIS is vague in describing what portions of the City of Dallas Trinity Floodway Master Plan were included in the hydrologic modeling. A date of Aug 1999 is indicated, however since that time the City of Dallas has been presented a more specific plan which includes a split River Channel, A lake or two lakes, benches for placement of 8 lanes of Tollway and proposed Floodway Park roads and entrances, tree plantings, various bridge structures and other items which would have significant hydrologic impacts which should be evaluated as part of a cumulative analysis. The PEIS fails to indicate how much and specifically which of these floodway development plans were evaluated in the hydrological models. The Final PEIS should include evaluation of the most current and fully developed information regarding each of the proposed projects being evaluated in the

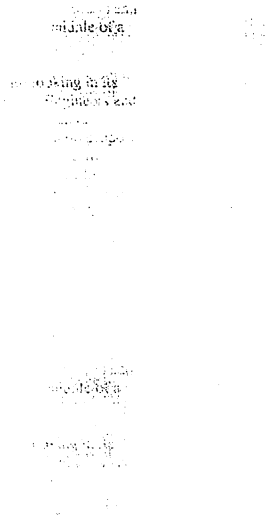
The PEIS and the Dallas Floodway Extension EIS failed to evaluate appropriately and fairly as required by Federal law and regulation non structural alternatives. These alternatives would eliminate environmental damages to the Great Trinity Forest and which should have been evaluated to see if flood protection could be enhanced. No analysis has been made of the costs / benefits of construction of flood detention lakes within the current Dallas Floodway combined with downstream voluntary buyouts.

Proponents of placement of Tollroads within the Dallas Floodway have claimed no hydrological adverse impacts will occur as a result of increasing the width of the Dallas Floodway levees by filling at a four to one slope and filling for benches to place 8 lanes of Tollway at a level on the levees which will protect the roadway to 100 year flood level, with floodwalls under the bridges. If this is so, why is the Corps of Engineers suggesting the addition of 2 feet on top of the current Dallas Floodway Levees? Is this an added public cost of conversion of the Dallas floodway from its primary use of flood protection to use as transportation facility? The PEIS does not indicate what the costs of such a project would be or if its costs / benefits would allow for Corps of Engineers funding. The PEIS also does not indicate if the Tollroad filling did not occur whether there would still be the necessity to further raise the current Dallas Levee system or to extend the Levee system and construct the swales in the Dallas Floodway Extension Project. Nor does the PEIS indicate what if any adverse hydrological impacts might occur upstream or downstream as a result of these proposals. Where in the PEIS is the analysis of the combined cumulative hydraulic impacts both up and down stream of placement of the Dallas Floodway Extension levees and swales, the Split Tollroads within the floodway combined with other currently proposed projects including raising the current Dallas Floodway levees 2 feet and construction of conveyance lakes, spit river channels, park trails, tree plantings and park road vehicle and pedestrian access points? The PEIS should also analyze the combined affects with respect to Record of Decision criteria Loss of Valley Storage, Rise in Flood Elevation, and Velocity Increases for all of these projects as currently proposed when combined.

Finally the PEIS should include an evaluation of modern alternatives to projects which have been proposed and are evaluated in the Draft PEIS. These modern approaches include previously cited floodway detention lakes combined with a voluntary buy out program in lieu of the DFE Levee extension and swales. Modern environmentally sustainable alternatives to the proposed Trinity Tollroads include urban planning policies that reduce rather than increase dependency on automobiles as the primary means of urban transportation. These alternatives include more public investment in public mass transit systems including expanded DART light rail and commuter rail. Improved DART Bus and Van services. Urban planning which stimulates pedestrian / transit oriented urban design which includes higher densities, mixed use development that reduces dependency on automobile transportation and provides for opportunities for transit and pedestrian trips to work and recreation from residential / business mixed use areas. As is stated in the PEIS the development of Trinity Floodway Tollroads would be detrimental to proposed Trinity Corridor Park and recreation uses.

Forward looking communities do not destroy their best natural open spaces, forests and future recreational areas by the placement of 1950s highways through the middle of a proposed greenbelt.

The Corps of Engineers is encouraged to be more through and forward looking in its development of the Final PEIS on the Upper Trinity River. The Corps of Engineers and local project sponsors should carefully consider the future combined cumulative environmental, social and economic consequences and long term costs of these proposals before moving forward to implement them. Both prudence and federal law requires careful consideration and analysis of the long term adverse consequences prior to construction activities. The Trinity River should be preserved and protected for its natural values of flood protection / absorption, wildlife habitat and recreational potential.



Date: June 9,1998

To: Department of the Army, Fort Worth District, Corps of Engineers
PO Box 17300, Fort Worth , Tx. 76102-0300

Attention: Gene T. Rice Jr., P.E., Project Manager GRR/EIS Dallas Floodway Extension Project.

From: Joe Wells
2726 Kingston, Dallas Tx, 75211, Ph #214 948-3714

Subject: Comments re: GRR/EIS Dallas Floodway Extension / Trinity Parkway Air Quality and Transportation Facilities impacts not addressed in Draft EIS.

Omission of Planned Trinity Parkway / Freeway Impacts Evaluation

The Draft EIS omits consideration of the significant environmental impacts of the Trinity Parkway freeway which the local sponsor of the Floodway Extension Project the City of Dallas plans to construct within the floodway and on the Levees being evaluated in this EIS. This omission is in not in conformance with NEPA requirements. The Corps of Engineer Ft. Worth District is aware and has acknowledged City of Dallas, TxDOT and North Texas Tollway Authority planning related to the construction of an eight lane freeway system within the current Dallas Floodway system and the levee systems proposed in this Draft EIS in a letter dated August 7,1997 from William Fickel Director Trinity Projects. (attached) Yet the only reference in the Draft EIS mentions a "Parkway planned by others" with no consideration of the significant Hydraulic impacts (copy excerpt from Trinity Parkway MIS attached) , Air Pollution, Noise, Water Quality and Social impacts which this very significant portion of the Floodway Extension /Trinity Parkway Projects will cause. Clearly the hydraulic impacts of the Trinity Parkway Freeway system will affect the hydraulic impacts of planned Floodway Extension and vice versa. The Trinity Parkway MIS report refers to need for channelzation, excavation, and fill within the current Dallas Floodway and the Floodway Extension being evaluated. (attached Joe Wells Trinity Parkway MIS comments detailing significant environmental impacts) Presumably the Fort Worth District Corps of Engineers is aware of NEPA requirements that federally supported projects not be segmented into smaller projects so as to minimize consideration of significant environmental impacts. The Floodway Extension and planning and construction of a freeway system within the floodway are all part of the same federally supported public works project. The planning for the transportation projects is being coordinated among all the agencies involved including the local sponsor the City of Dallas. The impacts of the transportation projects must be evaluated within the same EIS as the Floodway Extension in order to fully measure and evaluate the impacts of the entire project. Evaluation in two separate EIS processes fails to comply with NEPA requirements.

Air Quality Impacts

The significant regional and localized adverse air quality impacts associated with the Trinity Freeway within the Floodway transportation projects including increased Nox emissions and depending of volume of traffic, congestion and speeds VOCs , particulate and Carbon Monoxide are completely omitted from consideration in the Draft EIS. Air quality impacts which are referred to in the Draft EIS are understated. No mention or evaluation is made of the future area and stationary source emissions which will result from commercial development in areas removed from the floodplain by construction of Levees. Commercial industrial development has already been permitted and encouraged by the City of Dallas within and adjacent to the Cadillac Heights neighborhood and Lamar street areas. According to an editorial by Henry Tatum May 98 in the Dallas Morning News more commercial development in areas "protected from flooding" by the Levee Extension projects is planned. Currently a Meat Rendering Plant and Chromium Recycling facility are sources of odor and toxic emissions adversely affecting the quality of life of residents of the Cadillac Heights neighborhood. This low income minority neighborhood formerly was subjected to lead emissions from a lead smelter. The impacts of future commercial industrial development in areas taken out of the floodplain by the Floodway Extension Projects should be evaluated in the EIS.

In addition the Draft EIS claims air quality benefits due to planned preservation of project mitigation areas, when without the project it is likely the same vegetation air quality benefits will be present since the mitigation areas are within the floodplain of the Trinity River and not subject to development or removal of trees as a result of federal, state and local regulation and law. Finally the Draft EIS claims air quality benefits through restoration and improvement of mitigation area forests. No mention of the timing of this claimed benefit as compared with the certainty of the negative air quality impacts associated with the Floodway Extension /Trinity Freeway projects which at a minimum will eliminate several hundred acres of high quality hardwood bottomland forest containing thousands of trees. This decrease in air quality benefits will occur at the time of project construction and any mitigation will occur slowly thereafter if at all. If the local sponsor City of Dallas is responsible for the restoration and maintenance of mitigation areas the City of Dallas track record in maintaining the current floodway has not been good. The City of Dallas does not have proven experience or demonstrated commitment to natural area restoration.

The Draft EIS characterizes the air emissions impact of off road mobile source construction equipment as "insignificant". According to the most recent regional air emissions inventory 18% of the VOC emissions come from off road mobile sources. The Floodway Extension and Trinity Parkway / Freeway/ Chain of Lakes projects will be one of the largest public works projects ever constructed in the region and will require a large amount of earth moving equipment to be used over a period of years. The air emissions of such a project must be determined and its impact on the regions long term air pollution non attainment problem be gauged in order to assess its impact and consider alternatives fairly.

Attachments

Joe Wells

From: Read, Campbell [cread@mail.smu.edu]
Sent: Wednesday, January 08, 2003 3:22 PM
To: Read, Campbell
Cc: bezanson@texas.net; eefritz@hotmail.com; dgray@rsn.hp.com; Joe Wells; birdielisa@earthlink.net; Campbell Read; conniesandlin@hotmail.com; lisaspra@airmail.net; Marcy Brown; onwings@mail.airmail.net; reh20@amdahl.com; schmotten@aol.com; seyshel@earthlink.net; WBUDallas@aol.com
Subject: Response to the Army Corps of Engineers Supplement to the EIS for the Dallas Floodway Extension

January 8, 2003
To U.S. Army Corps of Engineers
Fort Worth District

From Campbell Read

Comments on the Supplement to the EIS for the Dallas Floodway Extension

The attitude of the Corps at the scoping meeting held in Dallas in 2002 was that they do not plan on reevaluating the Dallas Floodway Extension (DFE). Instead, they interpret the Court's ruling to require them only to comment on cumulative impacts of foreseeable future projects upstream of the DFE without regarding any of these projects as alternatives to the DFE. The attitude of the Corps in this matter is unacceptable.

That attitude is reflected in the EIS Draft Supplement. On page 2-3 it states:

"Until formal notice is made by the City of Dallas regarding their support of a plan that is different from that for which they have formally provided an endorsement, alternate plans discussed by individuals or the media cannot be considered as reasonably foreseeable. The plan recommended in the 1999 GRR/EIS, therefore, remains the Recommended Plan for analysis in this Supplement to the DFE EIS".

In our opinion, each and every project reviewed by the Corps in the Draft Supplement to the EIS should be regarded as a potential alternative to the DFE. Such an opinion is consistent with that part of the Federal Court order requiring the DFE project to be stopped. At the 2002 scoping meeting I asked Gene Rice why he thought the Court had ordered the DFE project to be stopped and he replied that he didn't know. However, "I don't know" isn't good enough as an answer. It certainly makes no sense for the Court to concur with the point of view in the quotation I just made from the Supplement to the EIS, and then to order the DFE project to be stopped. It makes no sense at all and Mr Rice knows that.

Chapters 4, 5, and 6 of the GRR/EIS [General Reevaluation Report and Integrated EIS for the DFE] of 1999, for example, contain multiple tables listing estimated costs and benefits in dollar terms of the so-called Recommended Plan as compared with making no changes to the floodplain. No such tables appear in this new Supplement, but we should all demand that they be compiled to include costs and benefits resulting from raising the Dallas Floodway by various heights, not only by 2 to 2.5 feet. The Corps argues that the lack of final agreement on the alignment of the so-called Trinity Parkway prevents them from computing costs and benefits deriving from it. But they have no such excuse where raising the Floodway levees by specified amounts is concerned; they can and must, produce a cost/benefit analysis.

If you turn to the discussion of raising the Floodway levees on page 3-11 of the Supplement, you will find that the discussion is confined to where the dirt would come from and where it would be put. That is all that the Corps presents on the subject of raising the levees. There is no related cost/benefit study that could be compared with those in the GRR/EIS for the so-called DFE Recommended Plan. The reason why the Corps has declined to do such a study, however, is plain. They are afraid that such a study would show the DFE to be less cost-effective than raising the Floodway levees, with the

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1. This attachment to Mr. Wells' comments was provided directly by Campbell Read as well. See responses to these comments on Mr. Read's submittal.

undeniable consequent conclusion that the DFE would no longer remain viable under the Corps's own rules.

[For Save the Trinity, TCONR and (in the past) Audubon Dallas]

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Comments on Supplement No. 1
To the
Environmental Impact Statement
Dallas Floodway Extension
Trinity River, Texas

January 8, 2003

David B. Gray
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General

This SEIS is intrinsically flawed for summarizing the "cumulative impacts" of one only alternative for the DFE, the Recommended Plan. The Corps has assumed that for the purposes of this Supplement the DFE has been built in place according to the Recommended Plan. But the purpose of an EIS is conduct an evaluation of the alternatives and impacts of those alternatives in order to be sure the most optimal plan is chosen.

The federal judge has remanded the DFE EIS back to the Corps to conduct an analysis of cumulative impacts. It is insufficient to simply say that all "reasonable and foreseeable actions" will add some more or less cumulative impacts to the DFE. It is necessary to compare the cumulative impacts of such actions with each of the alternatives, e.g., the No Action plan. Only with a comparison of the full impacts of all related actions can a reasonable and informed choice of the least damaging and most beneficial alternative be made.

Furthermore, there are no data or evidence with analysis presented to back up any of the specious claims made by the SEIS. There are no cost-benefit estimates for any of the proposed, reasonably foreseeable, or other actions in combination with or without the DFE.

SUMMARY
Summary of Major Environmental Effects, p. vii

"These bridges were not evaluated in this Supplement..." The proposed Calatrava suspension bridges could very well provide beneficial flood water elevations effects in the Dallas Floodway, reducing the need for the badly damaging swale of the DFE's Recommended Plan. (It could, however, expand the floodplain of the DFE project area.)

Areas of Controversy, p. vii

"The potential for resultant adverse impacts created the need to address the environmental consequences of the reasonably foreseeable actions." This is a wise statement, but this SEIS completely fails to carry it out. We still do not what the flood surface elevations of all the reasonably foreseeable actions (DFE, toll roads inside the levees, Chain of Lakes, AT&SF bridge, suspension bridges, etc.) Without data and without comparisons, we are unable to determine whether or not, in fact, the DFE actually does provide any benefits that other actions already proposed or planned don't also provide, which if proven would make the DFE a huge waste of money with devastating ecological impacts.

CHAPTER 3--AFFECTED ENVIRONMENT

FLOOD DAMAGE REDUCTION
Removal/Replacement of ATSF , p. 3-26

"...thus potentially providing hydraulic relief while while maintaining possible trail access." Well, how much relief? Is this a significant and inexpensive way to relieve flood elevations in the Dallas Floodway? If so, this action would reduce the extent and cost of the DFE swale.

CHAPTER 4--ENVIRONMENTAL CONSEQUENCES

CUMULATIVE IMPACTS, p, 4-1

"Administrative priorities promoting nonstructural flood damage projects including buy-outs and environmental protection alternatives are becoming more prevalent." These priorities don't seem to be taken seriously by the Ft. Worth District. A reasonable and affordable nonstructural alternative to the Recommended Plan of the DFE is available that would offer much less environmental impact and better flood damage reduction. This alternative is outlined in a letter from the White House OMB director, Mitchell Daniels, to the Army Corps.

FLOOD DAMAGE REDUCTION PROJECTS, p. 4-1

"Studies underway by the City of Dallas indicate a potential for future actions to protect existing investments in the Stemmons industrial area may eventually evolve, however, nothing has been specifically elevated to the point of any specific project could be considered as reasonably foreseeable." How elevated does it have to get? We already know the Corps has fully evaluated this alternative from evidence found in the administrative record. Why the Corps continues to keep this information from us is a mystery. It's a well known fact that the Corps and the City plan to propose just such a project, but only *after* the DFE is built. This statement was given by Corps representatives, in my presence, to Mayor Miller.

CUMULATIVE IMPACT IDENTIFICATION, p. 4-5

"In other cases, the information may have been developed but has not been made available to the Corps of Engineers." It is well known that the Corps has participated regularly in multi-agency meetings about the Trinity Corridor and the related projects. The fact that NTTA (through its contractor Halff Associates) has studied the hydrology and hydraulics of the toll roads and Chain of Lakes cannot be a secret to the Corps. Regardless, the fact that the toll roads EIS has been delayed, expanded to include the Chain of Lakes, and delayed again, should not prevent the Corps from asking to see it. The fact that fairly advanced and detailed schematics have been shown to the public for the toll roads alignment might suggest to the Corps that there is a large amount of study already done on the toll road project and the various alignments. The Corps does not need to wait for the data for these proposed actions "to be made available" to do a serious, factual analysis of the cumulative impacts of these mega-projects. They merely need to ask to see it.

TABLE 4-2, CUMULATIVE IMPACT ANALYSIS, p. 4-6

In this table, we some indication of the importance of the data that is missing from the SEIS. Under the Floodway Levee Raise column in the Flood Damages row, we have two green triangles that mean Moderate Beneficial Effects. (There are no better effect labels than Moderate listed in the table.) People living in the Stemmons area where these beneficial effects might be felt would probably like to know how beneficial they are, and so would we. In fact, the benefits might so beneficial as to eliminate the need for the DFE swale, and prevent the devastation of the Great Trinity Forest that the DFE project would entail. Similarly, the column ATSF Bridge Modification is listed in the same row as Slight Beneficial Effects. How slight? Many slight effects might add up to a sum of Vast Beneficial Effects. Other Slight Beneficial Effects include the column Floodway Lake.

On the other hand, under the column Combined Riverside and Split Riverside (toll roads) we have Slight Adverse Effects. It is reasonable to think that if we remove Slight Adverse Effects and add Slight to Moderate Beneficial Effects we get an overall Vast Beneficial Effect. So vast, in fact, that the need for the DFE (except for the protection of residents in the floodplain through a voluntary buyout) would be totally obviated.

LAND USE / FLOODPLAIN VALUES, p. 4-10

"Most flood damage reduction projects, such as being evaluated in the feasibility study of the Dallas Floodway, require siting within the floodway, however, the multipurpose study and construction authorities associated with Corps of Engineers projects could ameliorate and even enhance the natural floodplain values[. (sic)]" Please explain this sentence. The Corps is claiming that the toll roads and Chain of Lakes projects within the Dallas Floodway would have basically

"neutral effects". Well, since many of us disagree with that claim, we would like to seem some evidence or at least some data to backup that general, unsubstantiated foregone conclusion.

"Physical features of the project would directly impact some forestlands...; however, these losses would be mitigated, resulting in a larger area of preserved and reestablished floodplain forests." This is a misleading claim, since mitigation is intended to protect habitat equivalent to or better than that being destroyed. But this does not increase the area of the specific habitat since the area being used for mitigation could also be preserved without the necessity of mitigation, and especially because the project destroys the original area being mitigated for. In fact, habitat of rare, old-growth, bottomwood, hardwood habitat is not sufficiently available for one-to-one "mitigation" of such habitat.

p. 4-11

"The economic stimulus associated with the project,...would result in a higher order of economic use of the affected lands..." This intent of the DFE project contradicts the purpose of an Executive Order forbidding flood control projects intended to foster economic development (on the backs of taxpayers).

"The nature, location, and extent of land use changes or economic redevelopment that would occur cannot be predicted with certainty at this time." The Comprehensive Land Use Plan has already presented preliminary growth figures and maps to the City Council and to the public, so this statement would appear to be false.

ENVIRONMENTAL JUSTICE / COMMUNITY STRUCTURE, p. 4-11

"Until sufficient scoping of all the project proposals and coordination with affected communities can be completed, only a preliminary discussion of cumulative effect is possible." It would seem that this scoping should be the exact objective of this SEIS, but the Corps apparently admits that is has not accomplished that objective.

p. 4-12

"...the DFE project would result in an enhancement of the area through reductions in flood damages...and would produce positive benefits for the future." This seems like an inflated assumption, especially since the Corps just admitted that the economic redevelopment "cannot be predicted with certainty" and only a "preliminary discussion" is possible. But the most disturbing figure is we don't yet know what the cumulative flood predictions for the area would be and no data is available to compare various combinations of components or alignments.

HYDROLOGY AND HYDRAULICS, p. 4-12

"Thus, the cumulative hydraulic impacts would be similar to the sum of the two projects." While most of this section is speculative, generalized, unsubstantiated, unjustified conclusions, there is no data, evidence, or analysis to support any sort of impact. Furthermore, no conclusions are even presented on the impact of the Flood Damage Reduction Alternative downstream nor is it clear what the Flood Damage Reduction Alternative is. The Corps should say exactly what the impacts of the sum of the two projects would be, and provide evidence and analysis to support it.

Please comment to me on the following proposed answer, and use if you wish.

Answer to Corps Draft of Trinity, December , 2002

The Army Corps has attempted to slip through its analysis of the Court's order without presenting data or even key facts, but mainly with self-serving claims. They also are inadequate.

On page 4-6, under Aquatic Resources, the draft says that the downstream project "would not generate as many acres of surface waters as plans consisting of lakes between the Dallas Floodway levees, but the quality of the aquatic habitat created would be greater". This almost admits that the upstream lakes would reduce the habitat between the levees. It further implies that such reduction would be less downstream. It fails to provide data. It evades an admission that the more lakes or new channels the Corps would create between existing channels, the less forest and natural plants would remain there, and the more flooding would occur downstream (an excuse for new swales).

The draft does not even present acreages much less damages, of destroyed or harmed areas.

On page 4-6, the Corps further states, "Most of the flood damage reduction projects identified have only a minor potential to cause direct impacts to wetlands." It presents no data. Actually, the projects would wipe out huge acreages of natural wetlands. The projects also would cut swales through excellent natural forests.

It says, "these impacts would only be minor from a cumulative standpoint". Once again it fails to present data. Actually, the impacts will include ruination of an immense part of the Great Trinity Forest.

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1. This document was also attached to Mr. Wells written comments. It appears to be comments to Mr. Wells from Mr. Fritz. Mr. Fritz submitted comments directly to the Corps as well. Please see specific responses to Mr. Fritz's comments.

Toward the bottom of page 4-6, it finally claims it would conduct mitigation (which would never make up for the loss of forest) but adds, without data, "cumulative impacts would be minor, primarily resulting from the relocation of these resources at a different site from where they occurred". It never gives data or details. We say that the replacement of natural resources would be highly destructive and virtually meaningless.

On p. 4-9, the Army Corps writes vaguely of two losses of areas and loss of 70 acres of forest, "the majority of which has been identified within the White Rock Creek corridor". It does not say exactly where. Actually, an extension of levees downstream from existing levees, plus a series of wide swales, would eliminate more of the Great Trinity Forest, barely mentioned by the Army Corps as the "bottomland hardwood forest ecosystem". The Corps says vaguely, "In addition, the recommended environmental restoration project feature, which includes the development of emergent wetlands, would help reverse the trend to losses to this important resource, by restoring 123 acres". It never says how, or precisely where. Actually, cutting the forest for swales and levees would ruin much more of the ancient forest and will never be adequately replaceable anywhere else, no matter where the Corps might offer to replace it.

As to air quality, the Corps, at top of p. 4-10, evades data, especially as to new roads between levees, by saying it would be determined during detailed studies. Obviously, toll roads between levees would inflict harmful air on any persons walking or boating between levees, and on any animals or birds there.

On p. 4-10, the draft refers to "some forestlands that have developed during the past 30 to 40 years', but never says where they are, how valuable they are environmentally, nor how much

it would cost to mitigate them, as proposed. They would probably be better for society left as they are, and better for birds and animals. Trees in Great Trinity Forest are in ages up to hundreds of years.

On p. 4-11, the Draft Supplement mentions Cadillac Heights but fails to consider the alternative of a voluntary buyout, which environmentalists have urged. Laura Miller supported it, as councilwoman, and now supports at least a partial buyout as mayor. A buyout would enable all the residents to move out of the floodplain, including out of the area where residents are subject to unhealthful soil contaminated by previous business operations. The City of Dallas is now planning about the voluntary buyout of at least part of Cadillac Heights. A full buyout would relieve the houses from needing a swale and levee through the Great Trinity Forest. The Army Corps should consider this, making a swale and levee unnecessary, and thereby saving the Great Trinity Forest for all.

On p. 4-14, the Corps' Draft says, "recommended DFE project would not contribute to cumulative noise impacts". Actually, the proposed toll roads would create loud noises, as well as harmful air discharges for quite a distance from whereever such roads would be built. Inside the existing levees, the noises and bad air will harm everyone who walks or boats between the levees.

On p. 4-14, the Draft admits that unnamed endangered species may migrate through the proposed area, and that the least tern nests in the Wastewater Treatment Facility. Actually, the least tern also nests in other parts of the natural area involved in this proposal. All endangered species in the area would be even more endangered by the proposal.

On p. 4-16, the Corps Draft agrees "to maximize forested resource benefits". It should Present data on locations, specify costs, and benefits. Actually, virtually all species would survive far better if none of the proposed roads, lakes, new swales, and new levees were built.

On p. 4-16, the Corps states that "its policy specifies no net loss of wetlands". It should provide new plans in conformance with this policy before further Court orders. The Corps cannot carry out the 1998 bond program, including swales and levees through the Great Trinity Forest, without a net loss of the wild wetlands scheduled to be heavily cut, swaled, and levied by the Corps.

By NED FRITZ.

TRINITY COMMONS FOUNDATION

January 8, 2003

Dear Sirs,

The decision time is now. In 1965, Congress saw the need for increased flood protection in Dallas. In 1998, we finally came up with a plan that met the government guidelines and also won community approval. That year, the citizens of Dallas approved $86.2 million for flood protection in the Trinity River corridor.

1. The need for the project is clear. It will protect 13,000 homes and businesses and avoid the losses from a major flood that are estimated to be $8 billion. Additionally, this effort will help protect the Central Wastewater Treatment Plant (CWWTP). If that facility should ever flood, raw sewage would back up into homes, businesses, churches, and schools. In the past four years, Houston and New Braunfels have experienced flood levels that would have overtopped the levees, flooding downtown and west Dallas, and inundated the CWWTP if they had occurred here.

2. Because of the complexity of the overall Trinity project, it is not just flood protection, but it is also lakes and transportation improvements, the Environmental Impact Statement has been a long time coming. The writers and the readers of such documents normally deal with one project, like a levee or a lake, not three.

3. Five years is a long time to wait, thirty-eight years is a really long time to wait. The need is real. All lawsuits have been decided in our favor or else are still in court. City Council authorization should happen this year. The time for hesitation is past, the time for moving forward is now.

Sincerely,

Mary Ceverha

Mary Ceverha
President,
Trinity Commons Foundation

c/o DCVB • 325 N. St. Paul, Suite 700 • Dallas, Texas 75201
Recreation · Conservation · Transportation

1. We concur that the benefits of providing the DFE exceed the costs.

2. The overall Trinity project is indeed a complex array of potential flood damage reduction, ecosystem restoration, recreation, and transportation options. Determination of the specific components or projects that would ultimately be constructed remains to be decided.

3. As identified by the District Court, the GRR/EIS failed to adequately address the cumulative impacts of reasonably foreseeable actions in the geographic area of the DFE. This SEIS was prepared to addresses that decision.

Trinity River Expeditions 615 South Montclair Dallas, Texas 75208 214-941-1757

February 1, 2003

Mr. Gene T. Rice, Jr.
Project Manager
U. S. Army Corps of Engineers
Fort Worth District
CESWF-PM-C
P. O. Box 17300
Fort Worth, Texas 76102-0300

Mr. Rice:

This letter contains comments in response to the publication of the Draft Supplement No. 1 to the Environmental Impact Statement for the Dallas Floodway Extension, Trinity River, Texas (DSEIS). These comments reflect my own views as a citizen of Dallas, as a Board member of the Save Open Space organization of Dallas County, as a member of Save the Trinity, as a member of the Trinity River Action Coalition, as owner of a business which provides aquatic recreation opportunities on the Trinity River and as a long time canoeist on the Trinity.

1. The DSEIS has been required by the U. S. District Court for the consideration of the cumulative impacts of other similar, reasonably foreseeable future projects in the same geographical area as the Dallas Floodway Extension (DFE) project. Cumulative effects analysis should start with the establishment of a baseline condition against which the proposed action and reasonable alternatives can be evaluated. A correct determination of the baseline condition for the DFE would evaluate the "no-action" alternative considering the cumulative effects of all past, present and reasonably foreseeable actions, such as the Trinity Parkway, The Chain of Lakes, the raising of the existing levees in the Dallas Floodway and the removal of the AT&SF trestle and embankment in the Dallas Floodway. This has not been done. In the DSEIS the effects of the DFE are considered to be part of the baseline conditions. The DSEIS has not accurately described the baseline conditions against which the DFE project and reasonable alternatives should be evaluated.

2. The DSEIS has some analysis of the effects of reasonably foreseeable projects but it does not analyze the cumulative impacts of these projects, especially not with the DFE in place. The cumulative impacts of the raising of the existing Dallas Floodway levees, the construction of the Chain of Lakes and their function as conveyance basins, construction of the Trinity Parkway, and the removal of the AT&SF trestle and embankment to improve conveyance and lower flood levels will remove the threat of flooding from the Central Business District and the economic justification for the DFE as proposed.

3. The DSEIS does not identify and evaluate proposed actions or proposals that directly affect the DFE. There will be significant cumulative impacts related to the Dallas Floodway associated with the Trinity Parkway, the Chain of Lakes, Dallas Floodway modifications and other projects. There is no discussion of these clearly proposed actions and their cumulative

1. The final document addressed the five final alternatives of the Dallas Floodway Extension (DFE) with various potential projects by others to determine the cumulative impacts of each scenario.

2. The final SEIS addresses the five final alternatives of the DFE relative to various potential projects by others to determine the cumulative impacts of each scenario using the best available data for each of the projects that have not been fully studied or designed. A new economic analysis of the DFE project was not considered necessary to evaluate the cumulative impacts of the projects.

3. The final document addressed the five final alternatives of the DFE with various potential projects by others to determine the cumulative impacts of each scenario using the best available data for each of the projects (including hydrology and hydraulics), which have not been fully studied or designed.

effects such as the cumulative hydrology and hydraulics, including the specific data on increases or decreases of water levels associated with the projects without the DFE, the impact on the Great trinity Forest, the impact on air quality, the impact on water quality and wetlands, or the impact on land use and development.

4. The decision of the U. S. District Court directs the Corps of Engineers to give "further consideration of the cumulative impacts of other similar, reasonably foreseeable future projects in the same geographical area as the DFE project." The dominant geographical feature in the DFE project area is the Trinity River, certainly by virtue of its periodic flooding which nominally necessitated the DFE project in the first place. The propensity of the river for flooding is due to its extensive drainage area in the Upper Trinity River Basin, over 6000 square miles upstream of the Commerce Street bridge in the Dallas Floodway, all of which drains into one waterway, the Main Stem of the Trinity River in the Dallas Floodway and the DFE project area. Every drop of runoff water in this 6000 square mile watershed will find its way into the Trinity Main Stem running through the DFE project area. The "same geographical area" for purposes of the U. S. District Court decision and the DSEIS is the Upper Trinity River Basin upstream of the furthest downstream portion of the DFE project area. The river does not begin or end at municipal or county boundaries, nor are the effects of projects upstream of the DFE project area limited by political boundaries. The cumulative impacts of projects in the Upper Trinity Basin, past, present, proposed and reasonably foreseeable are and will be felt in the DFE project area, such as the cumulative effects of the highway, bridge, or other construction projects in the Upper Basin where the area of jurisdictional waters impacted was below the threshold for mandated compensatory hydrologic or environmental mitigation, or the cumulative effects of the projects in the Upper Basin which involve alterations to the valley storage or conveyance characteristics of the floodplain. The importance of defining the "same geographical area" of the court decision as the entire Upper Trinity River Basin upstream of the DFE project area derives from the shape and drainage characteristics of the basin, all 6000 square miles of which drains entirely into the DFE project area, and from the resultant opportunity for cumulative incremental effects from projects over this large area to produce significant combined effects on the DFE project area.

5. Table 4-2, Cumulative Impact Analysis, Dallas Floodway Extension, does not give specific data on the potentially impacted area or resource for the projects listed, only a subjective evaluation of slightly or moderately adverse or beneficial effects.

6. What proposal exists to mitigate the impacts on wetlands due to fill excavation in the Dallas Floodway that would result from a levee raise, as mentioned on page 4-6 under the heading of wetlands? Please comment in detail on the proposal referenced in the DSEIS. The Ecosystem Restoration Project, Old Trinity River, Dallas, referred to on page 3-14 has not been publicly announced or discussed for several years. If this study and project are indeed taking place, what is the most current status and recent history of this project? If this project is actually going to proceed and if the associated effects of environmental restoration are to be considered as cumulative effects of nearby projects on the DFE, what is the proposed source and amount of funding, and what are the details of the construction schedule?

7.

4. The geographic area of consideration has been expanded to address potential water resource related projects with the Upper Trinity River Basin watershed.

5. The cumulative impact analysis presented in Table 4-2 is based on data found in Table 4-1.

6. The potential project of raising the existing Dallas Floodway levees has not been fully studied and therefore, the requirement for mitigation has not been determined.

7. The City of Dallas is the sponsor for studies ongoing on the Old Trinity 1135 project. The status of the project is unchanged from that disclosed in the draft SEIS. If approved by Dallas and the Corps of Engineers, Plans and Specifications would commence in early FY 04 and construction would start in late FY 04 and continue over a two-year period.

[redacted]

8. Please resolve the inconsistency between the statement on page 3-5 under the heading Dallas Floodway which says "The area between the levees of the existing Dallas Floodway consists of about 10,500 acres of urban open space" with the statement on page 3-10 under the heading Dallas Floodway (Interim Feasibility Study) which says "The Floodway extends along the Trinity River upstream from the AT&SF Railroad Bridge ... to the confluence of the Elm and West Forks ... then upstream along the West Fork for approximately 2.2 miles and upstream along the Elm Fork approximately 4 miles. There are approximately 1,422 acres in the study area." Are there 10,000 acres in the Dallas Floodway as stated on page 3-5 or are there 1,422 acres in the Dallas Floodway as stated on page 3-10? On page 3-10 it is stated that there are 51 acres of emergent wetland in the Dallas Floodway; I know from long years of personal experience in the Floodway that there are many more acres of emergent wetland than that. Please substantiate in detail your claim that there are only 51 acres of emergent wetlands in the Dallas Floodway, with specific references to national wetland inventories and other databases for verification.

9. What is the most current status on the Tarrant Regional Water District project mentioned in Table 3-1 on page 3-9 concerning the West Fork to Lake Worth and the Clear Fork to Lake Benbrook? Is this the same project that would involve turning the West Fork into a lake around Downtown Fort Worth? What is the most current status of the West Fork Corridor Major Investment Study mentioned on page 3-24? This is another study that has not been heard of for several years. The details of these and other reports and projects pertain to the cumulative effects of other projects on the DFE project area, and sufficient data for analysis has not been included in the DSEIS. The status of these reports is important for determining whether or not projects are likely to proceed, and whether or not their cumulative effects will be relevant to the DFE project.

10. On page 3-33 under the heading Frazier Dam Modification (Application Number 200100031) the last sentence states "It is anticipated that the increased water surface elevation within the Elm Fork channel would also result in some minor changes to the vegetation on the vertical surface of the river bank as well as a short distance horizontally from the channel." Does this statement mean that the loss of the only population of cardinal flowers (Genus Lobelia) known within the Dallas city limits, out of only three populations along the entire Elm Fork, due to raising the water level, is considered "minor changes to the vegetation?" These beautiful fall blooming perennials, usually found in deep East Texas, grow within a few feet of the waterline at a very few locations on the Elm Fork, but they cannot survive being inundated. Can the cumulative effects of various projects be accurately assessed when those same effects are minimized by the Corps, such as describing the extermination of rare wildflowers directly caused by the effects of a project, in this case a dam modification to raise water levels, as "minor changes to the vegetation?" Please comment on why the loss of these beautiful and rare wildflowers is considered "minor."

11. On page 4-14 of the DSEIS under the heading of Sections 9 and 10 Rivers and Harbors Act the split channel around the lakes in the Dallas Floodway is mentioned. The planned dams across the Main Stem of the Trinity River, a navigable waterway, at the downstream ends of

• Page 3

8. The text on page 3-5 of the draft was changed to clarify that the 10,500 acres associated with the Dallas Floodway include the area protected by the levees. The 1,422 acres in the Dallas Floodway study area were preliminarily identified as part of the ongoing vegetation analysis of the Dallas Floodway studies.

9. Description of the Central City and Riverside Oxbow studies that are both TRWD sponsored have been clarified in the Final SEIS. These studies are ongoing and have not been developed sufficiently to determine that a reasonably foreseeable activity would occur. As demonstrated for projects that are further along in the planning process which are located closer to the DFE area and can actually be viewed as "reasonably foreseeable" transportation projects, only minor impacts that could easily be mitigated have been identified. These findings indicate, prior to completion of studies of all reasonably foreseeable projects, that with mitigation as appropriate, their cumulative impacts to the DFE project would not be significant.

10. The cardinal flower is not a rare flower. The potential impacts are unknown to this flower, as its location is not known. During the comment period for the Frazier Dam Modification, no comments were received concerning impacts to this flower; therefore, it can be assumed that the potential impacts are minor, if any.

11. Selected early alternatives for lake construction in the Dallas Floodway considered an on channel lake, but the plans that appear reasonably foreseeable do not include on-channel dams. Also it is important to recognize that this SEIS does not have as its intent to authorize any activities of others entities, only to disclose how activities of others may cumulatively impact resources and determine whether these cumulative impacts effect DFE plan formulation. Further, this SEIS does not exempt other projects from complete environmental review, nor from compliance with Sections 9 and 10 of the Rivers and Harbors Act.

[redacted]

the split channels are an integral part of that plan, and would seem to contradict the statement in the preceding paragraph, "Since no evaluated alternative considers construction of a dam across a navigable waterway, Section 9 need not be considered further." Commercial recreational navigation has been taking place on the Trinity Main Stem for well over a decade - that is my business and my livelihood. I have established my company, Trinity River Expeditions, as a legitimate commercial business, I conduct guided and non-guided boat trips upon the river for which I am paid by my clients, and this is my sole occupation. Why does the Corps refuse to recognize that commercial navigation is taking place on the Trinity River, as stated on page 4-15 "...no commercial navigation occurs on the Upper Trinity River."? The completed boat ramp at Sylvan Avenue on the Main Stem and the boat ramp under construction at South Loop 12 on the Main Stem are concrete municipal recognition of the positive recreational qualities of the 10 mile stretch of river between the two ramps, yet this section will be segmented for both commercial and recreational boaters by the split channel dams. Would this not rightly be considered under Section 9 of the Rivers and Harbors Act as structures affecting the course, condition or capacity of navigable waters of the United States? Since the section of river between Sylvan and Loop 12 begins in the Dallas Floodway and ends in the southern end of the DFE project area, would not the effects of the split channel dams on navigation be considered among the cumulative impacts of a proposed project in the same geographical area, the split channel lakes, on recreation, recreational navigation and commercial navigation in both the Dallas Floodway and the DFE project area? Please respond to these issues and questions in detail.

Thank you for your serious consideration of these important issues. Please contact me if you have any questions or need more information about any of the subjects under discussion.

Sincerely,

Charles J. Allen

Charles J. Allen
Owner, Trinity River Expeditions

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January 24, 2003

Via Federal Express
Mr. Gene T. Rice, Jr., Project Manager
CESWF-PM-C
U.S. Army Corps of Engineers - Fort Worth District
819 Taylor, Room 3A28
Fort Worth, Texas 76120

RE: Comments to the Draft Supplement No. 1 to the EIS for the Dallas Floodway Extension Project of December 2002

Dear Mr. Rice:

In accordance with the U.S. Corps of Engineers January 14, 2003 notice extending the comment period until February 4, 2003, the comments enclosed are in response to the December 6, 2002 Notice of Availability published in 67 Federal Register 72669 regarding the Draft Supplement No. 1 to the Environmental Impact Statement for the Dallas Floodway Extension, Trinity River, Texas.

Thank you for your attention to this matter. Should you have any questions, please contact me at (713) 524-1012.

Sincerely,

BLACKBURN CARTER, P.C.

by _____
James B. Blackburn, Jr.

Enclosures

c: Mr. Howard A. Borg ***Via Certified Mail/RRR: 7002 2030 0001 8123 2438***
Assistant United States Attorney
801 Cherry Street, Suite 1700
Fort Worth, Texas 76102-6897

Mr. Rex Crosswhite ***Via Certified Mail/RRR: 7002 2030 0001 8123 2452***
U.S. Corps of Engineers
Department of The Army
Room 2A08, Federal Building
819 Taylor Street
Fort Worth, Texas 76102

EXHIBIT 1

Considering Cumulative Effects Under the National Environmental Policy Act
Council on Environmental Quality
January 1997

COMMENTS BY JAMES B. BLACKBURN, JR.
TO THE FORT WORTH DISTRICT OF
THE U.S. ARMY CORPS OF ENGINEERS
ON THE SUPPLEMENTAL DRAFT
ENVIRONMENTAL IMPACT STATEMENT
FOR THE DALLAS FLOODWAY EXTENSION PROJECT

COMMENTS
TO THE FORT WORTH DISTRICT OF THE U.S. ARMY CORPS OF ENGINEERS ON THE SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE DALLAS FLOODWAY EXTENSION PROJECT

James B. Blackburn, Jr.
BLACKBURN CARTER, P.C.
January 20, 2003

These comments are submitted to the Fort Worth District of the United States Army Corps of Engineers (Corps) on behalf of several environmental and neighborhood groups in response to the Supplemental Draft Environmental Impact Statement (SDEIS) for the Dallas Floodway Extension (DFE) project released December 2002. Specifically, these comments are submitted on behalf of the Texas Committee on Natural Resources, the Dallas County Audubon Society, the Sierra Club, the Dallas Historic Tree Coalition, Taxpayers for Sensible Priorities, Friends of the Earth, Save the Trinity, and Citizens for a Safe Environment, litigants against the Corps of Engineers. To the extent that any of these groups have filed comments individually, these comments are intended to supplement those filings.

These comments are divided into two parts. In the first part, the deficiencies associated with SDEIS are addressed regarding the analysis of cumulative impacts. In the second part, the deficiencies associated with the SDEIS are addressed regarding the analysis of proposed actions. Initially, however, these comments will start with a discussion of the current status of the proposed action.

I. PROBLEMS WITH THE CUMULATIVE IMPACTS ANALYSIS IN THE SDEIS

There are several problems with the cumulative impacts analysis in the SDEIS that render the analysis flawed and ultimately in violation of the law. From the outset, the Fort Worth District has seemingly misunderstood the status of the DFE project and the legal requirements for preparing a cumulative impacts analysis. Second, the Corps misunderstood and in fact failed to correctly establish a "baseline", the first step in a correct analysis of cumulative impacts. And third, the Corps failed to incorporate its analysis of cumulative effects into its evaluation of alternatives, essentially rendering the analysis of cumulative effects without meaning. Each of these issues is discussed sequentially in the following paragraphs.

A. CURRENT STATUS MISUNDERSTOOD

In 2001, the Honorable Judge Means ruled that the Corps of Engineers had not correctly analyzed cumulative impacts and must redo that portion of the EIS for the DFE project. No final agency decision can occur before the completion of an EIS. The impact of the court's decision was that no alternative course of action had been decided upon by the Corps until the EIS was

The Corps agrees that no agency decision can occur before completion of the EIS. In fact, no final decision has been reached at this time. The conclusion of the SDEIS is a recommendation of the DFE plan to the decision-makers. It is not itself a decision.

redone and until the cumulative impacts information had been incorporated into the analysis, fully disclosed to the public and to the decision-makers within the Corps and considered in the decision-making process. After the court's decision, there was no longer any approved DFE project.

From the initiation of this court-ordered evaluation of cumulative impacts, the Fort Worth District of the Corps has either misunderstood or intentionally misrepresented the situation. At the scoping meeting for the SDEIS, the citizens were told that the DFE project was still approved by the Corps, and that this restudy was only a bit of paperwork. This position is legally incorrect but was maintained throughout the process. For example, as the "baseline" for the hydraulics and hydrology cumulative impact assessment, the SDEIS used the "no action" alternative from the Programmatic EIS. Unfortunately, that "no action" alternative assumed the DFE project was already approved. Such an assumption is illegal and impermissible.

1.

The DFE project is the project being proposed. The SDEIS concerns the DFE project. To assume that it already exists is to assume away the purpose of the analysis.

B. "BASELINE" INCORRECTLY DETERMINED FOR DFE PROJECT

2.

The Council on Environmental Quality (CEQ) is the federal agency charged with responsibility for overseeing the implementation of the National Environmental Policy Act (NEPA). It has written a set of regulations found at 40 CFR §1501 et. seq. that are binding on all federal agencies, including the Corps. CEQ has also issued a handbook regarding the manner in which cumulative impacts analysis should be undertaken. This handbook is titled "Considering Cumulative Effects Under the National Environmental Policy Act" (hereinafter 1997 CEQ Handbook) and is attached to these comments as Exhibit 1. This handbook is referenced by the Corps in the SDEIS on the DFE project. However, the handbook was not followed in the SDEIS.

The starting point for any analysis of cumulative impacts is the definition. The CEQ regulations define cumulative impacts at 40 CFR §1508.7 as "the impact on the environment which results from the incremental effect of the proposed action when added to other past, present and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions." Implicit in this definition is the establishment of a "baseline", reflecting all present, past and reasonably foreseeable future actions, against which the proposed action is to be evaluated, in order to show the incremental impact of the proposed action when added to the other actions.

This distinction makes sense. The idea of NEPA is to cause a decision-maker and the public to consider the implications of a particular action on the environment, taking into account other factors that are also affecting the environment. Consider the following hypothetical. If, for example, there are 100 acres of wetlands left in an area, and a proposed action would take 20 of those acres, one might conclude that you could go forward with the proposed action, destroy the 20 acres and still have 80 left. However, if the 100 acres of wetlands are considered in light of two other reasonably foreseeable projects that would each take 30 acres, the proposed loss of 20 acres would actually be 20 of 40 acres rather than 20 of 100 acres. The agency might still

1. The Corps disagrees with the premise that the study was done assuming the DFE project was still approved. This is not the case. These comments cannot speak to what might have been stated at the scoping meeting, other than to assure you that the Corps proceeded with the knowledge and understanding that the DFE project was not approved.

2. .The Corps established a baseline that comports with these requirements by its use of the "no action" alternative. This alternative was chosen because of the status of the current reasonably foreseeable future projects. The "no action" alternative provided the clearest view of the current and reasonably foreseeable future status of the resources. CEQ guidance states that, "The no action alternative is an effective construct for [establishing a baseline], but its characterization is often inadequate for analyzing cumulative effects." In this case, the no-action alternative was used as a baseline because the reasonably foreseeable projects were not sufficiently far along in the design phase to give a clear picture of the future of the various resources. Use of the "no action" alternative as the baseline was not inadequate in this case, and CEQ had no intention of forbidding the use of the "no action" alternative as the baseline where that is the clearest view of the future of the resources. The Corps included statements of how the conditions have changed over time and listed the reasonably foreseeable future actions. As a result, the CEQ guidance has been followed, in that the Corps has given the decision-makers and the public sufficient information to compare the environmental impacts of the various alternatives and the proposed plan.

determine to go forward with the destruction of the 20 acres, but it should clearly understand, and it should inform the public, that the implications of the loss of 20 acres is quite different when cumulative impacts are considered. The clear purpose of such a cumulative impacts analysis is to bring this information before the decision-maker and the public so that a decision can be made on the basis of the importance of the loss of 20 of the last 40 acres, rather than on the importance of the loss of 20 of 100 acres.

According to the CEQ handbook, a "baseline" must be established as the starting point in the analysis of cumulative impacts. In the above illustration, 60 acres would be the baseline under the CEQ regulations rather than 100 acres. The 1997 CEQ Handbook states:

> "The analyst's primary goal is to determine the magnitude and significance of the environmental consequences of the proposed action in the context of the cumulative impacts of other past, present and future actions. To accomplish this, the analyst must use a conceptual model of the important resources, actions, and their cause-and-effect relationships. The critical element in this conceptual model is defining an appropriate baseline or threshold condition of the resource, ecosystem, and human community beyond which adverse or beneficial change would cause significant degradation or enhancement of the resource, respectively.
>
> The concept of a baseline against which to compare predictions of the effects of the proposed action and reasonable alternatives is critical to the NEPA process. The no-action alternative is an effective construct for this purpose, but its characterization is often inadequate for analyzing cumulative effects. Much of the environment has been greatly modified by human activities, and most resources, ecosystems, and human communities are in the process of change as a result of cumulative effects. The analyst must determine the realistic potential for the resource to sustain itself in the future and whether the proposed action will affect this potential; therefore, the baseline condition of the resource of concern should include a description of how conditions have changed over time and how they are likely to change in the future without the proposed action. (1997 CEQ Handbook, p. 41).
>
> The separation of effects into those attributable to the proposed action or a reasonable alternative versus those attributable to past and future actions also allows the analyst to determine the incremental contribution of each alternative. Situations can arise where an incremental effect that exceeds the threshold of concern for cumulative effects results, not from the proposed action, but from reasonably foreseeable but still uncertain future actions. Although this situation is generally unexplored, the decision-maker is faced with determining whether to forgo or modify the proposed action to permit other future actions. Identifying incremental effects, therefore, is an important part of informing the decisionmaker." (1997 CEQ Handbook, p. 43).

Acreages of all known features of reasonably foreseeable projects or their alternatives in the geographic area of the DFE have been determined and evaluated to the extent possible. Careful consideration of this information was given in order to determine which DFE alternative should be supported and recommended for implementation. Net gains in bottomland hardwood forest acreage, a significant resource, would occur from implementation of any of the DFE alternatives due to the included mitigation plans. Other potential or federally authorized (permitted) projects identified as reasonably foreseeable within the study area would result in lower percentage gains in bottomland hardwoods relative to, or in addition to, the DFE project. Therefore, the real significance is that the authorized DFE project, even if considered as a last added increment, would result in a net gain in bottomland forest

The Corps disagrees with Mr. Dunbar's methodology for the reasons stated above. The raising of the levee is not a reasonable alternative because the protection of downtown is not the only goal of the DFE. This argument is a rehash of the alternatives argument made by the plaintiffs in the original litigation. The baseline cannot logically be determined by including one or more proposed alternatives to the DFE.

The foregoing quotes from the 1997 CEQ guidance clearly state that the baseline condition should be established in the analysis of the no action alternative, and includes the past, present and reasonably foreseeable future action. Then the proposed project is evaluated in relation to the baseline analysis. That was not done in the SDEIS on the DFE project. Instead, the Corps performed its cumulative effects analysis by relying primarily on the "no action" analysis conducted by the Corps in 2000 as part of the Programmatic EIS (PEIS) prepared for the Upper Trinity River Feasibility Studies. However, the "no action" analysis for the PEIS includes the DFE project within the baseline. While this may have been correct for the PEIS project, it is clearly not correct for the "no action" analysis for the DFE project. The Corps cannot assume the proposed action exists in an analysis of "no action" of that proposed action. That is wrong and we believe it to be illegal as well. Obviously, such a baseline condition that includes the proposed DFE project cannot be used for evaluating the incremental effects of the proposed DFE project.

This criticism goes back to the first point in these comments. The Corps has never divorced itself in the SDEIS from the prior approval of the DFE project, an approval that was overturned by the court. Until the Corps recognizes that the proposed action has not been adopted and until the Corps goes back and utilizes the correct "baseline" in the SDEIS analysis, the SDEIS will not pass legal muster as a full disclosure document.

The correct baseline analysis is set out in the expert report from Lawrence G. Dunbar, P.E. that is attached hereto as Exhibit 2. A correct baseline analysis takes the "no action" alternative for the DFE project and adds the reasonably foreseeable future actions to that. In this manner, the "baseline" is identified. A correct baseline analysis would include the effects of putting the Trinity Parkway within the Dallas Floodway levee system, would include the impact of the Chain of Lakes and would include the impact of increasing the height of the existing Dallas Floodway levees. All of these actions are discussed in the SDEIS as reasonably foreseeable future actions. With these actions, the "baseline" then has virtually no flooding in downtown Dallas and the Great Trinity Forest has not been destroyed. That is the "baseline" against which the DFE project alternatives should be evaluated.

C. FAILURE TO INCORPORATE CUMULATIVE IMPACTS ANALYSIS INTO EVALUATION OF ALTERNATIVES

A cumulative impacts analysis is not intended to be apart from the evaluation process. Instead, the opposite is true. Under CEQ regulations, the analysis of impacts is input into the evaluation of alternatives. Cumulative impacts are one set of impacts, just as vegetation loss and others are. However, it is also a baseline, a redefined starting point for the analysis of alternatives. It is only by bringing the cumulative impacts analysis back to the evaluation of alternatives – the "heart" of the EIS process (see 40 CFR §1502.14) – that the purposes and intent of NEPA can be realized.

The Corps has failed to evaluate the various alternatives for the DFE project as part of the cumulative effects analysis in the SDEIS, as required by NEPA. The SDEIS does not re-evaluate alternatives to the recommended DFE project, including the No-Action alternative. Chapter 2 of the SDEIS entitled "Alternatives" is simply a brief summary of the formulation

Only connected and cumulative actions are required to be considered in a single EIS. See 40 CFR 1508.25(a). The U.S. District Court has already decided that the actions at issue are not "connected." *See Texas Committee on Natural Resources v. U.S. Army Corps of Engineers,* 197 F. Supp.2d 586, 614 (2002). Therefore, the only question is whether the actions are "cumulative." From all available case law and other sources, it appears that if the proposed actions are not in front of the agency preparing the EIS, the actions cannot be considered "cumulative." For example, in *Kleppe v. Sierra Club*, 427 U.S. 390 (1976), the U.S. Supreme Court held that "when several proposals for coal-related actions that will have cumulative or synergistic environmental impact upon a region *are pending concurrently before an agency*, their environmental consequences must be considered together." *See Kleppe,* 427 U.S. at 410 (emphasis added). This interpretation supports the main purpose of NEPA, which is to "insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken." 40 CFR § 1500.1(b) (2002). Because none of the proposed actions are pending before the USACE, it follows that the USACE is not the decision-maker for any of those actions. Therefore, labeling the proposed actions of entities that make their own decisions, and prepare their own environmental documents "cumulative actions" does not further the purposes of NEPA. Cumulative impact analysis for all reasonably foreseeable future actions has been completed in this SEIS. Further, the various "proposed actions" that are also reasonably foreseeable future actions are considered in the final SEIS.

process of alternatives that was performed in the GRR/EIS report dated 1999 for the DFE project, and does not present a re-evaluation of these alternatives as part of the cumulative effects analysis.

The 1997 CEQ Handbook states that it is ". . . critical to incorporate cumulative effects analysis into the development of alternatives for an EA or EIS. Only by reevaluating and modifying alternatives in light of the projected cumulative effects can adverse consequences be effectively avoided or minimized." (p. v., Executive Summary). The Handbook further states:

> "NEPA and CEQ's regulations define the cumulative problem in the context of the action, alternatives, and effects. By definition, cumulative effects must be evaluated along with the direct effects and indirect effects. . . of each alternative. The range of alternatives considered must include the no-action alternative as a baseline against which to evaluate cumulative effects." (1997 CEQ Handbook, p. 1). [*emphasis added*]

Therefore, it is just as important to utilize the evaluation of cumulative effects as it is to conduct it. In the SDEIS, the Corps did neither correctly.

In the attached expert report, Lawrence G. Dunbar, P.E. has conducted a partial analysis of cumulative impacts associated with the DFE project and has attempted to do this analysis as per the CEQ requirements. In this analysis, Mr. Dunbar first discusses the hydrology and hydraulics (H&H) cumulative impacts with reference to the no-action alternative. Because there is no action being undertaken on the DFE project, there is no loss of the Great Trinity Forest due to the construction of the swale system proposed in the DFE project (a swale system that will remove 30,000 trees from a forest that is heavily impacted already). Under Mr. Dunbar's cumulative H&H analysis, the assumption is made that the Trinity Parkway and the Chain of Lakes are designed such that the H&H impacts of the Trinity Parkway's intrusion into the Dallas floodway are offset by the design of the Chain of Lakes. Further, by raising the levee of the existing Dallas Floodway two feet above the standard project flood (SPF), the flooding of downtown Dallas is basically eliminated. Each of these projects is a reasonably foreseeable future project.

Once this baseline has been established, the alternatives would be evaluated in light of that baseline. Almost immediately, a major flaw in the DFE analysis becomes evident. Because there is virtually no downtown flooding, there are no economic benefits for the DFE to claim in this regard. While there may be localized flooding issues that need to be addressed within the DFE, the overall economic justification for the recommended DFE levees and swales is altered in light of the reasonably foreseeable future actions. In turn, the DFE alternatives should be recast and reconsidered in light of this cumulative effects analysis. In this manner, the Cadillac Heights buy-out could be recast and reconsidered. That is what is required in a legally correct cumulative impacts analysis.

II. FAILURE TO CONSIDER AND ADDRESS THE ISSUE OF OTHER PROPOSED ACTIONS

The federal district court in Fort Worth instructed the Corps on remand to determine if any of the "reasonably foreseeable future" projects were also "proposed actions" that must be considered in the same EIS with the DFE, under the requirements of 40 CFR §1508.25(a)(2). (FN 44). The Corps acknowledged this requirement by the court at the bottom of page 1-3 of the SDEIS. However, nowhere in the SDEIS does the Corps discuss or determine if any of the future projects that are evaluated are considered to be "proposed actions" that must be considered in the same EIS.

There are several pending "proposed actions" or "proposals" that directly affect the same environmental setting, namely the Dallas Floodway area of the Trinity River. These proposed actions include the proposed DFE project, the proposed Trinity Parkway, the proposed Chain of Lakes project and the proposed increase in the height of the Dallas Floodway levees. The Corps of Engineers has seemingly agreed that each of these actions are "proposed actions", either by the treatment of these projects in the text of the SDEIS or in the text of the PEIS that was prepared by the Corps Fort Worth District.

The Corps of Engineers includes no section of the SDEIS that addresses the question of whether or not these proposed actions should be analyzed in the same environmental impact statement. There is no doubt that under certain conditions, several proposed actions should be analyzed in the same EIS. The basis for this requirement was clearly set forth in the Supreme Court decision of *Kleppe v. Sierra Club*, 427 U.S. 390 (1976), and is incorporated into the CEQ discussion of cumulative actions. According to 40 CFR §1508.25(a)(2), cumulative actions are actions which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement.

Under this definition, the appropriate step would have been for the Corps of Engineers to analyze the cumulative effects of the various proposed actions to determine whether or not the impacts of these projects would be cumulatively significant. Such an analysis would have to consider the cumulative hydrology and hydraulics aspects of these various projects, including the various increases and decreases associated with such projects. It would have to consider the impact on the Great Trinity Forest. It would have to consider the impact on air quality. It would have to consider the impact on water quality and wetlands. It would have to consider the impact on secondary development and land use.

The impacts of each of these projects alone is significant as indicated by the fact that an EIS was prepared and a SDEIS is being prepared for the DFE project, a PEIS has been prepared that evaluates the proposed Chain of Lakes project as well as the proposed Trinity Parkway and the proposed increase in the height of the Dallas Floodway levees and a separate EIS is currently being prepared for the proposed Trinity Parkway. There should be no doubt that the impacts of these projects are cumulatively significant. They are essentially affecting the same area and the same environmental resources at approximately the same point in time.

It is reasonable to ask what benefit may be gained from evaluating these projects together when each project could have cumulative impacts evaluated alone? The answer is – given the complex inter-relationships between the projects and the importance of the Great Trinity Forest, if these projects are reviewed together and are honestly evaluated, there will be no need to lose 30,000 trees in the Great Trinity Forest. If these projects are analyzed together, then it will become apparent that there is no justification for the DFE project if, in fact, the 2-Foot above SPF increase in the height of the Dallas floodway levees occurs.

There is a significant cumulative impact associated with these multiple pending projects. If these proposed actions are viewed together, a proposed course of action could be charted that would avoid significant environmental damage. The Corps would not be required to take this course of action under NEPA law. However, they are, at the least, legally obligated to evaluate these alternative proposed actions in the same EIS and disclose the truth. If they decide to go forward, they must do so only after fully and fairly informing the public and the decision-maker of these alternative courses of action and the fact that certain significant impacts could be avoided if certain alternative courses of action were followed.

III. CONCLUSION

The commenting groups are very concerned by the continued refusal of the Corps to conduct a fair and unbiased analysis of the DFE project. The regulations and guidance of the CEQ is clear. The Corps professes to have read these documents, yet they fail to bring forth an analysis that comports with these requirements. Why is the Corps failing to honestly and fairly evaluate these alternatives?

There can be only one reason. The Corps is attempting to push forward with its DFE project and is attempting to conceal the fact that there would be no justification for its DFE project if the Dallas Floodway levees were raised above the SPF by two feet. Rather than the current proposed action that would destroy 30,000 trees in the Great Trinity Forest, a combined project could be created that would solve the problems of Dallas flooding, buy-out the residential areas of Cadillac Heights and save the Great Trinity Forest.

NEPA was passed to prevent uninformed rather than unwise decision-making. We can't make the Corps adopt the best approach for the residents and environment of Dallas. But we will do our best to make the Corps follow the law and tell the truth, which they still have not done.

The raising of the levee alone was rejected in the alternatives analysis approved by the U.S. District Court in this case. The DFE is not meant to protect only downtown Dallas. Therefore, this plan is not a reasonable alternative. As stated above, it is unreasonable to include an alternative previously found to be unreasonable as part of the baseline for the project.

EXHIBIT 2

Expert Report
Lawrence G. Dunbar, P.E.
January 2003

COMMENTS BY JAMES B. BLACKBURN, JR.
TO THE FORT WORTH DISTRICT OF
THE U.S. ARMY CORPS OF ENGINEERS
ON THE SUPPLEMENTAL DRAFT
ENVIRONMENTAL IMPACT STATEMENT
FOR THE DALLAS FLOODWAY EXTENSION PROJECT

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EXPERT REPORT ON
SUPPLEMENT NO. 1 DRAFT EIS
DALLAS FLOODWAY EXTENSION PROJECT

by Lawrence G. Dunbar, P.E.
January 2003

EXPERT REPORT ON
SUPPLEMENT NO. 1 DRAFT EIS
DALLAS FLOODWAY EXTENSION PROJECT

by Lawrence G. Dunbar, P.E.
January 2003

I have reviewed the Corps' Supplement No. 1 Draft Environmental Impact Statement (SDEIS) for the Dallas Floodway Extension (DFE) project. The focus of my review pertains to the hydrologic and hydraulic aspects of the SDEIS, which is within the area of my expertise.

I am a professional engineer licensed in Texas with over 25 years of experience in the area of hydrology and hydraulics. I was employed for over 6 years with the Corps of Engineers, and was involved in the preparation of the hydrologic and hydraulic analyses associated with Environmental Impact Statements (including cumulative impact analyses) for numerous federal and local projects. As a private consultant over the past 15 years, I have reviewed and provided consultation on a number of environmental impact statements for both federal, state and local projects affecting flooding. I am also a licensed attorney in Texas, practicing in the area of environmental, water and drainage law. I have provided legal consultation regarding the legality of environmental impact statements and their compliance with NEPA and CEQ regulations. Attached is a copy of my resume.

My comments regarding the SDEIS are as follows:

I. Incorrect "Baseline" Condition

D-1

The Corps' purpose for this SDEIS was to perform a cumulative impacts (effects) analysis in response to a federal court order. According to the 1997 CEQ Handbook on "Considering Cumulative Effects" referenced in the SDEIS, such an analysis starts with the establishment of a "baseline" condition against which the proposed action and its reasonable alternatives are evaluated. The "no-action" alternative, including all past, present, and reasonably foreseeable future actions, should serve as the baseline condition, according to the CEQ Handbook.

For conducting the cumulative impact analysis of the hydrology and hydraulic impacts for this DFE project, the "baseline" condition therefore should have included not only existing conditions, but also those reasonably foreseeable future projects identified by the Corps, such as the Dallas Floodway plan, the Chain of Lakes plan, and the Trinity Parkway plan, and others identified in the SDEIS.

The Corps did a good job in Chapter 3 of the SDEIS of identifying those projects that have been implemented in the past and those reasonably foreseeable future projects that will potentially be implemented in the future. This is the first step in establishing the "baseline" condition. The next step is to evaluate the cumulative impact of these various past and future projects on the environment, including flooding, assuming the proposed action (i.e., the DFE project) is not in place (i.e., the no-action alternative). This next step was not done in the SDEIS, nor was it even attempted.

D-1. The 1997 CEQ guidelines do state that an appropriate "Baseline" condition should be established for determining the effects of a proposed action as well as any reasonably foreseeable future actions. The 1997 CEQ also states that the No-Action alternative is effective for establishing this baseline in some situations. The comments here on baseline condition, however, seem to favor the inclusion of the Dallas Floodway alternatives in the "baseline" for the express purpose of arguing against the DFE Recommended Plan rather than providing a full disclosure of the impacts of all reasonably foreseeable future actions. By using the "no action" alternative as the baseline, all reasonably foreseeable future actions including proposed actions and combinations thereof were evaluated and properly compared to the true "baseline" condition. Data provided in this SEIS is structured in this manner in accordance with the CEQ guidance.

In its discussion of the cumulative impacts on the hydrology and hydraulics of the Trinity River on page 4-12 of the SDEIS, the Corps simply refers to the analysis conducted in the Programmatic Environmental Impact Statement (PEIS) dated June 2000 for the Upper Trinity River Basin (incorporated herein by reference). However, the environmental impact analysis contained in the PEIS utilized as its "no action" alternative the condition that included the DFE project as already having been constructed. Note the following excerpt from the PEIS entitled Chapter 4 - Environmental Consequences:

> This chapter (Chapter 4 Environmental Consequences) presents discussion of the impacts of project alternatives being studied under the Corps of Engineers Upper Trinity River Basin authority that could result in subsequent recommendations for Congressional Authorization for construction. Potential impacts of these projects and alternatives are disclosed along with the cumulative impacts, to the extent that they can be identified, and of reasonably foreseeable projects of others.
>
> NO ACTION
>
> The no action alternative would include those activities to the extent known that would likely occur without additional Corps of Engineer's flood damage reduction or ecosystem restoration projects within the study area. The authorized Dallas Floodway Extension recommended in the Final General Reevaluation Report and Integrated EIS for the project, and the previous permitted action in the Dallas Floodway are considered to be in place for the "No Action" condition for these evaluations.

This no action alternative ("baseline" condition) from the PEIS may have been acceptable for evaluation of impacts due to the proposed actions being considered in the PEIS, but this same no-action alternative cannot be used as the baseline condition for evaluation of the proposed DFE project. It is nonsense for such a

This concern has been addressed in the Final SEIS.

baseline condition having the DFE project incorporated into it to also be used to evaluate the proposed DFE project itself.

Assuming that such projects as the Dallas Floodway plans (Flood Damage Reduction and EQ), the Chain of Lakes alternative, and the Trinity Parkway alternatives are not "proposed actions" but only reasonably foreseeable future projects, these projects and their cumulative impacts should have been assumed to be in place as part of the baseline condition, against which the proposed DFE project and its reasonable alternatives would be evaluated.

For example, the Flood Damage Reduction (FDR) alternative for the Dallas Floodway calls for raising the existing Dallas Floodway levees 2 feet above the Standard Project Flood (SPF) water level. The purpose of this FDR project, according to the Corps, is to maximize flood damage reduction benefits along the Trinity River within the Dallas Floodway that protects downtown Dallas. By assuming such a project to be in place as part of the baseline condition, significant flood damage reduction benefits to downtown Dallas (approximately $13M annually) are realized, virtually eliminating flood damages in downtown Dallas (see attached Table - HCAR 16035). This "baseline" condition would also negate the need for the DFE project alternatives to excavate such a large swale throughout the DFE area. The swales in place to help reduce flood levels in the Dallas Floodway would not be needed under the Baseline Condition and all of the 30,000 trees planned to be cut down under the current DFE proposal would be saved. This scenario of raising the existing floodway levees was analyzed by the Corps during the DFE project work of

The Flood Damage Reduction alternative is not a reasonable alternative for the DFE because it does not meet the goals and objectives of the DFE project, particularly the need to protect areas outside downtown Dallas.

the 1990's but was never discussed or disclosed in the GRR/EIS, nor is it discussed or disclosed in this SDEIS.

In addition, by including the Chain of Lakes plan with the Trinity Parkway alternatives into the baseline condition for the DFE project analysis, the cumulative effects on the Trinity River would be to reduce flood levels within the Dallas Floodway and slightly increase flood levels downstream, based on analysis performed in the PEIS. Unfortunately, the PEIS analyses assumed the DFE project was already in place; thus, the cumulative effects of these future projects without the DFE project has not yet been analyzed by the Corps.

II. No Evaluation of the "Cumulative Impact" of Future Projects

In Chapter 4 of the SDEIS where the cumulative impacts analysis is discussed, Table 4-2 identifies a qualitative evaluation of the various reasonably foreseeable future projects as to their individual direct and indirect effects on various environmental resources, including hydrology and hydraulics (H&H) and flood damages. However, there is no determination of the "cumulative effects" of these various projects on those same resources, including H&H and flood damages.

D-2

The Corps has hydrologic and hydraulic computer models of the Trinity River that it has used to evaluate the flooding impacts of many of the major future projects identified in the SDEIS. For example, the PEIS contains model results of the incremental impact on flood levels due to a number of these future projects, including the Dallas Floodway modifications, the Trinity Parkway alternatives, and

D-2. This concern has been addressed in the Final SEIS

the Lakes plan by the City of Dallas. However, nowhere in the SDEIS nor the PEIS has the "cumulative" impact from these reasonably foreseeable future projects been analyzed or modeled, especially without the proposed DFE project in place. This is what a "cumulative impacts" analysis is supposed to analyze, the cumulative effects of the various past, present and reasonably foreseeable future projects in the area.

D-3

III. No Identification of "Proposed Actions"

To the extent any of these reasonably foreseeable future projects are "proposals" or "proposed actions", they need to be analyzed and evaluated in a single EIS. That means each project is evaluated separately and cumulatively, including all of its reasonable alternatives. Clearly, the Trinity Parkway is a "proposed action", and both the Corps and the Federal Highway Administration (FHWA) identify it as such (see SDEIS and PEIS, and the attached notice dated June 16, 1999 in the Federal Register by the FHWA). Likewise, the Chain of Lakes project (or "Lake Plan") being proposed by the City of Dallas is a "proposed action", and has been identified by the FHWA as such and has been included in the EIS being prepared by the FHWA in conjunction with the Trinity Parkway (see attached notice dated December 12, 2000 in the Federal Register by the FHWA).

The Dallas Floodway modifications being proposed by the Corps are also "proposals" or "proposed actions" as noted by the Corps in its PEIS, and therefore must be evaluated in the same EIS as the DFE project, the Trinity Parkway and the Lakes Plan. (see pgs. 1-5 and 2-20 of the PEIS). The inter-relationship of these

D-3. Please see comment at B-59 addressing this issue.

"proposed actions" and their potential for cumulative impacts on the environment, especially flooding along the Trinity River in the vicinity of the Dallas Floodway and the DFE area is obvious and noted in the SDEIS. Such inter-relationships between these various projects is also recognized by the City of Dallas (see attached correspondence from Vinson & Elkins, the City of Dallas' bond attorneys).

IV. Summary and Conclusion

D-4

In summary, the SDEIS for the DFE project has failed to first identify the correct "baseline" condition against which the DFE project and its reasonable alternatives are to be evaluated. The CEQ regulations specifically require that the cumulative impacts analysis identify the incremental impact of the proposed action when added to the past, present and reasonably foreseeable future actions in the same geographic area. This has not yet been done for the DFE project. The PEIS that was prepared by the Corps for the Upper Trinity River Feasibility Study evaluated the hydrologic and hydraulic impacts associated with various projects and their alternatives, including the Dallas Floodway modifications being proposed by the Corps, the Trinity Parkway and its alternatives being proposed by the City of Dallas and the FHWA, and the Lakes Plan being proposed by the City of Dallas. Such an analysis could have and should have been performed for the DFE project, with the assumption that the DFE project is not yet built but with these other projects being in place. This is the proper "baseline" condition that is required by the CEQ

D-4. The correct "baseline conditions" or No Action Plan for the DFE area was established for evaluation of cumulative impacts of the DFE Recommended Plan and the other final array of alternatives for DFE in the DFE/GRR. The Dallas Floodway alternatives were not included as reasonable alternatives in the analysis for the DFE/GRR because none of these alternatives directly address the goals and needs of the DFE study area. Additionally, alternatives within the existing Floodway are purely conceptual within the feasibility study phase.

Analysis of alternatives for both the Dallas Floodway and the DFE area contained in this SEIS constitutes a full disclosure of the cumulative impacts analysis in as far as it can be determined to date.

Alternatives for the Dallas Floodway referred to as the Trinity Parkway, the Lakes Plan, and the Corps' Dallas Floodway modifications are "proposed actions" in the sense that these types of alternatives have not been eliminated from future consideration and are expected to be carried forward for future study for the Dallas Floodway. However, they are not cumulative or connected actions under the law. Therefore, it is not necessary to consider them in a single EIS.

regulations and discussed in the CEQ guidance against which the DFE project and all of its alternatives need to be evaluated.

Second, the SDEIS for the DFE project failed to identify the "cumulative impacts" of future projects when added to past actions, without the DFE project (i.e., the no-action alternative). Individual project impacts were qualitatively identified, but the cumulative effects of these future projects were not determined nor discussed in the SDEIS, such as on the hydrology and hydraulics of the Trinity River. This is what a cumulative impact analysis is intended to do, so that the incremental impact of the proposed action(s) can be identified when added to the past and future actions in the area.

Finally, there is no discussion nor separate evaluation of "proposed actions" in the SDEIS for the DFE project. Clearly, the Trinity Parkway, the city's "Lakes" plan, and the Corps' Dallas Floodway modifications are "proposals" or "proposed actions" as defined by CEQ regulations that are to be evaluated in the same EIS, along with their alternatives.

Lawrence G. Dunbar, P.E.

01-22-03

Read, Campbell

To: Read, Campbell
Subject: Response to the Army Corps of Engineers Supplement to the EIS for the Dallas Floodway Extension

January 8, 2003
To U.S. Army Corps of Engineers
Fort Worth District

From Campbell Read

Comments on the Supplement to the EIS for the Dallas Floodway Extension

The attitude of the Corps at the scoping meeting held in Dallas in 2002 was that they do not plan on reevaluating the Dallas Floodway Extension (DFE). Instead, they interpret the Court's ruling to require them only to comment on cumulative impacts of foreseeable future projects upstream of the DFE without regarding any of these projects as alternatives to the DFE. The attitude of the Corps in this matter is unacceptable.

That attitude is reflected in the EIS Draft Supplement. On page 2-3 it states:

"Until formal notice is made by the City of Dallas regarding their support of a plan that is different from that for which they have formally provided an endorsement, alternate plans discussed by individuals or the media cannot be considered as reasonably foreseeable. The plan recommended in the 1999 GRR/EIS, therefore, remains the Recommended Plan for analysis in this Supplement to the DFE EIS".

1. In our opinion, each and every project reviewed by the Corps in the Draft Supplement to the EIS should be regarded as a potential alternative to the DFE. Such an opinion is consistent with that part of the Federal Court order requiring the DFE project to be stopped. At the 2002 scoping meeting I asked Gene Rice why he thought the Court had ordered the DFE project to be stopped and he replied that he didn't know. However, "I don't know" isn't good enough as an answer. It certainly makes no sense for the Court to concur with the point of view in the quotation I just made from the Supplement to the EIS, and then to order the DFE project to be stopped. It makes no sense at all and Mr Rice knows that.

2. Chapters 4, 5, and 6 of the GRR/EIS [General Reevaluation Report and Integrated EIS for the DFE] of 1999, for example, contain multiple tables listing estimated costs and benefits in dollar terms of the so-called Recommended Plan as compared with making no changes to the floodplain. No such tables appear in this new Supplement, but we should all demand that they be compiled to include costs and benefits resulting from raising the Dallas Floodway by various heights, not only by 2 to 2.5 feet. The Corps argues that the lack of final agreement on the alignment of the so-called Trinity Parkway prevents them from computing costs and benefits deriving from it. But they have no such excuse where raising the Floodway levees by specified amounts is concerned; they can and must, produce a cost/benefit analysis.

3. If you turn to the discussion of raising the Floodway levees on page 3-11 of the Supplement, you will find that the discussion is confined to where the dirt would come from and where it would be put. That is all that the Corps presents on the subject of raising the levees. There is no related cost/benefit study that could be compared with those in the GRR/EIS for the so-called DFE Recommended Plan. The reason why the Corps has declined to do such a study, however, is plain. They are afraid that such a study would show the DFE to be less cost-effective than raising the Floodway levees, with the undeniable consequent conclusion that the DFE would no longer remain viable under the Corps's own rules.

[For Save the Trinity, TCONR and (In the past) Audubon Dallas]

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1. The SEIS has been modified to disclose cumulative impacts of reasonably foreseeable projects in relation to the final array of alternatives considered for the DFE GRR/EIS.

2. An analysis was conducted to address this issue and has been included in the SEIS.

3. At present the Dallas Floodway studies are being held in abeyance at the request of the sponsor, awaiting a decision on any roadway alignment. The data presented in the report and within Appendix C reflects information available at this time. These data clearly reveals that DFE continues to be City supported plan to provide flood protection to the DFE area.

Timothy S. Dalbey
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Phone: 214-388-5362

3 February 2003

U. S. Army Corps of Engineers
Fort Worth District
ATTN: (PM-C) Mr. Gene T. Rice, Jr.
819 Taylor Street
P. O. Box 17300
Fort Worth, Texas 76102-0300

Re: DFE SEIS first draft comments

Dear Mr. Rice,

I have enclosed my comments on the report titled: *Draft Supplement No. 1 to the Environmental Impact Statement for the Dallas Floodway Extension Trinity River, Texas* dated December 2002 by the Fort Worth District, U. S. Army Corps of Engineers. Thank you for the extension of the comment period.

Sincerely,

Timothy S. Dalbey

Timothy S. Dalbey

Comments by Tim Dalbey on the *Draft* Supplement No.1 to the Environmental Impact Statement for the Dallas Floodway Extension Trinity River, Texas, 2002, U. S. Army Corps of Engineers Fort Worth District (CESWF), Fort Worth Texas, also known as the DFE SEIS

I received a Notice Of Availability (NOA) for the DFE SEIS on 11 November 2002 by mail that stated the DFE SEIS will available on 6 December 2002. At the 16 July 2002 Scoping meeting held at the Ramada Inn on South Akard in Dallas the CESWF claimed the DFE SEIS will be out in October 2002. Instead, the DFE SEIS did not come out in a timely manner and was timed, most likely purposely, to come out over the Christmas - New Year holiday period when the public, and agencies are on holidays making it difficult to find the time to adequately comment on such an important report. CESWF's timing needs to be improved so that it does not conflict with this busiest time of the year.

1. Even though I received a NOA for the July 2002 meeting, attended the meeting, provided written comments in a timely manner, and received a NOA for the DFE SEIS on 30 November 2002 I did not deceive a DFE SEIS report. I heard about the availability of the report through the grapevine and had to call Gene Rice (CESWF-PM-C) on 2 December to get a copy of the report, I do not have the Internet, so I could not go online and read the report. I did

2. not receive a copy by 10 December 2002, called Gene Rice again. I finally received a mailed copy 2 weeks after the NOA of the report on 13 December 2002. In the future CESWF needs to be more prompt in mailing reports to those interested in the project. Thank you for the opportunity to comment on this revision, and keeping this report on the DFE (SEIS) less redundant and shorter to only 87 pages, although still lengthy for reporting on one aspect, "cumulative effects."

1. P. 1-3, 3rd para., "On Count 3(B) of the motion, the Court ruled in favor of the plaintiffs argument that the GRR/EIS did not address the cumulative impacts of reasonably foreseeeable future actions and remanded the matter to the Corps of Engineers *"for further consideration of the cumulative impacts of other similar, reasonably foreseeable projects in the same geographical area as the DFE project."* In the next sentence, the CESWF interprets this statement to mean it is their task in the supplement to, "The objective of this

1. The Notice of Availability forwarded to you and others noted that the Supplemental DFE was available for review and comment. The Corps provided a copy of the Draft to you after your request.

2. As noted in the Notice of Availability, hard copies of the DSEIS were available on request. Copies were also available for viewing at two locations within the City of Dallas as well as on the Fort Worth District's internet home page.

Supplement to the DFE EIS is, therefore, to address the U. S. Court for the Northern District of Texas' instruction by further examining the cumulative impacts of the DFE project and determining if any other projects are in fact 'proposed actions that must be considered in a single EIS'."

3. It seems clear from this statement, at least as the CESWF interprets it, the CESWF must do 2 things, the first is clear: 1) further examine the cumulative impacts of the DFE project in and around where the DFE is going to be built. The second part of the objective is muddled, either by the CESWF's own, or preferred interpretation of the judgment. Because as written in the second part, the CESWF considers their objective to be: 2) determine if other projects are "real" (my emphasis) proposed actions that must be considered in a single EIS.

4. From the way the judgement is written above, this interpretation is not the way the judgment is to be interpreted. Of course these other similar projects that are to built upstream in the floodplain from the DFE have to be considered under NEPA, because they effect valley storage, river flow, velocity, and downstream flooding in the DFE. As the CESWF interprets this second part, it is up to them to determine if other projects are "proposed actions." Of course they are proposed actions, many of these projects transcend proposed actions and are in progress, money has been spent, contracts have been let, and bonds have been passed for the projects.

As interpreted by the CESWF, the second part has nothing to do with the impacts (individually or collectively) of these projects downstream in the DFE, instead the CESWF is just suppose to list the "proposed actions." And list the proposed projects is all that the CESWF does in the DFE SEIS. The CESWF never tabulates or synthesizes the cumulative effects of one or all of the upstream projects with regard to downstream flooding through hydrology and hydraulic (H/H) models created from various flow analyses brought about by the future projects upstream. Therefore, it appears that the CESWF interpretation of the judgement is inaccurate as the CESWF shirks it's responsibility to adequately assess the cumulative impacts of the other projects and the effect these projects would have on the DFE H/H model.

My following comments attempt to point out how the CESWF did not reach the 2 objective(s) in the above statement. CESWF did not previously, and still has not, examined the direct or indirect

3. There is a large array of "proposed actions" under consideration within the geographic area of the DFE. Concerted efforts were made to identify from all known sources, which of these are reasonably foreseeable actions that would have potential cumulative impacts.

4. The Corps PEIS strived to thoroughly evaluate those reasonably foreseeable projects known at that time and quantified cumulative H&H impacts in that document. The PEIS was incorporated by reference into the DSEIS. Based upon comments received on the DSEIS, the final SEIS has been modified to include the H&H analysis from the PEIS and cumulative impacts of the final array of alternatives investigated in the GRR/EIS.

5. cumulative impacts to the environment in and around the DFE project impact site area, nor has the CESWF integrated the impacts of other floodplain projects upstream with the DFE. Instead, according to the wording by the CESWF provided above in the CESWF objective statement, they interpret the CESWF's task is to only list other projects in and around the DFE.

6. The following comments refer to specific items by page and paragraph in the DFE SEIS.

2. In the Background Section p. 2-1, 3rd para., CESWF omitted how long the work on the Trinity river in the Dallas Floodway was halted for some years by a 1972-73 injunction and why the work was halted.

7 3. P. 2-2, 1st para. CESWF claims that, due to public opposition to the environmental impact of the 1,200 swale NED Plan in the DFE, that the proposed project would not be viable. What the CESWF does not recognize since 1965, is that the public is not in favor of any project in the DFE because the DFE represents a unique natural environment made up of many ecological niches, with the only stretch of original river channel remaining where the main stem of the Trinity river is formed. No matter how it happened (through neglect by the city, or however) the DFE contains an extensive forest (6-11,000 acres), with wetlands, different patches of ecozones with different flora, with an urban fauna and robust diverse bird life composed of aquatic, waders, forest to open forest song birds, to raptors and scavengers, in the middle of the eighth largest city in the U. S. This is unique, the public knows this, and is ever protective and watchful for any impacts to this natural environment.

The CESWF, in their attempt to keep some kind of a Dallas Floodway civilian (non-military) project alive for the last 38 years (since 1965), after all previously proposed projects had failed, came up with the 1999 DFE project and was able to get the City of Dallas to sign on as the sponsor (2002) for the project after voters passed a bond election by 1,200 votes in May 1998 for the project. In a city where voter mail-in fraud and corruption has made State and National news it was not surprising that this proposition in the bond package passed. Over $3 million was spent by the lobby for the project versus $300,000 by grass roots groups and environmental organizations opposed to the project.

5. Chapter 5 of the DSEIS quantified known cumulative impacts to resources. Table 4-1 quantified the cumulative impacts to resources and Table 4-2 provided our analysis of the importance of those impacts. Additional supporting information has been developed and information provided in the PEIS has also been incorporated into the Final SEIS.

6. An injunction was issued against certain projects known collectively as the Trinity River Project. The injunction was dissolved in 1986 and is not relevant to the GRR/EIS or the SEIS.

7. Selected members of public have also supported the DFE because of the flood damage reduction benefits it would provide. The Corps has recognized the intrinsic values of the environmental resources of the area identified as the Great Trinity Forest. Every effort was made to assess impacts of the DFE alternatives to this area minimized the impacts to the resources to the extent possible resulting from the DFE project. The authorized plan provides for additional wetland restoration in addition to mitigation actions that fully mitigate for all forested resource losses.

8.

There was opposition to the 1,200 Swale NED Plan, but this was a CESWF proposed project that the City did not even buy into, and the opposition to this project was nothing compared to the present opposition to the DFE project. CESWF knew that the huge impact to the forest proposed by the 1,200 Swale NED Plan was not viable. There has been longer and more legal opposition to this plan, because of the 20-30 added projects within and/or bordering the Trinity river floodplain that add to the cumulative impacts (toll road inside the levees, the City's Master Implementation Plan in the DF, etc.), also because this plan has stayed alive longer. But any plan in the DFE that disturbs the environment integrity as proposed by the CESWF will continue to meet strong opposition, but the CESWF continually presses on for the project.

9.

10.

4. P. 2-2, 1st para., goes into the Recommended Plan describing the swale (levee borrow ditch) dimensions that are reduced from those dimensions reported in the DFE FEIS, or as detailed in the drawn plans in Appendix C where depths reach 12 ft., each swale cell (borrow ditch) is more on the average of 5 ft. deep, and the impacted disturbed partly forested acreage creating the swales is more in the range of 4-500 acres. How can the CESWF generate 3.2 million cubic yards of fill as reported in DFE FEIS from a borrow ditch (swale) 1.5 ft. deep over 123 acres? At this size, 123 acres at an average of 1.5 ft. deep would generate less than one million cubic yards. Obviously the "emergent wetlands are going to be at the bottom of the borrow ditches/swales. Moreover, in the DFE FEIS the acreage needed for impact mitigation was considered at a 1:1 ratio for impact to mitigation, therefore it was written in the DFE FEIS approximately 1,169 acres were needed for mitigation. The small amount of acreage reported in the DFE SEIS at 123 acres for "emergent wetlands" within the larger swale (acreage not provided), plus the project features such as the 2 levees, 5 sumps, and channelization, do not begin to add up to the 1,169 mitigation acres? As written in the DFE SEIS it seems that the 123 acres of"emergent wetlands" is going to be only a small part of the total size of the swale. Even using the swale figures provided in this paragraph which total only 232 acres, the "emergent wetlands" take up only 53 percent of the swale. These figures do not compare to the figures provided in the DFE FEIS. This seems to need clarification. Second to last sentence is incomplete, emergent ?

11.

8. The NED Plan was viable, however the City determined following numerous meetings with the affected local public that it could not support the NED Plan for Environmental and other reasons.

9. The wetlands would be shallow, however, there is a deeper area in each cell as you have indicated.

10. The Mitigation requirements presented in the DFE GRR/EIS were determined in cooperation with the US Fish and Wildlife Service utilizing the Services Habitat Evaluation Procedures (HEP). No preset mitigation ratio utilized. Corps analyses indicated that forested habitat values in the DFE area would increase substantially under future "without project" conditions. Additional mitigation measures were incorporated into the authorized DFE project to fully compensate for all future habitat losses. The HEP annualizes future with and without project conditions for both the impacts and potential mitigation benefits. A total of 1,179 acres of mitigation was determined the required level to fully mitigate forested impacts. The mitigation would occur within and adjacent to wooded areas in the area identified as the Great Trinity Forest. Table 4-10 in the GRR/EIS describes the upper and lower swales.

11. The sentence should say emergent wetlands.

12.

5. P, 2-2, 1st para., continued. What is the CESWF expertise is creating synthetic "emergent wetlands" by using borrow ditches (swale) along a river system such as the Trinity? CESWF does not provide a comparative project to document that they have had any success creating such a synthetic system on the Trinity in the past, or that they can have success doing what is proposed in this river system. This is not a reservoir where CESWF has recently tried to establish wetlands, and it is still too soon to know if they were successful. Moreover, once the CESWF finishes the DFE project, they are not responsible for maintaining the success of the "emergent wetlands." Maintaining the wetlands becomes the task of the City. Under "cumulative effects" where is documentation that the City has the expertise to maintain this type of "emergent wetlands." Clearly, in Appendix M (DFE FEIS) Texas Parks and Wildlife Department (TPWD) states that, the CESWF has had little expertise, or success, in creating wetlands on open river systems of this nature with highly sporadic flows.

13.

14.

6. P. 2-2, 1st para., continued. TPWD is even more concerned about the detrimental cumulative effects of channelizing the river and the total effects on the aquatic habitat. The CESWF never discussed this direct DFE project impact, or the combined cumulative impact of the other projects mentioned above, and their long term cumulative impacts on the river aquatic system, or provide any documentation pertaining to their expertise, or success, in channelizing this type of river system.

15.

Where the channelization is going to take place will likely destroy a large natural meander bend in the river that is an important aquatic feature in the river. Meander bends create differential flows, stream bed loads are deposited on the inside of meanders, and faster flows occur on the outer parts of the channel. The shallow inside of the meander creates an aerated aquatic habitat (often point bars, riffles) that is beneficial for different aquatic life forms such as microfauna consisting of ostracods, copepods, etc., and larger fauna such as fish, turtles, gastropods and bivalves (mussel shells), as well as aquatic bird waders, while the deeper outer faster flowing pool habitat supports a different faunal community.

The movement of the channel westward of the meander will straighten the channel and increase flow velocity. Nothing is mentioned whether the new channel after channelization will be deeper, more shallow, wider, etc. A shallow channel would result in

5

12. The design and operation of the wetland system was developed in cooperation of U.S. Fish and Wildlife Service, Texas Parks and Wildlife Department and in-house Corps specialists.

13. We concur that success of mitigation operations will be contingent on utilizing an operational plan with the sponsor. We have no reason to believe that the sponsor (the City) will not closely abide by the agreed upon plan. In addition, the Corps of Engineers will perform periodic inspections of the project, including the flood damage reduction features, restoration features, and the environmental mitigation to assure the project features and associated operations are being properly preformed. Adaptive management will be directed where required.

14. The Corps discussed the impacts of the realignment of the Trinity River in the GRR on both terrestrial and aquatic habitats.

15. The meander bend is more than 2000 feet downstream of the lower end of the channelization. The new channel will be almost identical in length and cross section to the old channel. No additional conveyance will be added.

increased sinuosity of the river and erosion, decreased the upstream gradient, decreased mean particle diameter in stream bedload, and decreased competence of the stream to move its own sediment. A deeper channel would cause increase gradient, lack of sinuosity, chute cutoffs across point bars, new headward erosion as well as downstream erosion of banks.

The DFE features (2 levees, borrow ditch/swale, channelization, sumps with pumps) combined with the bank stability of 2 gabions on the right bank ca. 0.5 miles downstream at another CESWF project at another large meander at Joppa Preserve will likely result in the total degradation of the aquatic habitat from increased flow velocity resulting in increased bank erosion.

16.

Recently we learned of yet another project, to the immediate south of the CESWF's Joppa Preserve project. This project is by the City of Dallas, permitted by the CESWF, where the City is going to construct a 400+ acre extension to the existing levee system around McCommas Bluff landfill so that the landfill can extend eastward into waters of the U. S. and further confine the river on another large meander bend, also creating another point source for waste to enter into the river system directly or through percolation into the substrate.

The cumulative effects of these types of projects on the river system need to be modeled, quantified, and effects listed for their impacts to the river system. These were never considered cumulatively for the DFE, Joppa Preserve and the McCommas Bluff levee extension. Moreover, in this DFE SEIS, CESWF repeatedly recommends (or sells) their Environmental Quality (EQ) alternative for the Dallas Floodway design they produced in the Dallas Floodway Programmatic EIS (2000). Relative to some of the effects to the river system mentioned above, the CESWF has written nothing on how these proposed projects (DFE, DF EQ, Joppa, and permitting the McCommas Bluff Landfill Extension) cumulatively will directly or indirectly effect over 20 miles of the river system. As stewards of the waters of the U. S. for them to not describe, model, or synthesize the cumulative impacts these projects will have on the river system is to shirk their environmental responsibility for an Environmental Impact Statement.

Yet, the CESWF in the Upper Trinity PEIS (2000) can sure tout their synthetic model of a meandering stream and its benefits in their synthetic Environmental Quality model for the Dallas Floodway. If the CESWF's DF model is such a feasible environmental quality

16. The impacts of each of these projects are modeled prior to granting of Section 404/10 permits in the Upper Trinity Basin. In addition, the Corridor Development Certificate process requires that cumulative hydrologic and hydraulic impacts be negated on site .

17.

model with a man-made channelized meandering stream that creates such a beneficial aquatic habitat, why destroy the natural already existing high quality river system in the DFE and replace it with a man-made synthetic confined unnatural floodway?

Under current existing conditions within the natural DFE drainage, the unconfined floodplain in the DFE provides a substantial benefit for the channel confinement upstream in the DF by dissipating all the flow energy from the confined reaches upstream. To further confine the river through the DFE and downstream will cause instabilty of the river system, degrade the aquatic habitat, cause downstream and headward erosion, and alter the outflow drainage of tributaries within the drainage system. Although on a smaller scale with a less complex setting, Berger (1991, *The Blanco River*, pp. E30-E36; In Rosgen, D., 1993, ed., *Applied Fluvial Geomorphology*) documents an example of increased erosion along the Blanco River in Colorado as a result of the detrimental effect of confined flow caused by a COE project.

18.

7. P. 2-2, 1st para., continued and Recommended Plan (page 2-3). Furthermore, the CESWF never provided documentation (photographs, statement of request by TXDOT, or MOA, MOU, with TXDOT in either the DEIS or FEIS in Appendix L) that the I-45 bridge concrete supports were so heavily damaged that the river channel needs to be realigned. In June of 1998 I canoed past these supports and observed that the upstream concrete supports had a few scratches on the concrete support surfaces at various levels well above the river surface level from debris that had flowed passed the supports during higher faster flows since 1972. These scratches did not appear to jeopardize the integrity of the supports.

Recently, Tony Hartzel reported in the Sunday edition 12 January 2003, *Dallas Morning News, Metropolitan Section*, page 31, that 12 concrete pillars have deteriorated (see photograph and article on next page) under the I-30 bridge at Samuell Boulevard from storing the salt and sand mixture used for icy roads up against the concrete supports. When the salt and sand mixture got wet over the last 30 years it caused erosion of the concrete column surface exposing the reinforcing rebar steel. According to the article approximately 187,000 vehicles (trucks, cars, etc.) pass over the I-30 bridge daily, while only 75,000 vehicles (71.4% fewer vehicles) pass over the I-45 bridge daily. In the article, the TXDOT engineer that was interviewed stated, "It's not serious damage (referring to the

17. The channel realignment plan identified in the DFE GRR/EIS has a specific project purpose of eliminating the threats to a series of bridge pilings that support IH-45. The EQ plan, a floodplain development alternative incorporating fluvial geomorphologic principles within the Dallas Floodway, is discussed in the PEIS.

18. An incident prior to your canoe trip occurred that caused debris to pile up on a column causing sufficient hydraulic pressures to break the pier. The damaged pier was repaired prior to your site visit. The scratches you observed indicate that debris continues to strike the columns. There has not been another flooding event sufficient to cause new substantial damage. The need to protect IH-45 was described on page 4-69 of the GRR/EIS. Three alternatives including armoring of the columns were described, including cost and benefits to provide that protection were described on page 4-70 to 4-71. The river alignment alternative clearly has the lowest cost and provides the greatest benefit to cost ratio. Impacts of the aquatic and terrestrial impacts of the realignment were disclosed in Chapter 4.

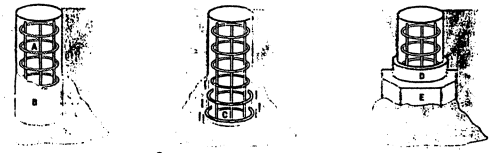
Salt eats away at interstate pillars

KIM RITZENTHALER/Staff Photographer

Bridge columns under Interstate 30 at Samuell Boulevard have suffered the corrosive effect of a salt-sand mixture that city crews stored around them. Pillars under I-45 have been damaged, too. The price tag for fixing the damage is $2 million.

A BAD MIXTURE

Years of exposure to road sand-and-salt stockpiles have damaged bridge columns under Interstates 30 and 45, costing the state an estimated $2 million in repairs.



1. Dallas crews that deal with icy road conditions have occasionally pushed piles of sand mixed with salt directly around concrete columns which are internally reinforced with steel bars (A). Over time, the salt, combined with the moisture in the sand, seeped through the concrete (B).

2. The salt sped up the rusting of the reinforcing steel inside the columns (C). When that occurred, the steel expanded and popped the columns' outer concrete layers. While the columns look dangerous, engineers have determined that motorists are not in any danger.

3. To repair the columns, crews will apply a layer of concrete (D). The city also plans to surround the columns with a wooden barrier (E). Work could begin by spring.

SOURCES: Texas Department of Transportation; City of Dallas

Damage poses no danger, officials say

By TONY HARTZEL
Transportation Writer

Next time, hold the salt.

Lengthy exposure to icy weather stockpiles of salt and sand has caused $2 million in damage to bridge columns under two Dallas highways. The columns are under Interstates 30 and 45 in areas where the city keeps tons of sand and salt.

Although a godsend to motorists needing traction, the mixture of 90 percent sand and 10 percent salt has enough salt to corrode the steel deep inside highway bridge columns. About a dozen pillars under I-30 at Samuell Boulevard have sustained damage.

The corrosion occurred over several years and didn't come without warning.

State officials had told city officials that the piles should be moved, but they weren't until recently. City crews know that salt and concrete don't mix, but workers were focused on helping motorists during stressful winter weather, said Coy Evans, interim assistant director for Dallas' Street Services Department.

"In the heat of a storm, you do what you need to do," he said.

The damaged columns do not pose a danger to the estimated 187,000 vehicles that travel I-30 over Samuell each day or the 75,000 vehicles a day that use I-45 around Pine and Hickory streets.

"The columns look pretty bad, but it's not as bad as it looks," said Gary Moonshower, an area engineer for the Texas Department of Transportation who will oversee the repairs that are to begin in May. "It's not serious damage that would affect the structural integrity of the bridges in any way."

Repairs will consist of a new concrete coat for all affected col-

See **SALT** *Page 32A*

Metropolitan
The Dallas Morning News
DallasNews.com
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II Page 31A

Salt piles corrode interstate pillars

Continued from Page 31A

umns. Traffic should not be affected while crews patch the columns.

A state contract will pay for the repairs, but state officials will talk with city officials about sharing the cost. The sand and salt stockpiles belong to the city but are stored on a state right of way. At times, the city has shared its sand-salt reserves with the state, and the city has spread the mixture on state highways.

"This has happened over a 30-year period," Mr. Evans said. "All the benefit we've gotten out of those stockpiles in assisting traffic certainly has helped offset this deterioration cost."

City workers plan to install wooden boxes around the repaired columns to keep the salt and sand at bay.

"After a storm, we'll now get supervisors to inspect the stockpiles to make sure they're not getting pushed around the columns. If we need to, we'll clear away the piles after each storm," Mr. Evans said.

Some LBJ Freeway bridge columns near the Dallas High Five interchange project also are being repaired. In that case, the city kept construction-material stockpiles around the bridge columns.

Moisture from the stockpiles seeped into the concrete and expanded during freezing temperatures, causing the damage, said Bob Brown, the assistant Dallas district engineer for the Texas Department of Transportation. The salt in the sand stockpiles speeds up the corrosion, he added.

"We need to be more diligent in reviewing the stockpile locations and making sure they aren't placed where they can cause damage," Mr. Brown said.

Sand piles already have been moved to clear the way for the spring repairs. If they're lucky, Dallas crews won't have to move them or use them before then, Mr. Evans said.

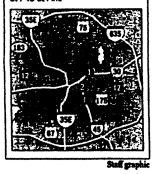
"It hasn't done anything severe in the last several years," he said as January temperatures hovered around 70 degrees last week. "But Texas does have crazy weather."

E-mail thartzel@dallasnews.com

SALT-DAMAGED OVERPASSES

Three overpasses have support pillars that have been damaged by sand and salt stored against the concrete.

1. I-30 at Samuell
2. I-45 at Hickory
3. I-45 at Pine



Staff graphic

damage to the supports like the one concrete eroded support column shown in the I-30 article photograph) that would affect the structural integrity of the bridges in anyway."

The surface scratch damage done to only the upstream sides of eight of the upstream columns, of the sixteen I-45 concrete support columns, where the river passes through is miniscule compared to the damage depicted in the newspaper photograph of the I-30 support columns. Moreover, the I-45 traffic is 71.4 percent less than the I-30 traffic.

19. According to the newspaper article some I-45 support columns where sand and salt is stored under the bridge were also affected. The so-called damage by the river to the support columns was not mentioned as a problem. The TXDOT engineer did not even consider that the amount of deterioration depicted for the I-30 concrete supports affected the structural integrity of the bridge. Then how can the scratch damage to the I-45 concrete supports were the river flows justify moving and creating a new channel for the river and upset the entire riverine habitat?

20. In the newspaper photograph Item D was proposed by TxDOT to repair the damage to the I-30 concrete support columns. Item D consists of an additional outer concrete ring, or sleeve added to the base of the damaged columns. Therefore, it seems simple, the I-45 concrete supports where the river flows under the bridge are not nearly as badly damaged as the I-30 columns, which the I-30 columns in their present degraded state do not pose a structural integrity threat to the bridge. To prevent damage in the future to the I-45 columns an outer concrete ring or outer sleeve could be contructed to protect the existing columns instead of moving the river channel.

21. 8. P. 2-2, 1st para., 123 acres of emergent ? (not defined).

9. P. 2-2, 4th para., throughout the DFE SEIS the CESWF does not mention the CBD (Dallas, Central Business District), that supposedly was threatened if the DFE project did not get built. However, in the CESWF PEIS 2000 (Programmatic EIS for the Upper Trinity River Basin including the Dallas Floodway) it is made clear that the CBD can be additionally protected (SPF+) by adding 2+ feet to the inside of the existing levees, thus neutralizing this point of protection for the DFE. By including the CBD in the economics of the project the CESWF was able to elevate the economic benefits of the DFE project to make the

19. While the photos show signs superficial damage at the columns impacted by storage of materials, these columns are not subjected to the higher hydraulic forces that the columns in the river channel must sustain.

20. The alternatives evaluated included strengthening existing columns but the remaining threat to life and property was determined too great.

21. The missing word "wetlands" has been added to the sentence in the final report.

project's BCR (Benefit to Cost Ratio) high enough to justify the project. Without the CBD the BCR was insignificant because the DFE only provides protection to Cadillac Heights and Lamar street, while making a huge impact on the natural environment. In the DFE SEIS the CESWF still does not mention how these points affect the direct cumulative effects on the economic benefits in the DFE area after the project has been built. Many of the ongoing businesses along Lamar (n=41 of 77, or 53 %) such as: Auto Salvage/Automotive Repair/Tire Repair (n=18, or 23%), Container yards/Trucking Shipping Warehouses (n=11, or 14 %), Scrap metal yards (n=12, or 16%), have built up their land 10-20 ft. above the level of Lamar street to avoid flooding (Dalbey, 2002, report for NWF, OMB, TCONR, STT). What good will the Lamar levee do them? In addition there are 27 vacant/abandoned buildings, 12 vacant lots, 9 low income homes that could be bought out, and businesses (such as DISD in the old Proctor and Gamble building) on naturally high ground behind the proposed levee that were included in the economic assessment. Furthermore, by the BCR omission in the SEIS, and according to the CESWF, cumulatively for the 22 projects listed in Table 4-2 the DFE project provides very little economic benefits (see no. 11 below).

22.

10. P. 2-3, para 4, Recommended Plan, the cost of the project is higher. The cost for the DFE project is described as costing $154.4 million up from $127 million, a 22% increase, plus the extra the City has to pay for the Locally Preferred Plan (LPP). Why is the cost higher?

23

11. P. 2-3, para 5, this paragraph is misleading. At the 25 November 2002 meeting at the CWWTP (Central Waste Water Treatment Plant) held in Cadillac Heights by the City with Councilman John Loza presiding along with other City representatives, the only buy out proposal offered for the Police Academy by the City was for those residences above the 100 year flood. The City offered nothing for those that live below the 100 year flood as defined by the City from 1970's data. The City by signing the Project Cost Sharing Agreement with CESWF forfeited any Federal dollars from the DFE with this agreement and is evidently prepared to go it alone, or through other channels to resolve the Cadillac Heights issues. During the buy out public meeting for the Police Academy held by the City, the City representatives and council members present were only concerned with the academy building. The City representatives in their infinite

24.

22. This comment is addressed in the SEIS in Appendix A section on the Flood Damage Reduction plan.

23. The lower cost of the DFE project was based on a detailed cost estimate performed for the GRR/EIS. The higher number is an updated cost, which reflects price level increases due to inflation.

24. The 100-year elevation is based on the models developed under the Upper Trinity Feasibility Study (1993 – 1998) and used in the DFE project. This model is based on 1991 topography and recent flood events data.

wisdom left out other necessary academy amenities such as firing ranges and physical training areas. According to Asst. City Manager Jill Jordan (21 January 2003 City Bond Proposal Public Meeting, Skyline Library) there is a Phase II in the works for buying out those residents below the 100 year floodplain in Cadillac Heights to accomodate the firing ranges and training grounds.

So, the City's plan for what they are going to do after the agreement does not necessarily have to include the CESWF, although participation by CESWF through the DFE project would have been highly desirable. The City essentially lost a $0.5 million law suit brought against the City by Mike Daniel representing several of the
25 Cadillac Heights residents as they settled out of court. The City is now offering approximately $55,000.00 plus moving cost for ca. 190 households in Cadillac Heights which would come to $10.45 million. With the removal of the residences from Cadillac Heights, the Cadillac Heights levee would be protecting less value, which would drive down the dollar value of the benefits of the Cadillac Heights levee further, and lower the CESWF BCR even more. After the household removal the levee would be protecting a Police Academy firing range and physical training fields. How much value do these have?

There were two lead (Pb) smelters (closed by 1991). Currently, a huge City waste treatment facility, chrome plating plant, meat rendering plants, animal fat rendering plant, large DART regional bus repair facility, etc. in Cadillac Heights plus other small industries that polluted and still are polluting the area. After the RSR Pb smelter National exposure in west Dallas the City recognizes they had better do something, even if CESWF does not recognize contamination problems and wants to go through the toxic Linfield Landfill.

The CESWF never recognized contamination in this area, except at Linfield Landfill next to the Joppa community. CESWF determined, based on some very limited, not thorough analyses outside of the
26 direct impact areas, that contamination in the DFE is not significant. Even after an exposed slurry wall was built after a swale cell that was going to be excavated through the Linfield Landfill. CESWF did not test for contamination (such as arsenic, chromium, selenium, barium, lead, chlorine, ammonia, nitrates, hydrocarbons VOC, SVOC, PCB's, etc.) in areas they were going to directly impact. The direct and indirect cumulative impacts of contamination exposure to the air, water, and soil, were never addressed because the CESWF would not, and did not test for contamination in areas where they were going to build DFE project features (primarily the swale cells and sumps). If

25. The DFE project's economic justification was based on existing property/structures in place at the time of the evaluation. The Corps is not allowed to include potential future development flood damage reduction benefits in its economic justification.

26. The Linfield Landfill was tested and the Corps received approval from the TCEQ on its plan for the excavation of the closed landfill. Continued testing will be performed as necessary on all property acquired for the project.

26

the CESWF through negligence does not test and analyze then there are no direct and indirect cumulative HTRW impacts. To neglect is a violation of NEPA, because direct and indirect impacts can not be ascertained. A Federal projects' direct and indirect impacts, and how they cumulatively effect the environment is what the NEPA process is all about, if HTRW impacts are neglected, NEPA is incomplete, and indirect and direct cumulative impacts can not be determined, or even an evaluation made.

27.

12. P. 3-5, para 3, Corps of Engineers Reservoir Projects, CESWF states that, Grapevine, Ray Roberts and Lewisville reservoirs have the greatest effect on the hyrology of the study area of the DFE. This is not accurate because the CESWF Joe Pool reservoir that empties into the much smaller Mountain Creek reservoir can also have a large effect on the hydrology, especially when heavy rains in the southern part of the drainage occur.

28

13. P. 3-11, para. 1, No Action, only addresses CESWF proposed plans for the Upper Trinity River Basin Programmatic EIS (PEIS, 2000) Flood Damage Reduction Plan and their proposed Environmental Quality Plan (channelized meandering channel between the existing levees in the Dallas Floodway) and has nothing to do with "no action" in the DFE. The CESWF is suppose to address the DFE, that is the Dallas Floodway Extension, not the Dallas Floodway (DF) which is connected to the north end of the DFE. The CESWF DF plan and H/H models are predicated on the DFE being in place. This SEIS is about the DFE. Either the CESWF does not understand, or does not want to understand, that they are suppose to address the DFE cumulative effects, or they make the assumption that the readers of the SEIS are so ill-informed that they do not know the difference between the DFE and the DF, which is an insult to the public and agencies involved.

29

14. P. 3-11, para 3, refers to many bridges across the Trinity as potential historic properties under Section 106. How many, and what are the particular bridges. How will the historic status of the bridges affect the DFE or PEIS?

15. P. 3-11 to 3-12, Flood Damage Reduction Plan and Environmental Quality Plan. This is the first write up in this report, of many references throughout the report, to the CESWF's plan for the Dallas Floodway (DF) that the City Council has not voted for over their

26. HTRW has not been ignored. Site specific testing will be conducted as plans and specifications are developed for the project. Should HTRW materials be located, they would be handled in accordance with existing state and federal laws. The net result would be of improved environmental conditions for humans and fish and wildlife resources.

27. Mountain Creek has a smaller overall drainage area and contributes less to the hydrologic effects in the DFE. However, all upstream reservoirs were taken into account in the determination of the hydrology for the study and design of all Corps projects in the Dallas area.

28. The GRR/EIS for the DFE thoroughly discussed and disclosed the impacts of the DFE. The Draft SEIS addresses the cumulative impacts of other reasonably foreseeable actions. Cumulative impacts in relation to the final array of DFE alternatives have been determined and are included in the Final SEIS.

29. There are five potential historic bridges (Commerce, Continental, Corinth, and Houston and the ATSF) in the area. The historic status of these bridges does not affect DFE or PEIS.

Master Implementation Plan. Throughout the report the CESWF attempts to use the DFE SEIS report as a document to sell their DF EQ plan over the Master Implementation Plan that Halff and Associates designed for the City, that was paid for by the City with additional taxpayer money to the amount of over $5 million. This is not the proper venue for the CESWF to sell this project. The cumulative effects of projects in the PEIS do not provide any details on the hydrology combined with the other 21 projects upstream of the DFE, nor the protection (greater than SPF) to the CBD. The protection of the CBD in this project would neutralize the BCR benefits for doing the DFE, because the value of property, businesses, etc. in the DFE are not collectively high enough to stand alone to justify the DFE project if the DF levees are raised protecting the CBD.

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16. P. 3-14, 1st para., Ecosystem Restoration, Old Trinity River, Dallas, modification of the Bickers Street Sump, and other features that no one seems to know about. This project was listed in a 1995 CESWF report on proposed projects for the Upper Trinity. It is not clear in the description how many acres are going to be modified but seems to be ca. 110 acres outside the floodway. A drawing should accompany the description of this project and how it will effect the Floodway.

32

33. 17. General comment: list of projects with diagram(s) should be included for each of the 22 projects that the CESWF describes in the SEIS. The diagrams should show the impact(s) to the existing conditions, the total acreage alteration, and proposed final design.

34. 18. P. 3-14, 2nd para., downstream right bank erosion caused by the confined high velocity flows from the Dallas Floodway was used for the justification of the Joppa Preserve 1135 project. This $7 million project begins at the end of the DFE. Basically it is designed as a 123 acre swale cell with "emergent wetlands," south of Swale Cell G in the DFE with levees on the east side of the swale (Big Lemmon Lake), and 2 gabions on the right bank where the river meanders. The project is less than 100 feet south of the DFE hidden as an 1135 project and environmental restoration. Real environmental restoration would be to re-establish this land as bottomland hardwood forest with what is left of the creek re-establish a natural channel.

This project is in the floodplain and is subject to numerous

30. The EQ plan was identified in the PEIS as an alternative that would reasonably provide ecosystem restoration benefits to the Dallas Floodway.

31. This comment is addressed in the SEIS in Appendix A section on the Flood Damage Reduction plan. Additional flood damage reduction within the Dallas Floodway, if the levees were raised, would not neutralize the benefits of constructing the DFE. Flood damage reduction benefits in the immediate area of the DFE are the primary output of the DFE project and those benefits would occur whether or not additional height is provided to the DFE levees

32. The project would not effect the Floodway but if implemented would provide cumulative benefits to fish and wildlife resources through improvement of wetlands and riparian forested resources. A draft detailed project report for is scheduled for public review this FY.

33. The actions that we were able to identify in the overall study area were evaluated. Most of the proposed projects lack sufficient detail to provide the information requested at this time. For those where sufficient data exists, their adverse and beneficial impacts are included in Table 4-1.

34. Erosion from both high and low flows and from flows through Lemmon Lake eroded the control structures in the past. The justification for the project is based upon restoration of modern historic conditions, which include a wetland complex within Lemmon Lake and Little Lemon Lake and riparian forest protection and improvement.

floods (I observed this land submerged 7 times in the first 7 months of 2002). Historically, the land was once a relatively level floodplain with a bottomland hardwood forest before it was used as a sand and gravel borrow early in the last century up through the 1960's by TXI. Several episodes of Rod and Gun Clubs used the land for recreation. For a while the land was virtually unoccupied and the lakes were being filled in by dumping. Big Lemmon Lake with levees around it was essentially dry in 2000 from silting up behind the levees.

35

Dallas County obtained part of the land in 1980's and has expanded their ownership to almost 400 acres. It is their desire coaxed by the CESWF to re-establish Big Lemmon Lake as a body of water by diverting some of the water from the source that feeds Little Lemmon Lake. Little Lemmon Lake has never dried up in the last 25 years due to a western water source (spring) that once flowed into Five Mile Creek before it was diverted to the south of McCommas Bluff Landfill. This project should have restored the floodplain to it's original condition as 390 acres of bottomland hardwood forest on the floodplain. Instead, $7 million of taxpayers money is going to be spent to temporarily restore a sand and gravel borrow pit to man-made synthetic conditions equal to those 40 years ago.

36.

19. top of the page, Trinity River Corridor Comprehensive Land Use Plan (CLUP), conceived and paid for by the City of Dallas for a developmental contractor HTNB to come up with various developmental scenarios based on various plans and urban designs. This study is mostly limited to socio-economic urban development and does not satisfy the more broad considerations of an environmental impact. But, at least it attempts to consider what can happen in the foreseeable future assuming projects are completed. Although this is not required by the City as part of the Federal contract with the CESWF for the DFE, in this instance the City is using more foresight than the CESWF by attempting at least to assess the direct and indirect socio-economic cumulative effects of combined projects that include the DF, DFE, toll road, and the Great Trinity Forest. If the City can see that these Federal projects are all connected and that there will be cumulative developmental urban planned effects why can't the CESWF? This is the kind of study the CESWF should have conducted, or, had a contractor do for an assessment of cumulative impacts for the DFE FEIS.

37

35. The Lake was dry due to the failure of the water control structure.

36. The stated intent of the restoration project as agreed to by the sponsor was to restore the aquatic and wetland features associated with Lemmon Lake, Little Lemmon Lake and to improve the existing riparian and bottomland hardwood

37. The Corps considered the cumulative impacts on the broad social issues of public services, environmental justice, aesthetics, historic and cultural and environmental resources. The depth of the study being done by CLUP is important for the city of Dallas, but it sufficient information is available to assess the cumulative impacts related to the DFE project.

Although early in the process, at the only public meeting held by HTNB (early 2001 at Reverchon Park Recreation Center) where HTNB wanted environmentalist input, their developmental/economic models stopped along the upper reaches of the DFE and virtually excluded the southern part to Loop 12 and beyond.

Moreover, the DFE and toll road have been touted by the Dallas Plan and the CESWF as bringing more economic development to the area south of the DF, however, no economic development came as a result of the the I-45 bridge built in the 1970's.

38.

20. P. 3-17, para. 5, Figure 3-3 should be on page 3-18.

39.

21. P. 3-17, para. 6, CULP should be CLUP.

40

22. P. 3-18, para. 1, Current Status, referring to CLUP, most of these plans occur after the Trinity river corridor projects ie. toll road, DF, DFE, etc., are complete. These initiatives and urban plans reflect the direct and indirect cumulative impacts as a result of the combined projects and more detail needs to be included as cumulative impacts.

23. P. 3-19, 1st para., CESWF states (p.3-19) that, "By far, the proposed action within the general geographic area of the DFE with the greatest potential for cumulative effects is the proposed Trinity Parkway or Tollway." Why? CESWF needs to explain why the toll road has the greatest potential for cumulative impacts, than the collective projects that the CESWF is going to build, and or permit through their regulatory function. The CESWF will permit the Tollway, Segment IV of PGBT along the Elm Fork at the north end of the DF, will either build their version of the DF, or permit the City's MIP version, build the DFE, Joppa Preserve, and permit the McCommas Bluff landfill levee extension. The cumulative impacts of all these combined CESWF projects and permits is far greater to the river ecosystem than just the toll road. If the City decides to build the MIP in the DF rather than the CESWF EQ Plan, the CESWF will permit this project as well. Will the CESWF deny the toll road permit? Will the CESWF deny the City's MIP for the DF? Not likely, they hardly ever deny a large agency their permit. CESWF should list the projects and permits they have denied, and the reason(s) for denial. If the combined effects of CESWF projects and permitted actions represent less cumulative effects than the toll road, then the CESWF needs to explain how this is so. This statement also indicates

41.

38. The DFE project is authorized for flood damage reduction. The DFE project could bring economic development to the area south of the Dallas Floodway.

39. Thank you for the comment.

40. The correction was made in the final SEIS.

41. From information currently available, the Tollway/Parkway alternatives that would utilize the existing Dallas Floodway levees would require a hydrologic and hydraulic mitigation plan, and an environmental mitigation plan. It is anticipated that the H&H mitigation plan would require extensive modification of the floodway. The combined footprint of the Parkway and H&H mitigation area would impact wetlands and forested areas that would need mitigation. Pending permit actions will also require mitigation to meet requirements established by Corps (PEIS) and local governments (CDC) to reduce cumulative impacts to riverine ecosystems.

that the CESWF has already calculated lesser statistics, but does not provide them.

42. 24. P. 3-19, 1st para., General comment continued relative to the "greatest potential for cumulative impacts" above in No. 23. In a table, the CESWF needs to tabulate the total acreage of all of these projects with their various alternatives that will alter the hydraulic and hydrologic (H/H) existing conditions. The existing conditions is what exists presently and represents the flow dynamics at present without the 22 projects listed in the SEIS, because the CESWF is involved with all of these projects by either building or permitting these projects, and because they regulate and control the waters of the U. S.

From what can be gathered from the project acreage in the report, although not all the acreage is provided, or listed as minimal acreage for the alternatives in the report, at a minimum at least 6,000 acres of the floodway/floodplain will be impacted by just 10 of the 22 projects. Acreage calculated from the following:

Segment IV of PGBT on the Elm Fork (170 acres, although mitigation is minimal and not located, represents 0.63 : 1.0 ratio of mitigation to project impact usually at 1:1 ratio),

Stemmons North (1,034 acres),

DF 2,005 acres (mean value [City's MIP 1,603 acres], or CESWF 2,406 total acres made up of [1,422 DF CESWF Flood Reduction], and [984 acres CESWF EQ Plan]),

S. H. 183/West Fork, if reliever route along north side of West Fork (not listed in SEIS) still in plan (several hundred acres [estimate ca. 300acres]),

Loop 12 /I-35 Corridor (20 acres),

Old Trinity Channel (110 acres),

Toll Road 500 acres inside existing levees,

DFE (1,169 acres),

Joppa (250 acres),

42. The Corps has identified the similar reasonably foreseeable projects in the geographic area of the DFE and has assessed the cumulative impacts of those projects. Acreage data and effects on hydrology area were included in tables in the final SEIS.

43. for a total of approximately 6,000 acres. How would the H/H in the DFE be altered relative to existing H/H conditions by each project, or combinations of projects, added cumulatively to include all the projects? The CESWF needs to model the H/H cumulative effects for these projects and how they will cumulatively effect the H/H in the DFE.

44. 25. P. 3-19, para. 2, according to M. Morris head of Transportation at NCTCOG (North Central Texas Council of Governments), at the first public meeting for S. H. 183 renovation he said, "S. H. 183 renovation at the south end considers the toll road in place, in concert with the 2020 Transportation Vision NCTCOG developed that was contingent upon the toll roads being in place." This kind of "corporate agency pressure" for plans to proceed without clearance are presumptious, assumes environmental compliance and other regulations not issues, and can be very costly to the taxpayers. Under cumulative impacts the CESWF should also include NCTCOG 2020 and 2050 Vision statements for the central role the toll road plays in transportation plans because it relates to the indirect and direct impacts of the Trinity river corridor projects. Can the toll road be built without the DFE? Probably, by building it outside the levees. TxDOT with a CESWF permit, needs to determine and make public whether the toll road can be built inside the existing levees without the DFE. If it can not be built without the DFE then this would demonstrate the direct impact of the DFE on the toll road inside the levees.

45. 26. P. 3-20, 21, paras. last and first, Combined Tollway-Riverside, width 332 feet (+ swale?) in the floodway, Split Tollway-Riverside width 246 feet. Is the total width of the Split Tollway 266 feet (road + 20 ft. swale), or 266 feet on each side for a total of 532 feet in width? This needs to be clarified. As writtern, it is incorrect that a split road would take up less acreage where two roadways have to be built on each side of the levees than a combined roadway on one side of a levee.

27. P. 3-22, 1st para., Project Pegasus, at current TxDOT 3rd public MIS/EIS Pegasus meetings (21 and 23 January 2003), the agency assumes the DFE and toll road in place. TxDOT spokesman leading public meetings Timothy Nesbitt, states that TxDOT will not build

43. The cumulative impacts to H&H of reasonably foreseeable projects that could be identified were included in the final SEIS.

44. The public is well aware that the Corps has planned to build the DFE project. It is understandable that other agencies who have interest in planning to construct roads, buildings, recreational features or anything else in the DFE area would initiate their process with their understanding of the most likely scenario for the DFE.

45. Roadway width refers to width for one direction, the Tollroad width refers to the total width for both directions. The combined roadway requires a smaller footprint.

Pegasus (Mixmaster I-30/35/Canyon I-30) unless the toll road in the Trinity is in place.

There is no doubt that the traffic congestion in the Canyon and Mixmaster needs to be relieved for many reasons. The toll road inside the levees is considered as a reliever for the project. If built the toll road inside the levees will service southeast Dallas with only 5% projected traffic growth to 2020 by TxDOT as stated at their first public meeting, and backed up by DART's (Southeast Corridor) traffic frequency study on Hwy. 175, where the traffic frequency was so low it could not even support an HOV lane. The toll road will not service the east corridor with I-30/Hwy 80, so the toll road will not relieve this traffic estimated at 180,000-200,000 vehicles a day (TxDOT at DART East Corridor MIS meetings). North to southwest traffic on I-35 (>200,000 vehicles per day) travels south across the river, or exits east to west on I-30, while traffic frequency traveling to the south central and southeast corridors is much less, primarily because of the large Trinity river floodplain that is undeveloped. I-45 to the south central corridor has 75,000 vehicles per day, and Hawn Freeway (Hwy. 175) to the southeast sector has about the same frequency or less than I-45. At the MIS meetings the toll road inside the levees is sold to the public as relieving the I-30 and I-35 traffic congestion but only ties into Hwy. 175, leaves out I-45, and Hwy 175 carries very low traffic frequencies with a projected growth of only 5% to 2020. Therefore, the northwest to southeast toll road inside the levees will relieve very little of the I-30/I-35 Canyon and Mixmaster traffic.

The agency does not even consider renovation of the I-30 Canyon/I-30/35 Mixmaster in a manner that Fort Worth renovated their Mixmaster. TxDOT did not even consider building a reliever road between the levees along the West Fork in Fort Worth. This is a relevant example of how indirect impacts of the DFE/toll road can get out of control by Federal agency pyramid building and Federal "agency corporate leveraging (or public blackmail)" when the agencies try to sell their project(s) to the public by assuming other projects such as the DFE/toll road are in place, or they will not build them. The toll roads are predicated on the DFE. Pegasus is predicated on the toll road. The direct and indirect impacts of these projects effect the alternatives that an agency will even consider. There is only one more public meeting on this project and the EIS is due to be completed by June of 2004. The CESWF description of this $770 million project is so minimal it is virtually useless.

46.

46. The needs for and justification for the tollroad reliever route are outside the Corps area of responsibility or expertise. However, we have evaluated the cumulative impacts of alternative alignments based upon information available.

47.

28. P. 3-22, 3rd para., Woodall Rodgers Extension and Bridge is a very limited discussion. This is another project that is part of the direct and indirect effects pyramid that is contingent upon the toll road, that is contingent upon the DFE, leveraged by the agencies involved. This project cost has doubled from the 1995 $35 million bond initiative to $70 million with a designer bridge from private non-agency donations. According to the CESWF the environmental studies are in internal review, have not been made public for review. This seems rather presumptious, part of the "agency leverage pressure," if the design can not be determined until the toll road alignment is selected, or if TxDOT/NTTA can even build the toll road.

48.

29. P. 2-22, Segment IV of the President George Bush Turnpike (PGBT) - where are the mitigation locations? How will the H/H existing conditions in the DFE be effected by westward build up of the Segment IV levee and displacement of the floodwaters in the Elm Fork floodplain? NTTA/TxDOT did not know, or include H/H models of their project at their public meetings for their Segment IV EIS? The CESWF permitted this project without H/H impacts determined.

49.

30. P. 2-23, West Fork Corridor S. H. 183, at the first MIS public meeting in winter 2000 (see No. 25 above) for this project, M. Morris Head of Transportation for NCTCOG said, that this project was predicated on the completion of the Trinity river toll road, and the toll road was central to NCTCOG's 2020 Transportation Vision.

This project included a western oriented reliever that was proposed within the West Fork floodplain along Hunter Ferrell road on the north side of the West Fork to Hwy. 360. This project is beyond MIS and is in EIS stages. The inclusion of the west reliever route within the West Fork floodplain would have a cumulatively large impact to the H/H in the West Fork, and combined with all of the other projects an even larger impact on the DFE H/H. The CESWF information on this project and whether the West Fork reliever is still included needs to be updated.

31. P. 3-25, para. 2, DART SE Corridor Crossing White Rock Creek. A total of 13 water bodies are crossed (DART EIS, p. 3-88) and at least 16 acres of floodplain filled in (table on p. 3-90) to create grade within 100-year floodplain (DART EIS, p. 5, 111-114), at preliminary 5-10% complete designs in EIS. This project began in 1988 with taking over ownership of the rail line, MIS studies in late 1998-1999

47. Only the final design of this bridge is contingent upon design of other projects. The justification for the bridge is not based upon construction of DFE or other projects.

48. The applicant was required to perform detailed H&H studies to be considered during the review of this permit.

49. To date, the MIS resulted in selection of a recommended plan of construction that would result in the widening of existing Hwy 183 from 6 to 8 lanes with a HOV system and bicycle and pedestrian considerations. Reliever route studies are underway although broad alternatives have been considered no plan has been sufficiently identified to determine and that any route would be a reasonably foreseeable project.

50.

and in revision of DEIS. Project crosses 2 mile wide White Rock Creek floodplain, with 5-10% complete designs that include build up of concrete ramp west of Dixon over UP RR, with elevated structure east of Dixon 2,200 ft. long with some earthen levee support across the floodplain, creating elevated conveyance structure (details unclear at this time) over White Rock Creek channel. DART did not do H/H for existing conditions, or H/H for build conditions to determine H/H impact of project on the White Rock Drainage.

Project location description needs to be improved. Rail line will be located along to be built rail corridor from downtown through Deep Ellum, to Baylor Hospital, to Fair Park (west and east side), along existing rail ROW on Trunk street, running southeast paralleling Robert B. Cullum, east along existing DART owned rail right of way paralleling Scyene (Hwy 352), turning south through the forest along the west drainage of White Rock Creek west of Jim Miller road, turning southeast to parallel Hwy. 175, crossing Lake June road, and ending at Buckner Station at Loop 12 and Hwy. 175. It is obvious from CESWF unfamiliarity with this project that DART has not contacted CESWF on this project much seeking a CESWF permit.

32. P. 3-26, para. 3, inaccurate as to no zoning changes, in Dallas Plan 2nd public meeting 18 July 2000 Cadillac Heights Community Plan lengthy handout the CESWF is misleading that there have been changes in the zoning definitions. In the 1965 City zoning map provided in the brochure did not demarcate the 100 year flood, did not zone the areas to the north of Morrell, and listed an area on the northeast between Morrell and Cadillac as I-2 and areas to the south of Birdsong Drive as I-2. Areas to the east of Sargent road where Darling Industries is now located (fat rendering plant) and where

51.

National Lead and Dixie Metals were located, along with the huge City CWTTP have no zoning designation. In the current zoning map the 100 year floodplain is added, IM-Industrial Manufacturing is added to the north of Morrell where several scrap metal companies and one animal rendering plant is located. The I-2 in 1965 at the northeast corner between Morrell and Cadillac that was I-2 is now listed as IR for Industrial Research where an animal rendering plant and chrome plating plant are located. This is industrial research? The previous 1965 I-2 designations south of Birdsong Drive have been changed to IR (Industrial Research) for an engine and used truck parts company and a huge DART regional vehicular repair facility. These are industrial research? The industries on the east such as the CWWTP,

50. The aspects of the Dart SE corridor project that impact floodplain resources were described and the cumulative impacts were addressed in the SEIS.

51. The intent of the discussion about zoning was to indicate that the homes that are in the Cadillac Heights area are allowed to stay under previous and existing zoning definitions.

Darling Industries, etc., are not designated and the Dixie Metal toxic landfill is not designated, as well as the National Lead contaminated area is not designated. At least in the current zoning provided by the Dallas Plan the 100 year flood limit (although from 1970 data) was demarcated, something the CESWF did not do in either the DEIS or the FEIS on the DFE.

52. Paragraph 4 is inaccurate. See comment No. 11 above on page 10. City also contracted for >$100,000.00 study of drainage within Cadillac Heights that is not included in SEIS. CLUP study hardly touched on Cadillac Heights and was more interested developing within the the DF. There have been zoning changes, to the north from no designation to Industrial Manufacturing (IM), the 100 year floodplain has been added and demarcated, the areas of industrial facilities and waste treatment utility facility to the east of Sargent road are not labeled, at least in the Dallas Plan zoning map provided, I-2 (light industrial) without Dixie Metals and National Lead included, went to IR. This is the ridiculous and deceiving Industrial Research designations for a chrome plating plant, animal rendering plant, and truck and bus vehicular repair and parts, with toxic areas such as where Dixie Metals is located not mapped. Nothing can be built on top of the 13 acre Dixie Metals land more than 100 years (2001 TNRCC remediation meeting). The CESWF needs to refine their discussion of Cadillac Heights.

53. 33. P. 3-27, Elm Fork Area, CESWF needs to discuss the City of Dallas desire to significantly raise Frazier Dam, and the effects the raising would have on the H/H above and below the dam. Recreation study by Freeze and Nichols, Inc. 2001 should have been mentioned. This will enhance bank erosion and inundate the flora along the banks. Is Mary Kay Lake going to be effected?

54. 34. P. 3-28, 1st para., DCRUD should read DCURD.

55. 35. P. 3-28, 2nd para., "Chain of Lakes," is part of the MIP plan and only one lake would probably fit after the features of the other projects are built. If not toll road not built City would still have to get permit from CESWF to excavate in the floodway. Again this is predicated upon other projects and the pyramid of project features on top of other project features, all leading to cumulative impacts on the H/H of the DFE.

52. The information in this section of the report is related to the potential for buyouts occurring by any entity of the Cadillac Heights area. Some have alleged that the Cities zoning definitions would ultimately make it easier for investment businesses to change the Cadillac Heights area from residential area to a business office, and high-density resident area once the levee is in place. Information available to us does not indicate that such a conversion is imminent, and should it occur, it would be through private investment likely at benefit to the current landowners.

53. This section of the report addresses flood damage reduction alternatives being considered. Frazier Dam is discussed under the section on fills and permits. Freese and Nichols conducted the Elm Fork Management study discussed in this section and the discussion includes recreation. Effects on Mary Kay Lake 54. Correction was made.

54. Noted

55.Cumulative impacts of "reasonably foreseeable projects" in the geographic area of the DFE have been fully analyzed.

56.

36. P. 3-28, 3rd para., Equestrian Center, Walford should read Watford. Intrepretive Center and Equestrian Center to cost ca. $20 million. CESWF Joppa project with equestrian trail is tied supposedly tied to this center, as well as the Loop 12 boat ramp, and Swale Cell G of the DFE, all located very near each other. However, at current public meetings about the Interpretive/Equestrian Center BRW does not where they will be built, or if they will be built together

57.

37. P. 3-29, 1st para., Old Trinity Meanders Trail, what is the CESWF role in this? What White Rock Creek Trail? What White Rock Creek Park Chain? I was an active attendant at the Lower White Rock Creek charette with the NPS in May 2002 and I am on the White Rock Heritage District Trail Committee and Brochure Committee, and I have never heard of the White Rock Creek trail and park chain.

58.

38. P. 3-29, 2nd para., South Loop 12 Boat Ramp, construction date is April or May 2003 (Mary Ayala, TRCPO Recreation Department). CESWF already permitted the project after notified of an archaeological site to be impacted by project. CESWF by not requiring archaeology to be done is in violation of NHPA (National Historic Preservation Act of 1966). This is a violation of Section 404 permit regulations pertaining to NHPA under procedures found in 33 CFR Part 325, Appendix C, compliance with NHPA and other laws dealing with historic properties (Feferal Register vol. 67, No. 46, p. 10822, 8 March 2002). CESWF Regulatory Section has required archaeology to be done on many Section 404 projects as significant sites were located. CESWF ignores the existence of the site, especially under the new discoveries that have been made since August 2001.

The City's boat ramp goes through the north end of a large important stratified multi-component significant archaeological site (41DL350) radiocarbon dated to 600-1,000 years ago, that contained at least one human skeleton (burial). Under the Texas Antiquities Code pertaining to significant historic sites the TxSHPO requires the City to do archaeology on the north end of the site impacted by boat ramp.

CESWF does not consider 41DL350 directly or indirectly impacted by the DFE project. The site is located 100 feet from the south end of Swale Cell G at the south end of the DFE project. CESWF also ignores 41DL69/70 a prehistoric Native American site (reported with 7 human skeletons), and 41DL320 an historic City of Dallas landfill dating from ca. 1880-1920, both are within the footprint of

56. Studies are still underway to determine location and project features of the Interpretive Center and Equestrian Center.

57. Other than attempting to obtain information on what projects might have cumulative impacts to DFE, the Corps has no role in the trails listed in this paragraph.

58. Site DL350 is currently being contracted out by the City of Dallas for excavation exactly for this reason. A local archaeological contractor has been selected to perform archaeological excavations of site 41DL350 in the near future. Site 41DL69/70 was tested by another local archaeological contractor several years ago and was determined to be ineligible for the National Register of Historic Places with SHPO concurrence. Sites such as 41DL320 would have to be investigated should the Corps look into a project affecting this area.

59.

the Lamar Street levee and sumps of the DFE project. CESWF is required to do the archaeology at these sites under direct and indirect impacts under NEPA and NHPA regulations in 36 CFR Part 800 (known as Section 106) for Federal undertakings (Federal Register vol. 64, No. 95, pp. 27071-27087 18 May 1999, published as Part II by the Advisory Council on Historic Preservation). With the presence of human skeleton(s) at 41DL69/70 and 41DL350 the CESWF is also violating the regulations for Section 106 undertakings with regard to NAGPRA (Native American Graves Protection and Repatriation Act of 1990) consultation with native tribal groups that have a historic claim to the area (such as Caddo, Wichita, Comanche). To ignore these sites and not do anything is a violation of the laws outlined in Federal regulations pertaining to NEPA, NHPA and NAGPRA under Section 106, and Section 404.

60.

61.

If the CESWF can justify the $7 million, 1135 Joppa Preserve Project because of downstream right bank erosion due to the Dallas Floodway that is 6 miles upstream; imagine the amount of erosion of the right bank once the Trinity river channel is realigned, levees are extended ca. 2.5 miles downstream, and the southern end Swale Cell G ends 100 feet from river bank with archaeological site 41DL350. Clearly, the direct and indirect cumulative impacts of the DFE on Cultural Resources (archaeological aspects) right at the DFE were ignored by the CESWF.

62.

39. P. 3-33, 1st para., 770 projects were authorized in the Upper Trinity River Basin during the study period. How long is the study period, from 1965, or 1998? What was the source of information provided here, the Upper Trinity River Basin (UTRB) PEIS? If that document was used the amount of forested areas in the UTRB declined relative to the baseline 1988 TREIS. The projects listed do not add up to the total projects.

40. P. 3-30, 2nd para., CESWF lists 4 significant permit actions, the first 3 are really huge:

a. 425 acre McCommas Bluff Landfill Levee Extension and Swale by the City of Dallas further confines the Trinity river downstream from the DFE and Joppa, and essentially fulfills the CESWF original 1992 plans to develop flood control south to I-20. This project will extend landfill refuse east into waters of the U. S. and sediment carried in the overflow swale jeopardize the filling of large meander bends that

59. NAGPRA is not valid for sites not on Federal land. Any sites where eligibility status is unknown or where the site has been determined potentially eligible to the Register would have to be investigated if we had a project that could potentially disturb them. Site 69/70 has been tested several years ago by Geo-Marine & SHPO has concurred the site is insignificant & ineligible for the National Register of Historic Places.

60. The analysis conducted in the Final SEIS (Appendix A) does not support the contention that the cumulative impact of DFE and reasonably foreseeable projects would promote additional downstream erosion over the existing conditions. See response to Comment 58.

61. 770 permits were authorized during the period December 1, 1999 to September 1, 2002. The source of the information as described in the section was from the Corps of Engineers Regulatory Branch.

62.The size of the project and its potential to impact wetlands and forested resources were considered in the FSEIS. These resource issues are also factors in issuing the permits for the proposed actions.

63.

have been cut off from the Trinity river by channelization. The old meanders provide excellent wetland habitat.

b. Raising Frasier Dam by 2 feet will raise the surface water level through 4 miles and erode the banks towards California Crossing dam, link drainage to an unspecified lake (Mary Kay?), transfer water to Bachman Creek drainage and the other ramifications of this project CESWF does not mention. The CESWF provides little information about this project, no maps, and the impacts need to be more fully described and detailed.

c. Basic Capital Improvement involves development of a 138 acre tract at I-635 and Luna road that will result in loss of >14 acres of open water, fill 39 acres of the 100 year floodplain with unspecified loss of valley storage, and development of two new lakes. Where are the 2 new lakes going to located? What is the location and impact of this project relative to Segment IV of PGBT which is not included in Figure 3-3? No details are provided and the CESWF is vague about who is doing the project, and provides no map.

d. Park and Ride facility at I-30 and MacArthur Blvd.) that "have the potential to cause cumulative impacts in relation to the DFE." CESWF does not describe what the cumulative impacts would be?

64.

Just these four permit projects together would have huge cumulative impacts on the H/H of the floodway altering approximately 1,000 acres of existing conditions upstream that would effect the H/H in the DFE and when combined with the other 18 projects the effects on H/H is much larger.

41. P. 3-34, end of chapter general comments. CESWF should have produced a map of all of the projects they describe in this chapter. CESWF produced a map, Figure 3-3 of all the CLUP possible developmental opportunities gathered in the past two years, but CESWF can not produce a map of all the projects they describe in the Trinity river corridor that they have known about for many years.

CESWF should have had the agency(s) or agency project managers of each project submit to them by July 2002 a brief summary report describing the project with alternatives and specifications on a schematic map of their project (with alternatives), instead of the CESWF using 34 pages of the report describing each

63. All these permit considerations were evaluated in the cumulative impact analysis for resources in the SEIS and the FEIS.

64. Map included in PEIS and added to SEIS (See Figure 3-9) Extensive scoping was conducted to determine the projects proposed that might have cumulative impacts in relation to the DFE. Scoping included public meeting, public notice requesting information, newspaper notices, individual contact with agency employees and written correspondence to city representatives familiar with proposed development. The information we obtained came from these sources and from other published information.

project in their limited terms. The other project managers know their respective project better than the CESWF. That way, the CESWF could have concentrated on the cumulative H/H impacts and run
65. their HEC-2 (or whatever H/H models they use now) H/H models for these projects, so that, the public and the court could intelligibly assess the cumulative effect these projects would have on the Trinity river and the DFE. Instead, CESWF wasted a lot of time, space, and money, listing projects (some do not even effect flow models, some not listed), while providing nothing on the how these projects effect H/H. Moreover, the CESWF fails to address cumulative direct and direct impacts related to the DFE project proper.

In some instances the CESWF provides new information about projects, but, in many instances the information is minimal, dated by one year, or more, and CESWF tends to minimalize the impact to existing conditions. The CESWF should have provided a date for their information.

From my limited knowledge and involvement through the public process I have tried to point out some of the shortcomings, and omissions in the CESWF long list of 22 projects, and projects they missed that will be impacted cumulatively, either directly, or indirectly.

42. P. 4-1, para. 3, Cumulative Impacts, most of this paragraph is whining, and argumentative. "To date, there remains no universally accepted approach to the preparation of cumulative effects analyses. "The same claim can be made that there is no universally accepted approach to the preparation of H/H models.

66. "CEQ...not practical to analyze cumulative impacts for other than those truly meaningful environmental effects." I assume the 22 projects described in the previous 34 pages of chapter 3 are meaningful.

"In addition, the determination of the level of effects that produces the threshold beyond which cumulative effects significantly degrade an ecosystem or other resources is difficult." The process is never easy just do the job. The DFE project alone has cumulative impacts to the forest, archaeology, river aquatic ecosystem, the flow dynamics of the Trinity river through the DFE, and the other projects (called progress) up and downstream will have a cumulative impact on the H/H modeling in the DFE, that were not considered in the DFE DEIS or the DFE FEIS.

"For a cumulative effects analysis to be worthwhile it must be

65. The final SEIS has a detailed discussion of the H&H cumulative impacts

66. The DFE has direct impacts to forests and other resources which were documented in the DFE GRR/EIS. Cumulative impacts of other reasonably foreseeable projects in the geographic area of the DFE have been addressed in this FSEIS.

67.

limited through scoping to the effects that can be evaluated meaningfully." On the contrary, cumulative effects analysis must not be limited through scoping, so the complete ramifications of individual projects can be understood in order to meaningfully evaluate each project in relation to others for the larger picture.

68. "Accordingly, the scope of this cumulative impact analyses has been limited to the projects and resources listed below." Which is essentially what was described in Chapter 3.

43. P. P. 4-1, para. 5, Flood Damage Reduction Projects only 2 listed. The DCURD project mostly reduces damages to the Las Colinas facilityand has small ramifications to the overall hydrological dynamics of the H/H of the river throught he DFE. The other project, Dallas Floodway modifications by the CESWF. Here, again the CESWF trys to sell their Flood Damage Reduction part of project in the Dallas Floodway directly upstream of the DFE by raising the existing levees (2 ft.) adding to the SPF level of protection for the CDB. If this was done it would negate the need for the DFE. If not, then the CESWF

69. needs to demonstrate how the DFE would then still be a viable project.

44. P. 4-2, top 4 paras., Transportation, Ecosystem Restoration, Recreation, Fills, Permits, Utilities, & Other Activities, maybe the heading on these four chapters should read, "Flood Damage Inducement Projects." Again another list of the projects described in Chapter 3.

45. P. 4-2, 1st para., Taken from the first paragraph, where the CESWF plays down the size and impact of all of the projects, "The majority of these individual projects are small," however, cumulatively cover over 25 river miles of the Elm Fork, West Fork and the Trinity river mainstem that the CESWF did not summarize. Then CESWF states, "In addition, the President George Bush Tollroad, Segment IV, largely falls on new alignment within the Elm Fork Corridor, and therefore, direct and cumulative impacts must be considered." Exactly, that is what the court ordered the CESWF to do, not to merely restate it has a cumulative impact. The public has commented in writing many times that the CESWF should have included the DFE project as well as many others.

46. P. 4-3, 4-4, Table 4-1, Estimated Project Impacts (Acres) To

67. We believe you have misinterpreted what we have indicated in this section. The intent of this section is to disclose to the public and decision makers that determination of cumulative impacts is not a well-founded science and the process is being slowly defined, as is being done through this document. Scoping was held to identify 1. Similar future reasonably foreseeable projects in or affecting the geographic area of the DFE and (2.) Resources that should be considered in the cumulative impact assessment. The projects considered in Chapter 4 are the ones we believe meet those criteria.

68. The need for DFE would not be eliminated by implementation of the FDR alternatives in the Dallas Floodway. The FDR in the Dallas Floodway does not provide protection for Lamar or Cadillac Heights area, nor improved protection for the Central wastewater treatment plant or for the Rochester Heights area.

69. Cumulative impacts of President George Bush Segment IV were considered in the cumulative impact tables and resulting analysis.

70.

Floodplain Resources By Reasonably Foreseeable Projects In Study Area. In this table the CESWF attempts to show for every impact there is an offsetting mitigation that negates any impact for the following ecotypes, to essentially indicate there is no cumulative impacts: Column labels: Waters of U. S. (not sure what this means, river?), Open Water, Wetland, Forest Improvement, Forest Conversion Grassland/Buffer. The columns are crossed with rows that list the projects and the amount of acreage negatively impacted followed by a row of mitigation positively impacted.

I am not going to go through each one of these and describe the deficiencies, but I will point out a few, to indicate that this table is incomplete as presented and needs revision. Dallas Floodway Levee Raise does not include the 738.5 acres of grasslands that will be lost. George Bush IV lists -58.6 acres for Waters of the U. S., while nothing is listed for Water of the U. S. for the DFE. Channelizing the Trinity river is not Waters of the U. S.? Frasier Dam has no mitigation and impacts are not complete. Where are the 2 lakes to be added for the Basic Capital Management project? And so forth.

71.

There is no summary total provided for Table 4-1 and nothing on how H/H flow, velocity, carrying capacity, and valley storage is effected through the the Trinity river corridor and the DFE.

72.

Even though there are elements taken away here, and elements put back as listed in Table 4-1, these trade offs can differ in kind and place, that can also reconfigure the flow that will alter the flow dynamics of a river system. CESWF does not address this.

47. P. 4-5, 1st para., introduces Table 4-2. CESWF left out several important projects in Table 4-2 such as the DFE, Pegasus, CLUP, and the City's MIP for the DF to list a few. The CESWF continues to sell their project (FDR and EQ) for the Dallas Floodway by omitting the Dallas MIP for the Dallas Floodway.

Table 4-2 presents what appears to be a very busy matrix of projects with resources along the left margin forming rows (x-axis) and projects across the top forming columns (y-axis). Many of the agencies that are involved are not identified, however CESWF identifies their projects, but not the number of projects they will be permitting, because No. 8, Section 10 and 404, is omitted. The rest of the matrix is filled in with the CESWF subjective (biased) judgement on the impacts of each project. Not how they cumulatively will affect each other when they are located directly next to each other, or how

70. Data available was utilized and a cumulative impact assessment was conducted.

71. Table 4-2 was revised as Table 4-7 in the FSEIS to clarify that the "Other Floodway Bridges" column includes Pegasus. No single defined ultimate development for the Floodway can be defined at this point. However the alternatives that have been proposed were included in the cumulative impact assessment.

72. We believe the cumlative impact analysis was correctly conducted based upon information available and professional judgement.

73.

collectively all the projects affect the Trinity river corridor through the DFE. Four (18%) of the 22 projects listed are CESWF projects. CESWF permitted projects No. 8 omitted, however would include the other 18 projects.

I have included some of the omissions, shortcomings, and examples in the following items from Table 4-2, these are only an example of a few, to go into more detail is too lengthy of a comment, but these should provide a brief example of the problems with this type of scoring.

Notice there are only 14 Potentially Impacted Resources in the first column. Seven (50%) of the resources have to do with water. Developmental resources, economic, HTRW, animal life (terrestrial and aquatic), downstream erosion/flooding, direct or indirect impacts of these are omitted.

The impacts are scored on the subjective basis of Slight, or Moderate, Adverse, or Beneficial Effects, or No Affect. These are meaningless impacts unless the CESWF defines what they mean by slight and moderate, and explains what these terms mean. In terms of H/H models the effects can be quantified. No total acreage is provided, There is no summary total column because of lack of quantification.

Notice out of 22 projects CESWF lists (although all projects are not listed) there are only 4 flood damage reduction projects, and of these only one is substantial (d below).

a.) The Stemmons area project (ca. 1,000 acres) should be negated as flood reduction because it probably will not get built by CESWF, and should be shifted to Fill Activities, as the City plans to fill in 473 acres of floodplain (discussed in para. 3, page 4-5, and below) and Stemmons should be changed to at least moderate adverse impacts.

b.) The Las Colinas levee raise of existing levee is a small project brought on by alteration projects up stream and nearby, such as Segment IV of PGBT, infill of batch plant east of North American Equipment, and probably the Basic Capital Management project that does not seem to get plotted on a map, or clearly described.

28

73. Acreage data where available was provided in table 4-1. Cumulative impacts of those activities are summarized in Tables 4-2 and 4-3 in the FSEIS. H&H data has been included in multiple tables in the FSEIS

74.

c.) The ATSF historic RR bridge next to the DART line in the DF is of eligible NRHP (National Register of Historic Places) historic importance under NHPA (National Historic Preservation Act). Alteration of the bridge existing conditions would have adverse effects. In Table 4-2 the ATSF bridge was rated as no effect under Cultural Resources, Aesthetics, Slight Beneficial for Public Services, and for H/H: Slight Beneficial upstream, and Slight Adverse downstream. The No Affect scoring seems confused for Cultural Resources and Aesthetics. On page 3-26, Figure 3-5, the historic status of the bridge is not stated, however it is probably eligible because they are going to leave the historic RR bridge, and there

75.

seems to be back and forth agency negotiations typical of Section 106 of the NHPA, concerning the type and kind of trestle abutment replacement that would allow conveyance and keep with the theme of historic RR bridge trestle and abutments. Therefore, modification of the ATSF bridge has an adverse impact on Cultural Resources that is not correctly scored.

On page 3-26 CESWF states, "the existing configuration of the support piers and abutments cause substantial impacts to hydraulic conditions of the Dallas Floodway (upstream or downstream impacts not identified)." It seems that the bridge creates moderate adverse impacts (substantial) and after removal of the existing piers and abutments the status will change to Slight Beneficial effects upstream and Slight Adverse effects downstream. Therefore, in Table 4-2

76.

under Flood Damage Reduction the RR bridge modification as described in the text in Chapter 3 (p. 3-26) has no adverse effect on Cultural Resources even though the existing conditions are going to be changed and will have to be mitigated, but has a slight beneficial effect for Flood Damages upstream, and will have a slight adverse effect downstream. How the RR bridge project will have Slight Adverse Effects downstream needs to be explained. Moreover, with Slight Beneficial Effects scored for Floodplain Recreation under the ATSF bridge modification, how will Slight Beneficial Effects occur under Public Services? This is redundant scoring.

The discrepancies discussed above is just one example for a small project like the ATSF historic RR bridge. The larger projects become more involved and distorted for every project on the CESWF list. The CESWF should have been explaining the ramifications and effects of the projects in this SEIS instead of just listing projects.

d.) the CESW DF Levee Raise is the only project under Flood Damage Reduction projects that is subjectively rated as having

29

74. Preliminary coordination by City of Dallas and Transportation interests with SHPO indicate that design of the modification of the ATSF bridge to allow for higher flows and pedestrian traffic while retaining its historic integrity is possible and would not produce a negative individual or cumulative impact on historic or cultural resource values

75. Public Services has been clarified in the FSEIS report to show that it differs from recreation.

76. The discussion you have made in your comments are related to a small project with small cumulative impacts. The more significant reasonably foreseeable projects have been described using data available and additional summarizing and modeling has been conducted to base the cumulative impact analysis conducted by the Corps of Engineers.

77.

78.

79.

Moderate Beneficial Effects under Flood Damages. Under Downstream H/H the levee raise is Slightly Beneficial and upstream H/H it will have a Slightly Adverse Effect. Only 5 of the 14 categories are rated, the rest are No Affect. The existing forest removal, the huge borrow ditches for levee fill, the reduction of >700 acres of grassland, etc. will have effects and these need to be evaluated cumulatively along with the project and the other projects..

There are three projects, all CESWF under Ecosystem Restoration: Dallas Floodway EQ Plan (although not identified as such), Old Trinity (outside of the levees), and Joppa Preserve (that could be left alone to revert back to floodplain bottomland hardwood forest, that will have no economic benefits, and as planned creates another Swale Cell south of Swale Cell G in the DFE).

Looking at the CESWF's Dallas Floodway EQ column one can easily notice the beneficial effects of environmental restoration as scored by CESWF. However enticing this might be, one should remember that this is a synthetic CESWF made meandering channelized project with some tree plantings that has Moderate Adverse Effects on H/H upstream. The CESWF should explain these effects.

Notice that throughout the three Ecosystem Restoration (not really as large as an ecosystem but an eco-niche, or a floodplain environmental enhancement) columns that almost all of the effects are beneficial as scored by the CESWF. True eco-restoration projects are beneficial, but these are not quite what they seem as touted by the bias CESWF.

Joppa Preserve is a $7 million CESWF project to essentially return Little Lemmon and Big Lemmon Lakes to their early 1970's status. These "lakes" were sand and gravel borrow pits created around the turn of the 20th century, expanded by J. J. Lemmon, that filled with water from floods later called "lakes" with Rod & Gun Clubs for fishing and hunting. In the 1960's Gifford-Hill continued to extract sand and gravel, operations finally stopped by 1970, TXU put a power line ROW through the land creating the two "lakes" and a levee was built around Big Lemmon Lake that trapped silt from floods, meanwhile, people dumped into the lakes, and still continue to do so, while Occidental Petroleum's Plant to the west released toxic levels of phosphates into the groundwater and the local environment.

30

77. A "No Affect" rating is also a rating and represents the Corps evaluation of the cumulative impacts we believe that project would provide to the resources listed.

78. Although justification of ecosystem restoration is based upon non-monetary analysis, the Joppa Preserve restoration plan is supported by Dallas County, the City of Dallas, U.S. Fish and Wildlife Service and the Texas Parks and Wildlife Department. Once implemented, the Joppa Preserve will provide substantial opportunity for outdoor recreational opportunities as well, which could produce economic benefits to the area.

79. The EQ plan was modeled for H&H impacts and displayed in the PEIS referenced in the DSEIS. To clarify, the results of the PEIS modeling along with additional modeling has been incorporated into the FSEIS.

80.

Mostly out of neglect because Dallas County does not fund DCPOS (Dallas County Parks and Open Space, Dallas County Brochure, 2001 budget $242 million, DCPOS gets $123,000, or 0.0005 % out of the budget) and DCPOS could not maintain the land, although through Federal funds DCPOS was able to expand the land they own to 339 acres. Land maintenancce is done by the Dallas City Parks and Recreation Department.

According to CESWF the reason for this project was downstream erosion (over 6 river miles) from the Dallas Floodway. Can you imagine the downstream erosion after the DFE levees are extended south by 2-3 miles, with the river channel straightened, and the swale cells to convey floodwaters faster through the DFE? Under the guise of an 1135 Project the CESWF with Dallas County as the local sponsor, wants to re-establish Joppa Preserve to essentially it's early 1970's man-made altered status by dredging out silt from Big Lemmon Lake so the two lakes can retain water, reinforce the existing levees, put two gabions along a large meander of the Trinity River right bank, and replace the Big Lemmon Lake outflow structure.

81.

82.

Most of "The Old Trinity" project is out of the floodway and has been discussed for over a decade, provides no flow effects.

The Dallas Floodway should be identified as the EQ Plan in the UTRB PEIS and should be discussed under item (d) discussed above having to do with the Flood Damage Reduction Floodway Levee Raise authorized under the same project by the CESWF. These are not two stand alone CESWF projects. The CESWF touts this project highly as ecosystem restoration because they want to be the ones to build the project. CESWF does not even include the City's Master Implementation Plan for the Dallas Floodway with a divided channel and lakes that was so highly touted in selling the bond package to the taxpayers that the City has spent several million dollars on for Halff & Associates to develop.

The other 18 projects under Transportation and Fill Activities are not beneficial and have various levels of Adverse Effects. None of the Adverse Effects are quantified and no H/H models are presented to even present an idea of the Adverse Effects. No summation of the Adverse Effects can be determined from this table.

Another interesting aspect of the subjective nature of the CESWF scoring projects can be seen under the first four left columns of Transportation that have to do with the Toll Road, although not labeled as such. These four Toll Road columns are scored relative to

80. As you have indicated, once implemented, the Joppa Preserve Ecosystem Restoration project would be more easily maintained because of the stability provided.

81. At the present time, the Corps is not supporting the EQ Plan nor the Flood damage reduction plan . They are merely alternatives that are being considered.

82. The transportation plan, split riverside, includes the tollroads, lakes and some wetlands as derived from input from NTTA. This plan were closely approximates the City's Master Implementation plan. The NTTA alternatives have been evaluated from environmental and H&H perspective sufficient to conduct a cumulative impact assessment.

each project alternative, instead of existing conditions in the Dallas Floodway and the DFE. What is noticeable is that the project along Industrial has the fewest impacts of all Trinity river projects.

83.

For example, the left column of the Toll Road identified as Industrial, there is one Slightly Adverse Effect and 12 No Affects. CESWF scores the impact to Forested Resources as Slightly Adverse but would have to go to some length to establish that a toll road along Lamar significantly impacts trees. The Toll Road project alternatives should be scored relative to existing conditions instead of compared project to project. No project inside the levees, with, and without the DFE in place would have a different set of impacts than either built alternative inside the levees. While a project built outside of the levees on Lamar/Industrial would seem to have many more Beneficial Effects than those projects built inside the levees, but these benefcial aspects are not scored.

84.

Also noticeable that in the four left columns having to do with the Toll Road, the CESWF's, almost across the board scoring of the Adverse Effects the Toll Road will have except Industrial. Hopefully, this sends a message to NTTA (although very weak with Slight Adverse Effects) that the toll road inside the levees is not advisable.

P. 4-6, last para., Floodplain Forest Resources, makes no mention of the amount of forest acreage that has been adversely impacted, which is substantial. CESWF again attempts to sell their projects in the DF in the following page 4-9.

85.

P. 4-10, 3rd para., CESWF states, "Physical features of the project would directly impact some forestlands that have developed in the last 30-40 years; however, these losses would be mitigated, resulting in a larger area of preserved and reestablished floodplain forests." We have identified some of the trees and measured the diameters of some of the trees, for example, where DFE Swale Cell A will be placed.

There are oaks that measure 2-3.5 ft. in diameter, along with several pecans 2-3.25 ft. diameter, cottonwoods 2-3 ft. in diameter, black willow (>3 ft. diameter), and box elders >2 ft. in diameter. I sent off a pecan tree trunk that measured 13 inches in diameter to the University of Arizona Tree Ring Laboratory to count the tree rings for the age of the tree. The ring count made this tree 75-80 years old (personal communication from Rex Adams to Tim Dalbey November 2002). If a 13 inch (1.1 ft.) diameter pecan tree is 75-80

83. With DFE levees in place the tollroad would cause minimal additional loss of forest within the Lamar Levee alignment. If DFE were not in place , we do not know for sure the alignment that would be followed by the tollroad, however, even if it followed the Lamar Levee alignment, it would not remove any more trees than the Lamar Levee would. Therefore, the cumulative impacts on forested resources would still be minor.

84. NTTA is aware of Corps evaluations of cumulative impacts related to the tollroad alternatives.

85. PEIS thoroughly documented recent changes in resources in the Upper Trinity Basin. The continued loss of bottomland forests is of concern and weighs heavy in the considerations of cumulative impacts. Environmental mitigation particulary when a high percentage of the mitigation preserves existing high quality resources provides cumulative benefits.

86.

years old a 3.0 to 3.5 ft. diameter oak, or pecan, is in the range of over 200 years.

The trees in some locations are young at 30-40 years old mixed with older trees, however they exist now and help clean the pollution in the air, and the public will not have to wait 30-40 years to get what already exists. Furthermore, the mitigation for the DFE project is based on a ratio of 1:1, so the mitigated forest would not produce a larger area 30-40 years from now.

87.

P. 4-10, 1st para., essentially the CESWF is commenting in a very weak manner that the Toll Road is not beneficial for air quality. "Entitles" should read entities.

88.

P. 4-10 bottom, 4-11 top, CESWF states, "Direct land use changes caused by the proposed DFE project would be compatible with floodplain functions and should have no negative effect on floodplain uses compared to conditions without the project. Since when are sumps, levees, swales, and channel realignment for the DFE compatible with natural floodplain functions?

89.

P. 4-11, 2nd para., does the City of Dallas have a comprehensive floodplain management plan? It is not clear as written. If the City does have a plan the public has not been involved.

90.

P. 4-12, 4th para., CESWF admits these projects will have cumulative effects when they state, The Dallas Floodway and Stemmons North Industrial District levee alternatives were combined to produce cumulative impacts." This the projects will no doubt accomplish with definite Adverse Effects on H/H, although not stated.

P. 4-12, 5th para., CESWF admits the toll roads will flood in a 100 year event without providing H/H quantification. If flooding does occur the riverside Toll Roads will function as flood water runoff conduits. Seems they left out the fact that the Toll Roads will have 30 foot high retaining walls on the riverside.

P. 4-13, 2nd para., the reduction in valley storage is not considered for the 22 projects listed and the ones CESWF omits. CESWF states, "Based on the small increases downstream of the DFE and the very limited potential for flood damages downstream of the project..., these increases are substantial. As I have live in the study area of

33

86. The impacts of the DFE swales, wetlands and levees were thoroughly disclosed in the DFE GRR/EIS. The mitigation plan for the DFE was not based upon a mitigation ratio of 1:1 but was based upon use of the Fish and Wildlife Services HEP as thoroughly disclosed and discussed in the DFE GRR/EIS. The recommended plan for the DFE would impact 162 acres of forest and would be mitigated by acquisition and management of 926 acres of existing forestland that have currently has no protection primarily because they are in private ownership. In addition the plan would result in the active conversion of an additional 223 acres of floodplain grasslands to forest. Our analysis of future without conditions for the mitigation lands indicated a potential for those forested areas to be changed to grasslands

87. The proposed DFE project actually removes very little areas of resource value from the 100-year floodplain. Plate A-37 of the DFE GRR/EIS maps the area within the 1 Percent or 100-yr floodplain. The levees, swales and other project features combined with the area that would become public property between the levees as well as the tremendous amount of environmental mitigation lands which would all be in the 100-yr floodplain and would actually promote positive floodplain benefits compared to the no action alternative.

88. One will be required within one year of project implementation.

89. Instead of incorporating by reference the information in the PEIS study, H&H analysis has been incorporated into the FSEIS.

90. The plans we have seen incorporate floodwalls on the tollroad if it were constructed on the riverside of the levees.

91.

92

the DFE for 17 years, I have observed that a 4 inch rain in one day over Dallas and Collin County alone raises the river out of bank at Second Avenue, since the Rochester and CWWTP levees were installed in the early 1990's. Before these levees it would take a 10 inch rain to raise the water to the levels that it gets to now. No telling how high the water will get after the DFE levees are built and the other 22 projects that induce flooding.

93.

P. 4-13, 4th para., Aesthetics, CESWF selling the their EQ Plan for the DF again. However, CESWF seems to very weakly support the Industrial Boulevard alternative for the Toll Road from, "a more natural perspective...," for their synthetic channelized meandering river EQ plan over the City's MIP, that was excluded.

94.

P. 4-13, 4-14, Cultural Resources were discussed above. Reference to the Programmatic Agreement (PA) that was slipped into the DFE FEIS. This is an unsigned agreement that excluded interested persons, included the Native American tribes but thye did not know about the PA, resulting in exclusion from the Section 106 process. The PA process should have been carried out during the study and the DFE DEIS. Above I have mentioned several archaeological sites that have been ignored by the CESWF.

95.

P. 4-14, last para. Executive Order 11988 should also include 11990 on wetlands. Avoid modifications to extent possible in the base 100 year floodplain. A buy out of Cadillac Heights would avoid modifications to the 100 year floodplain, but CESWF did not want to do this. Now the Cadillac Heights area will be bought out. Many of the properties along Lamar have filled in property to above 100 year floodplain.

P. 4-15, 2nd para. Section 202(C) of WRDA 1996, CESWF claims that the City of Dallas has to have a Floodplain Management Plan (FPMP) one year after signing the Project Cooperative Agreement with CESWF. It has been about one year since the signing of the agreement, what is the status of the City's FPMP?

P. 4-15, 5th para., Section 404, each of the potential projects of others must be evaluated on it's own merits, but it is up to each project and the CESWF as stewards of the waters of the U. S. to determine the cumulative impacts of these projects.

91. Our studies indicate that at the Loop 12 crossing, which is located close to the area you live in, the water surface elevation for the 100-year event currently is 403.15. Adding the LPP for DFE results in a 100-yr elevation of 403.35. Adding the split parkway/tollroad based upon currently available information would result in a 100-year elevation of 403.39. at Loop 12.
In addition, based upon our review of long term hydrology and hydraulics, the river has historically moved out of its banks at least on an annual basis through the DFE study area, even prior to the construction of the Rochester and CWWTP levees

92. The Programmatic Agreement has been signed.

93.The DFE project proposal is in compliance with Executive Orders 11988 and 11990.

94. The plan is not complete.

95. Cumulative impacts of the projects have been addressed.

97.

P. 6-1, para. 5, CESWF claims DFE has been designed, and none of the other projects have been designed. The DFE is not designed. Proposed designs have been made for all of the projects.

Comments respectfully submitted by Timothy S. Dalbey, 2719 Santa Cruz Dr., Dallas, Texas 75227-9341.

Timothy S. Dalbey
3 February 2003

97. In the context of the full sentence, sufficient design of DFE has been accomplished to conduct an EIS. Information available on other similar reasonably foreseeable projects in the geographic area of the DFE has been identified and a cumulative impact assessment has been conducted.

January 6, 2003
1435 Kings Hwy
Dallas TX 75208

Dear Corp,

1. I believe the focus of the Dallas Floodway Extension is to narrow. Upstream urbanization is increasing the flood levels of the Trinity and focus on only mitigation of a large volume of water past downtown is doomed to failure.

While it would be nice to create a reservoir at downtown Dallas it is impractical. The depth available (1.5 ft) does not create a reservoir and siltation and the accompanying pollution eliminates this effort with every flood.

2. Fortunately we still have available to us natures mitigation plan for flooding. The Great Trinity Forest catches, slows, and absorbs flood waters. We need to expand and focus on this area. This is the natural riparian system and forestry is what decades above us use to deal with the river running through it cities. Rather than scale we need more forest to absorb the floods.

In conjunction with this it may be necessary to increase the volume of the narrow portion before the forest. (Snakes and levees at downtown and alteration of the bend at the sewer treatment / Cadillac Heights bend.) No structure should be placed in the flood plain that can not be abandoned when flooded and bladed clean of silt after the floods. To truly mitigate flooding it would be necessary to build 10,000

1. The analysis was expanded to include upstream sources for cumulative impacts to hydraulics.

2. The Great Trinity Forest does slow movement of floodwaters to downstream areas. It also contributes to some of the flooding that presently occurs in the Dallas Floodway Extension area. Preservation of existing forests in upstream areas has multipurpose benefits, however hydraulic models based upon realistic scenarios of development of the contributing basins, indicate that these forests won't prevent future need for other forms of flood damage reduction in the Dallas Floodway area..

3.

catch basins in the water basin and inject the water table so there is less run-off water to the rivers. Catch basins in the flood plain like the one at Sylvia Bridge help mitigate the acceleration of the flood waters and improve riparian habitat but can not reduce the volume of flood waters. Improvement of the riparian habitat at downtown would be aesthetically pleasing and if done in conjunction with relief in the forest down stream would be feasible.

Sincerely
William Henning
WILLIAM HENNING

3. While catch basins within the floodplain could provide minor relief during small flood events, their ability to contain major flood events is insufficient to be cost effective. Proposed wetlands in the DFE extension and restored floodplain associated with the Dallas Floodway EQ plan would provide cumulative fish and wildlife habitat benefits.

02/04/2003 08:31 FAX 8724582185 Mel Sharp 001

Linda Sharp
12126 Vendome Place
Dallas, Texas 75230
Phone: 972.458.8585

February 2, 2003

U.S. Army Corps of Engineers
Attn: Mr. Gene Rice
Ft. Worth, Texas

Via fax: 817.886.6442

Re: Supplement to Dallas Floodway Project

Dear Mr. Rice:

I am writing to express my concern about the proposed Supplement to the Dallas Floodway Project. Having now had an opportunity to review Supplement #1, it does not appear to meet the requirements of the federal court's order.

1. The federal court ordered that the Army Corps of Engineers evaluate the cumulative impacts of the Dallas Floodway Project. At this time, the Dallas Floodway Project has not been completely designed and is not expected to be designed until sometime this summer. When that design is finalized, it is expected to include bridges, roads, and lakes. At that time, AFTER the design is complete, the Army Corps of Engineers will then be able to make a proper determination of the downstream impacts.

An attempt now to make an evaluation without a final design in place is certainly putting the cart before the horse. This is a waste of taxpayer money since any evaluation done now will be flawed and in non-compliance with the court order. Your work will probably have to be redone all over again.

2. I am in favor of the Environmental Quality Plan. This Plan is presently the only acceptable alternative design for the Dallas Floodway Extension.

Sincerely,

Linda Sharp

Linda Sharp

1. The final document addressed the five final array of alternatives of the Dallas Floodway Extension with various potential projects by others to determine the cumulative impacts of each scenario using the best available data for each of the identified reasonably foreseeable projects. As you have noted, limited design information is currently available for the projects identified. All readily available data was sought and utilized to determine the direct and cumulative impacts these projects might induce.

2. The Environmental Quality Plan (EQ) would improve environmental features within the existing Dallas Floodway. Further analysis would be required to address adverse H&H affects when Dallas Floodway studies are reinitiated.

January 23, 2003

Attention: Planning, Environmental, and Regulatory Division

Department of the Army
Fort Worth District, Corps of Engineers
P O Box 17300
Fort Worth, Texas 76102-0300

Ladies and Gentlemen of the Planning, Environmental and Regulatory Group:

Re: The following are comments on the Trinity River Floodway in and down stream of Dallas.

1. The Trinity River Floodway Extension Plan is more of a Flood Improvement Plan at 249,000 CFS, a Standard Flood flow than a Flood Control Plan of 449,000 CFS flow established by the Corps of Engineers using the US Meteorological projection of a Maximum Probable Event. The TR Floodway Extension Plan uses the Standard Flood as criteria for flood flow. Criteria for Standard Flood are used to establish only flood improvement in areas of lesser risk, not in areas for potential loss of life and heavy property damage.

Dallas does not have an adequate Backwater handling plan. Most Floodway plans include Backwater handling, usually a secondary waterway. In the case of Dallas, White Rock Creek floodway and Five Mile Creek floodway would be examples of Backwater flood handling. Backwater handling, water that results from a storm event and that accumulates behind usual protected areas can far exceed the usual pumping capacity commonly used. Gravity flow of adequate capacity is most dependable and most used way of handling a backwater flood.

Expressways and Bridge planning cannot be permanent without a permanent Floodway plan. TR Flood Extension Plan is less than a Flood Control Plan. It is approximately a half flood plan. It is only a Flood Improvement Plan for a Standard Flood.

2. Maximum Probable Event flooding would cause ravaging flood water not back water flooding to the city of Dallas. Ravaging flood water flow through the city of Dallas, outside its floodway, could exceed recorded flow through the Dallas Floodway. A comparable example might be approximately two miles of the private land on the east side of the East Fork flooding just downstream of I-20. The Corps has records of this referenced example. This particular example played out more than once

It would seem that Expressways and Bridges along and across the Trinity River should be permanent for the amount of investment. It seems impossible to know where to locate permanent improvements with just a Flood Improvement Plan, or a partial or temporary plan.

Rather the time is ripe to sell and to go forward with good plans of major improvement that are used many fold to save lives and reclaim work for our people and protect property and significantly increases the net worth of our American Society.

Cleal Watts

Cleal Watts Phone/FAX (214) 328-1665

1. The DFE GRR/EIS did not investigate alternatives to provide flood protection against flows of 449,000 cfs. Evaluations on the cumulative impacts from other reasonably foreseeable projects have been limited to the SPF events. Major factors which make the investigation of protection against Project Maximum Flood (PMF) or Maximum Probable Events impractical include the extremely low probability of such an event actually occurring and the high probability that should such an event occur, destruction of property protected by the levees would occur from the massive interior rainfall and flooding that would occur before the river actually overtopped the levees.

2. The DFE/GRR NED plan provided for the maximum amount of flood protection, which yields the greatest amount of net annual economic benefits. However the LPP or recommended plan provides significant protection and serves to minimize adverse impacts to environmental resources. As indicated in response to comment 1, alternatives to protect against the PMF would be impractical.

US ARMY CORPS OF ENGINEERS

FORT WORTH DISTRICT

PUBLIC MEETING

DALLAS FLOODWAY EXTENSION

DRAFT SUPPLEMENT TO THE

ENVIRONMENTAL IMPACT STATEMENT

January 8, 2003

Ramada Plaza Hotel

Dallas, Texas

PROCEEDINGS

MR. RICE: My name is Gene Rice, I'm the project manager for the Dallas Floodway Extension Project for the Corps of Engineers in Fort Worth. And I would like to welcome you to the public scoping meeting for the supplement to the EIS. We appreciate you taking time out of your busy schedules to come and share your comments with us on the draft report.

The purpose of the meeting tonight is to get your comment on the draft report. We will take verbal comments tonight. We also have a court reporter you can give verbal comments after the meeting to. We also will take written comments until the 21st of this month. So you have two ways, actually three. If you would like to email your comments in, we can also take those.

At this time I'm going to summarize the draft report and then we'll go into the comment period at that time. Again, the purpose of this meeting is to the get your comments on the draft EIS -- supplement to the EIS for the Dallas Floodway Extension Project. And you can see what the area of -- the area of consideration is.

What we would like to do tonight on the procedure is to, obviously, get your comments and they'll be given consideration -- everybody's comment will be given consideration in the final report when the final report when is comes out. We would like

everyone to comment, so we're going to limit your time on the comments to a three to five-minute range. And if you'll please help us with that just to make sure everyone gets a chance to comment. We do have to be out of here between 8:30 and 9:00 o'clock tonight.

And I'm just going to give you a little background on the Dallas Floodway Extension Project. It was authorized in the 1965. It was part of the Trinity River and tributaries report that was authorized at that time. It was the overall project, which went from the Gulf of Mexico to Fort Worth, was authorized for navigation and flood control, recreation and fish and wildlife. It was inactive in the 1980s due to the lack of local interest. And after the floods of '89 and '90, it was reactivated and we had reevaluation report was initiated in 1991 and we had chief's report in 1999 with a record of decision in 1999, also.

The authorized project does provide standard project flood projection. The details of the project are shown on the screen, consist of levees, channelization, recreation. These consist of restoration and mitigation features.

The next few slides cover the complaint that was filed against the project and this kind of gives you a summary of what the complains were. I'm not going to read all of them for. You all should have a handout which lists them, also on the screen. And you have the complaints and you have the rulings by the

district the federal judge in which he ruled in the favor of the Corps of Engineers for counts one and two. And on three he ruled partially for the Corps of Engineers and partially for the Plaintiffs, which is the reason we're here tonight. He ruled in against the Corps of Engineers on the cumulative impact portion of the complaint.

This is the summary or summation of the Judge's ruling stating that we need to consider -- further consider cumulative impacts of other projects were reasonably foreseeable in the sane geographic area of the Dallas Floodway Extension Project. And he halted any construction at that time, although he did allow by default for some cumulative design with the project. The Corps of Engineers at that time decided to go ahead and prepare a supplement to the EIS to address the cumulative impacted of other projects to address the Judge's concern and his ruling against us on that portion.

The notice of intent was published this past summer in June. We had a scoping meeting in July, which we had about 50 people attend and we received about 16 comments by individuals at that time.

This is a general study area or a general area of consideration that most of our efforts were focused on to look for other projects that were reasonably foreseeable, similar project, and we considered this the geographic area. I'm not going to go through each one of these, but these are the impact

areas that we looked at for each of the projects that were identified to us either by the public or by contacting other agencies such as Texas Dot, ETCA, any state and local agency that has projects in the area and each of these reports were analyzed.

The conclusions out of our draft supplement are that some of the individual projects have some positive, some negative impacts, but collectively or cumulatively as a whole there was significant impacts to the resources of the area by all of the projects.

The notice of availability was published on this draft document December 6th. Tonight is the public scoping meeting. We will receive comments until the 21st of this month. And then we will address all of the comments. The reason I said we're looking for a final report this summer is, depending on how many comments we receive and what it takes to address those, that will impact when we actually will complete the final report itself.

Again, we will receive comments until the 21st of this month, which is about two weeks away. You can either mail them to me at the address given or in your handout. I've also given you my e-mail address, which you can send them to me electronically if you prefer. And if you do not have a copy of the report and still wish to do so, we have some copies available tonight, a hard copy. We have some on CD rom if you

would care to get some of those. We do not have it -- or off of our website, which is listed at the bottom, you can download it off of there. Either way, just let us know, we'll be happy to supply a copy to. And it will be up there for the whole time during the comment period.

That was a brief rundown. I realize it was kind of fast, we wanted to go ahead and give you the most time possible for you to give us your comments. I would like to open it to the floor for y'all to give us the comments. I believe we have some people already signed up for the comment period.

We'll go ahead and have you come up to the microphone in the middle and give us your comments in the order in which you signed in this evening. And I apologize if I mispronounce your name. The first one was Mr. Bruce Hunter. Did you still wish to comment? If you'll come to the microphone and give us your comment, please, sir.

MR. HUNTER: I appreciate all the work that everyone has done with regard to trying to find the best solutions is to many conflicting problems. And I'm not familiar with all the details as some of the people in your audience I'm sure are or have proved themselves to be. So I'll lay something general on our audience tonight in regard to a petition that I developed for the president of the US congress that has to do with some very basic parts our environmental problems. And I think you'll see as he read these what those problems are.

These comments are beyond the scope of the SEIS and therefore cannot be answered. However, we thank Mr. Hunter for his concern and his comments.

We are expressing to Bush and the US congress:

A. To recognize that as the 1.4 billion Chinese and millions of other people the world over increasingly seek to emulate American's vaulted and envied standard of living, the capacity of the planet to provide the necessary natural resources will, absent our nation's leadership to prevent it, finally be outstriped; and that we must begin now deciding upon what the "rightful share" of those natural resources for our own population/consumption is now and what it will be five, ten, 20, 50 years down the road.

We also urge President Bush and the US congress to consider that if US aliens, to distinguish us American quote unquote from Central Americans and South Americans and Canadians, consider that if Us aliens, a mere 4.6 percent of the world's people continue to consume 25 percent of the world's energy, this will likely generate a great deal of resentment against us by many hundreds of millions of the less fortunate among the remaining six billion other humans on the planet, especially those livening under non-elected tyrants who maintain their wealth and their regimes by their own nations' natural resources, notably it's oil, to US and other foreign corporations.

And, finally, we urge President bush and the US congress the direct the Office of Homeland Security to establish a quality of life commission to develop n USSPP, that is an US sustainable population policy program aimed at bringing our

nation's energy consumption down to not over three times the world average nor over two-thirds of present level, that is year 2002 levels, by the year 2008. That's five years from now, we could do it in one if we wanted. And at making us at least 80 percent energy independent by 2038, that's 35 years from now. You could have grandchildren born within that time even if you're not married yet. Pardon the diversion. And without drilling in the Arctic National Wildlife Refuge, Anwar, or in any other wildlife sanctuary. And to help other nations establish and activate similar programs to stabilize their own populations at sustainable levels and to work with them to forestall the ecological catastrophe to which we all are by all accounts now headed.

Just one or two brief comments. I don't know if any of you notice this news that I saw recently where China is now seeking to emulate our infatuation and addiction to the gasoline engine. They are now beginning to reduce the number bicycles allowed in some of their cities and they are in an expressway and road building program. And you think oil is a problem now with us sitting on about 3 percent of the worlds's reserves, I dread to think what it's going to be like when we have competition from a country the size of China if they begin to use like we do.

SO these general remarks, I think, I hope those in the audience will forgive help for directing more specifics to the

particular topic at hand, but I hope that you will think about the impact all of us are having. As I was talk to a couple of gentlemen before the meeting, when you stop and think about it, if humankinds keeps reproducing and population keeps growing, pretty soon all of the fresh water on the planet be tried up in, guess what, people. We're all 97.9 water. Thank you.

MR. RICE: Thank you, sir. One other thing, I'm sorry. If you do have a prepare statement, after you're statement, if you would please, give a copy to our court reporter. It will help the transcript. Just one other minor thing. Mr. Campbell Reed is our next speaker.

MR. REED: Good evening. My name is Campbell Reed. I'm referring back to the scoping meeting that we held in Dallas in 2002. The Corps indicated that they do not plan to reevaluate the Dallas Floodway Extension, instead they interpret the ruling of the Court to require them only to comment on cumulative impacts of foreseeable future projects upstream of the DFE without recording any of these projects as alternatives. The attitude of the Corps in this matter is unacceptable.

That attitude is reflected in the EIS draft supplement. On page 2-3 it states, and I quote: "Until formal notice is made by the City of Dallas regarding their support of a plan that is different from that to which they have formally provided and endorsement, alternative plans discussed by individuals or the media cannot be considered as reasonably foreseeable. The

The final document will address the five final alternatives of the Dallas Floodway Extension with various potential projects by others to determine the cumulative impacts of each scenario.

The court order specifically found that the Corps' analysis of the alternatives was appropriate. The court order's only effect on the alternatives analysis was the requirement that the alternatives already identified as reasonable be analyzed as they related to cumulative impacts.

plan recommended in the 1999 GRR/EIS, that's the general reevaluation report and integrated EIS to the DFE, therefore, remains the recommended plan for analysis in this supplement to the DFE EIS."

In our opinion each and every project reviewed by the Corps and the draft supplement to the EIS should be regarded as a potential alterative to the DFE. Such an opinion is consistent with the part of the federal court order requiring the DFE project to be stopped. At the 2002 scoping meeting I asked Gene Rice why he thought the court had ordered the DFE project to be stopped and he replied that he didn't know. However, "I don't know" is not good enough as an answer. It certainly makes no sense for the court to concur with the point of view and the quotation that I just read from the supplement to the EIS and then to order the DFE project to be stopped. It makes no sense at all and Mr. Rice knows that.

Chapters 4, 5, and 6 of GRR/EIS of 1999, for example, contain multiple tables listing estimated costs and benefits in dollar terms of the so-called recommended plan. No such tables appear in this new supplement, but we should all demand that they be compiled to include costs and benefits resulting from raising the Dallas Floodway by various heights, not only by 2 to 2.5 feet, by 1 foot, by 3 feet and so on. The Corps argues that the lack of final agreement on the alignment of the so-called Trinity Parkway prevents them from computing costs and benefits

The court ordered the project halted until an analysis of the cumulative impacts was completed. The court specifically found that the Corps' selection of reasonable alternatives was sufficient. The final document addresses the five final alternatives of the Dallas Floodway Extension with various potential projects by others to determine the cumulative impacts of each scenario using the best available data for each of the projects which have not been fully studied or designed, which fulfills the court's order.

Raising the levee was not considered a viable, reasonable alternative to the DFE project because the project's goal is to protect south Dallas, not the downtown area. The benefits to the downtown area are additional; they are not the goal of the DFE project. The court agreed with this analysis of this alternative. Economic data has been added to the project descriptions found in Chapters 2 and 3.

deriving from it. But they have no such excuse for raising the floodway levees by specified amounts is concerned; they can and must produce a cost/benefits analysis.

If you turn to the discussion of raising the floodway levees on page 3-11 of the supplement, you'll find that the discussion is confined to where the dirt would come from and where it would be put. That's all that the Corps presents in the subject of raising the levees. There's no related cost/benefit study that could be compared with those in GRR/EIS in the so-called DFE recommended plan. The reason why the Corps has declined to do such a study, however, is plain. They are afraid that such a study would show the DFE to be less cost-effective than raising the floodway levees, with the undeniable consequent conclusion that the DFE would no longer remain viable under the Corps's own rules. Thank you.

MR. RICE: Thank you. Mr. Reed, do you have a copy of your statement you would like to give the court reporter?

MR. REED: Yes, sir.

MR. RICE: Thank you very much. D. J. Young.

MR. YOUNG: I did not receive a copy of the supplement and I would like to have one. Consequently my remarks will be very brief.

I'm still at a loss to understand how cumulative impacts can be analyzed when you don't know what is going in

CEQ guidance for implementation of NEPA does not require an in-depth analysis of alternatives that are found to be unreasonable, as this option was.

upstream. The last time I checked the Trinity is still flowing toward the Gulf. I still think canoes and not cars belong in the floodway. Thank you.

MR. RICE: Thank you. Tim Dalbey.

MR. DALBEY: You want my name and address and all that stuff?

MR. RICE: That's all right, we have it on your card.

MR. DALBEY: I'm not done commenting, I'll have my written comments to by the 21st or whatever the date is. I didn't get mine until two weeks after it was out and Christmas kind of involved. Your timing was excellent coming out during the holidays when you said it would come out in October, that's the July meeting. The format of this meeting is much better, we get a chance to talk at y'all. I have several things on the comment from culture resources in that there's a site right at the DFE, Dl 350. It's quite a large site, human skeletons came out. It's going to be impacted by the project. And I commented on in the draft in the final, still it gets no credence, so I think you need to look at that and get Newman off his but and get out there to look at it.

There's also DL 6970, it's going to be under in the Lamar Street levee. And the historic dump at DL 320 at the end of Forest Avenue is also going to be impacted by the levee. I talked to Bill Martin about all this and we'll see where it

This concern was addressed by the inclusion of the upstream area in the final SEIS.

Very recently Dallas has contracted out the excavation of site 41DL350 to a local archaeological company due to impacts predicted from Dallas plans for construction of a boat ramp. Should any site ever be in an area of potential effect for a Federal Corps project, the site would be investigated as appropriate under cultural resources legislation and State Historic Preservation Officer consultation.

Site 41DL69/70 was tested by Geo-Marine in 1997 for the Dallas Floodway Project by the Ft. Worth Corps and determined ineligible to the National Register with State Historic Preservation Officer concurrence. Site 41DL320 would be investigated appropriately should a project be planned in that area.

goes. And I think you ought to reconsider those in lieu of the fact that these sites are pretty much directly in the footprint of projects and not the ones that you tested on the Meander Bend that really aren't in the footprint, although they'll be damaged by the flood velocity and everything through the floodway. So that's one thing I would like for you to maybe look at further.

Another thing is that the total impact of the toll road, whichever one you use, whether it's specific site on your PEIS environmental quality or master limitation plan, whichever one you need to do, you need to in corporate those, plus the segment for George Bush and some of the bigger projects, you need some add some hydrological or H&H model of how that's going to affect the flow. I mean, I know you don't know which project it's going to be, but I went to the segment four meetings and they 16 alternatives and they showed all 16 alternatives for people to look at. They didn't even do H&H on that, but they showed the projects and their impacts. It's not impossible to do, I know it's a lot of work, but I think you need to show the H&H. If this plan goes, if that plan goes, how is it going to increase the flow velocities and the change in the dynamics of the stream because at least just the floodway, the toll roads and segment four are going to affect in the neighborhood of 2 to 5,000 acres of land in the floodway and narrow and change the velocity and the dynamics of the river let alone the other 19 projects you listed as number 22.

The Ft Worth Corps will investigate total "APE's" (areas of potential effect) for all aspects of Federal projects.

The final document addressed the five final alternatives of the DFE with various potential projects by others to determine the cumulative impacts of each scenario using the best available data for each of the projects (including hydrology and hydraulics).

Also, I think you guys really try to sell your PEIS review plan in this document. It's only listed by eight different times, but I haven't tallied that yet. It's a better than the MIP, but that remains to be seen.

Campbell mentioned the cost/benefit ratio. You never how -- he testified this DFE project based upon the CBD, you don't even mention the CBD and projection in this plan, per se. I think you should do that if that's the justification for the protect. And as he I says, if you raise the levees a foot, 2 foot, 3 foot, you're increasing the SPF or higher SPF level protection. You have to demonstrate how that does not negate the DFE because you can't stand alone on the DFE protecting Cadillac Heights and Lamar Street levees.

And I don't think you've been down on the Lamar Street; levees. I did an inventory of all the businesses on Lamar and 53 percent are auto salvage or tire or some sort of scrap metal, trucking, warehouses. Most of them have raised their property levels to 10 to 20 feet above Lamar Street as it exists. So if you build your levee, those properties are already -- because they know they are going to get flooded and they got to do something. So they took it upon themselves -- I don't know who gave them the fill permit, but they have raised those properties up. So what's your cumulative effect of that. And at the HTNB, when we looked at all their economics, when we went to their one public meeting that I was able to attend, I don't

The final document will address the five final alternatives of the DFE with various potential projects by others to determine the cumulative impacts of each scenario using the best available data for each of the projects that have not been fully studied or designed. However, economic analysis of the potential projects is not part of the cumulative impacts. Further, raising the levees is not a reasonable alternative to the DFE because the DFE's goal is not to protect downtown Dallas; it is to protect south Dallas.

know that they had that many more, they showed all these great, I think you call it the comp plan, comprehensive land use plan, which you guys mess up and call the culp plan in your report. And decur is not decrud, by the way, it's decurd. Anyway, you messed these up. And you need to look at that plan. The HTNB showed all development and all this great building and all these things that can happen upstream, never looked downstream from the DFE. So you need to look at how that flow is going to change the stream downstream. I know now where I live, I live within the DFE, when it rains four inches, water is up into Second Avenue. It never used, it used to take at least a ten-inch rain to get it up there. And that's just the change from central waste water treatment and Rochester levee. When they put those in in '92 after the '89 and '90 floods. So now if you can come in and put up the Lamar levees, change the channel, put the swale in, I mean, it's going to raise the water down there. I don't see anything about how it's going to effect the water dynamics downstream and into Seagoville.

And that's I can go, I can go on forever, but that's where I'll stop.

MR. RICE: Thank you. Mr. Marcus Wood.

MR. WOOD: Good evening. I'm Marcus Wood, the executive vice president of Mixmaster Business Association, which is centered along Industrial Boulevard from Continental Street south to basically the DART light rail lane.

The concern regarding downstream effects and the hydrology and hydraulics information has been addressed in the final SEIS.

We speak in support of the cumulative and the supplemental Corps work. We think that it is important to proceed as quickly as possible with the recommended DFE project. We're very concerned about the Court situation stopping any further action related to the construction.

Our area is an area that has supposedly the floodway levees. However, upon detailed review, we will find ourselves being drastically damaged by a flood of 140 years frequency. The levee itself supports currently a 300-year flood, but there are ways and damages that occur because of sanitary sewer water that would be flooding back into the old channel and all.

So in summary for us, we will be submitting other comments, but our main message is thank you very much. Please urge the Court and the Corps and congress to proceed with this as quickly as possible. You have done an magnificent job. Thank you.

MR. RICE: Charles Allen.

MR. ALLEN: Well, good evening. Thanks for this opportunity to address the Corps. I do have some problems with the document that we're discussing. So really beginning even in the summary.

Let's see. On page four of the summary we're talking about no projects proposed by the city reasonably foreseeable for the Elm Fork, leaves out the Elm Fork Flood Plane Management Study and the possible levee soon to be presented to the city

The Corps is currently in the process of reviewing the DFE plan and will proceed as expeditiously as possible in deciding whether the recommended plan is the appropriate plan to carry out the goals of the DFE.

council by Freeze Nichols.

Potential adverse effects on habitat hydrology aversion **, not really discussed or included in there. No activities identified of significant cumulative effect in the study area resources. And I have to say that things like siltation, erosion and other processes like that, which may not be significant in one particular project in total, their cumulative effects are significant, especially if effects on hydraulics throughout the watershed here.

Again, or another thing I've noticed is citing the old Trinity River Project as anticipated to proceed with implementation within the reasonably foreseeable future. The last I've heard of it was several years ago in the now defunct Trinity River Corps of Citizens Committee. What is the current status of the old Trinity River Project? What's the budget, the source of funds for the old Trinity River Project? I don't take it for granted that this projected will ever take place much less contribute positively to cumulative affects on bottomland and hardwoods as it's stated on page seven.

The problem that I can see with the document is that alterations to floodplain valley storage, hydraulics and the effects or erosion, siltation and sedimentation are minimized with respect to the various projects under consideration. The cumulative affects of these are important. For example, erosion or sedimentation, they do become significant when they are

We have attempted to address the cumulative impacts of all reasonably foreseeable alternatives of the Corps and others on various resources in the SEIS.

The "Trinity River Project" as described in House Document 276, 89th Congress and Authorized by Section 301 of the Rivers and Harbors Act of 1965, included five local protection projects (West Fork Floodway, Dallas Floodway Extension, Duck Creek Channel, and Liberty Levee), four multi-purpose reservoirs (Lakeview (now Joe Pool), Roanoke, Aubrey (now Ray Roberts), and Tennessee Colony), a navigation channel from the Houston Ship Channel to Fort Worth, and a pipeline from Tennessee Colony to Benbrook Lake for water quality. Several of these features have been built (West Fork Floodway, Duck Creek Channel, Joe Pool Lake, and Ray Roberts Lake). Section 351 of WRDA 96 and Section 356 of WRDA 99 subsequently modified authorization for the Dallas Floodway Extension to be constructed as described in the GRR/EIS. That document is the subject of this SEIS. A Senate Committee on Environment and Public Works resolution dated April 22, 1988 requested the Corps to review the recommendations contained in House Document 276 "...with particular reference to providing flood protection, environmental enhancement, water quality, recreation, and other allied purposes in the Upper Trinity River Basin...". Preliminary findings of those investigations are disclosed in the PEIS for the Upper Trinity River Feasibility Study dated June 2000.

totaled when they are accumulated to spite the so-called best management practices.

Other problems with the document include statements made by the Dallas Floodway, particularly the amount and size of wetlands present in the floodway. The document here states that there's 51 acres of wetlands in the floodway. There's quite a bit more than that. In discussions before the '98 bond program of the size of lakes proposed by the City of Dallas 135-acre lake, at that time it was said that just that one lake near downtown Dallas would require the mitigation 80 -- between 80 and 90 acres of emergent wetlands, just that one small area. So I think there is problems with document, so I'm going to submitting a statement that will go into a lot more detail. But I think there's definitely some problems with it.

And I have to say for the benefit of all people in Dallas, I think we need to take our time about it. I don't think there is a good reason to be in a hurry about this and I think we need to take our time and examine it very thoroughly. Thank you very much.

MR. RICE: Thank you. Ned Fritz.

MR. FRITZ: Greetings. With the help of the Army Corps we can prepare a new appropriate plan for Trinity River in Dallas. The Army Corps and the city have failed to present adequate data on the harmful results of building highways and lakes between existing levees and cutting swales downstream

This concern is addressed in the detailed responses to Mr. Dalby's submitted written comments elsewhere in Appendix B.

The Corps concurs that a comprehensive multi-objective plan can and will likely be developed for the Trinity River in Dallas.

through the city's Great Trinity Forest and other harmful factors.

The tollroads would raise the flood levels and spread air pollution within the levees. A lake would narrow -- or more lakes would narrow down the walking area next to downtown Dallas and wipe out much of the flowers and other natural plants there. There is already a lake south of the Sylvan Bridge. Another bad effect of new roads between levees and maybe of the lakes and a swale would be more flooding of the Great Trinity Forest. People are entitled to fair -- to far more details about the harmful results that the Trinity Floodway Extension would bring. And I might add that the plan so far is very short on data, on facts as to what are the consequences.

We prefer Appendix A of the American Institute of Architects, Dallas Chapter, Trinity Policy of 2001 showing various errors in the 1998 bond plan, with only 1.6 percent majority that it won by.

And I'll submit more details. I certainly agree with a lot of the antagonism that many groups have raised so far on this project. And the details that I will submit in writing today includes withdraw the 1998 destructive bond approach and comments on the draft supplemental EIS of December 2002.

In brief, I hope that the Army Corps even and all others involved in this project will come forth with the facts and the details and the harm and the problems and save our Great

The cumulative impacts of reasonably foreseeable actions are addressed in the final SEIS.

Thank you for your comment

The bond package was passed by the City of Dallas. The Corps has no control over the City's bond proposals.

Trinity Forest and will come forward in due course with a different plan that will take care of things, especially now that the United States Court has shown how weak the previous plan was. Thank you.

MR. RICE: Thank you. Next we have David Gray.

MR. GRAY: Good evening. Unfortunately I believe that the supplemental EIS is inadequate and intrinsically flawed. For summarizing the cumulative impacts there's only one alternative for the DFE, the recommended plan. The Corps has assumed that for the purposes of this supplement the DFE has been built in place according to that plan, but the purpose of an EIS is to conduct an evaluation of all the alternatives and impacts of those alteratives in order to be sure that most optimal plan is chosen. The federal judge has remanded the DFE/EIS back to the Corps to conduct an analysis of cumulative impacts. It is insufficient to simply say that all reasonably foreseeable actions will add some cumulative impacts to the DFE under in recommended plan. It is necessary to compare the cumulative impacts of such actions with each of the alternatives. The most important, for example, being the no-action plan. Only with a comparison of the full impacts of all related actions can a reasonable and informed choice of the least damaging and most beneficial alterative be made. Furthermore, there are no date or evidence with analysis presented to back up any of the claims made by the supplement.

The final document addressed the five final alternatives of the DFE with various potential projects by others to determine the cumulative impacts of each scenario using the best available data for each of the projects. Your concerns have been addressed in the final document.

There are no cost/benefit instruments for any of the proposed reasonably foreseeable of other actions in combination with or without the DFE.

I would like to just hit on a couple of points I made any comments before I submit them. Under cumulative impacts, the Corps states administrative priorities promoting nonstructural flood damage projects, including buyouts and environmental protection are becoming more prevalent. While it's certainly true that such an alterative is available here, a reasonable and affordable nonstructural alternative to the recommended plan is available and would offer much less environmental impact and better flood damage reduction. That alterative it is outlined in a letter from the White House OMB Director Mithc Daniels to the Army Corps. The Corps states, "As a cumulative impact identification that in other cases concerning the tollroads information may have been developed, but it's not been made available to the Corps. It is well known that the Corps has participated regularly in multi-agency meetings about the Trinity core and related projects. In fact, H H information has been made available on a preliminary basis in the NTIS for the Trinity Parkway. The fact that NTTA has studied the hydrology and hydraulics of the tollroads and chain of lakes cannot be a secret. Regardless of the fact that the EIS for the tollroad has been delayed several times and has been expanded to include a chain of lakes, that should not prevent

A new economic analysis of the DFE project is not part of the cumulative impacts analysis. The court's decision specifically upheld the Corps' economic analysis of the project.

The court's decision specifically upheld the Corps' choice of alternatives for inclusion in the final array.

Hydrology and hydraulics information is included in the final SEIS. Therefore, this concern has been addressed.

the Corps from asking to see the data that has been generated. In fact, fairly detailed and advanced schematics have been shown to the public for tollroads alignment, so it's logical to believe that the study of these alignments are well advanced. The Corps should ask to see the H&H for those projects and present them in a detailed and factual manner.

I would to just speak briefly about Table 4-2, the cumulative impact analysis. This is the only indication we have that some project are better or worse than others. In fact, there are several projects that are beneficial to the floodway, including ATSF bridge modifications and potentially also the additional of suspension bridges. Similar things could be also studied for Loop 12 bridge.

Furthermore, the Corps indicates in that table that there are adverse effects from the floodway line of the tollroads. If we take all these effects together, we may find that the need for the devastating damage done by the DFE in its current form are not necessary except for the protection of people in the floodplain.

We urge the Corps to prepare a comprehensive detailed and factual supplement to the EIS that examines the cumulative effects of all the alternatives and we look forward to seeing that in the final SEIS.

MR. RICE: Thank you. Mary Vogelson.

MS. VOGELSON: Thank you. Good evening. I'm Mary

This concern has been addressed in the final SEIS.

Vogelson representing the League of Women Voters of Dallas as the Trinity River Study chair for the league. Our league has been involved with the Trinity River studies by the Corps and others for over 35 years. We understand the need to proceed with a project that has been pending since 1965 and we understand the frustration of trying to work with the city of Dallas when the city itself has been unable to establish guidelines for a cooperative program with the Corps for most of this time.

League of Women Voters of Dallas wrote extensively in response to the 1998 DFE-GRR EIS, we've got those letters down, draft that the Corps had not met NEPA's requirements to evaluate the cumulative effects of all foreseeable projects including its own DFE proposals and alternatives. Our concerns, in part, echo the later office management and budget statement when they said the Corps elected not to evaluate the flood solution proposals having the highest net economic benefits and that decision, in effect, removed from consideration an entire set of reasonable options. Thus, the OMB states, the Corps presented an incomplete picture of the available choices and their impacts and prevented informed public discussion of the merits of the proposed project.

The Corps has still not made a public evaluation of its own DFE project in conjunction with other known proposals and discussing the cumulative environmental impacts oh the city and

The court's decision specifically upheld the Corps' choice of alternatives for inclusion in the final array of alternatives. The other alternatives were found to be unreasonable by the Corps, and that decision was upheld by the Northern District of Texas.

This document explores the cumulative impacts of the DFE and the reasonable alternatives included in the final array, which complies with NEPA. NEPA does not require an analysis of alternatives found to be unreasonable.

its citizens. Furthermore, evaluating cumulative impacts of the newly proposed environmental quality plan, a plan much more in keeping with the "new, green" Corps against the currently existing conditions might have resulted in a very different NEPA outcome. Unfortunately we do not know this as a result of this document.

Attempting to secure the Corps DFE project and then evaluating the cumulative effects of known future proposals or alternatives as this document purports to do is not our understanding of meeting the NEPA requirements. The Federal Court for the Northern District of Texas ruling pages 54 through 57 in the opinion of April 10th, 2002, demands that the cumulative impacts of these projects must be addressed with the DFE project, not supplemental to the DFE project.

The League of Women Voters is concerned about the best use of public funds, the cumulative effects on the environmental upstream and downstream, requirements of NEPA, the accurate and complete information being given to the citizens of Dallas in order to make democracy work for all Dallas's citizens. We hope to the continue to work with the Corps of Engineers to meet this goals.

We will be sending further written comments in detail. And frankly, a point of personal privilege, since I'm out of town most of the month of December, is it possible to get a two-week extension? Thank you.

This concern has been addressed in the final SEIS.

MR. RICE: Mr. Joe Wells.

MR. WELLS: I'm Joe Wells and I submitted some written comments and I'll submit some more in writing before the deadline. One of the things -- I just want to say a couple of things. One is I wanted to join on behalf of the Sierra Club, several thousand members in the Dallas Sierra Club, to ask for an extension of the comment period, so that members of that group and other environmental groups that have for years pointed out to the Corps of Engineers and the city of Dallas very significant environmental impacts of this DFE project, the proposed tollroads and floodway lake proposals repeatedly in meetings like this and in writing, would have an ability to review the document, provide detailed comments. And I'm a little bit astounded that -- I think the problem is not that they are significant impacts on these proposed projects, but there hasn't been a significant effort by the Corps of Engineers to identify what the impacts, analyze them, publish them and let the public review and comments on them before you move forward, which we understand the National Environmental Policy Act requires. And we were joined in that by the federal district judge. And I urge you to provide this extension of comments time and look at the very serious issues that we're going to identify and have been identifying for a number of years in order that we can resolve this through a process that complies with the law. Thank you.

This extension was granted.

The court order required an analysis of the cumulative impacts of reasonably foreseeable future projects. This has been accomplished in the final SEIS.

MR. RICE: Thank you. That concludes the people who have signed up to speak. Is there anyone else who would wish to speak who has not signed up? In this case again we'll receive written comments until the 21st of this month. I appreciate your time. This concludes the meeting. Thank you very much.

THE STATE OF TEXAS)
COUNTY OF TARRANT)

I, Pam Alford, Certified Shorthand reporter in and for the State of Texas, do hereby certify that the above and foregoing contains a true and correct transcription of the proceedings had at the above-stated time and place, all of which were reported by me.

WITNESS MY HAND this the 3rd day of February, 2003.

PAM ALFORD, TX CSR #459
Expirations Date: 12/31/04

APPENDIX C

RECORDS OF DECISION
for

GENERAL REEVALUATION REPORT and EIS,
DALLAS FLOODWAY EXTENSION

and

PROGRAMMATIC EIS
UPPER TRINITY RIVER BASIN FEASIBILITY STUDY

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

REPLY TO
ATTENTION OF:

01 DEC 1999

RECORD OF DECISION
ENVIRONMENTAL IMPACT STATEMENT
DALLAS FLOODWAY EXTENSION, TEXAS

SYNOPSIS

In February 1999, the Final General Reevaluation Report and Integrated Environmental Impact Statement, which documented the results of a comprehensive reevaluation of the authorized Dallas Floodway Extension Project located in the Trinity River Basin, Texas, was filed with the U.S. Environmental Protection Agency. The review period was extended an additional 30 days in response to local interest requests. This Record of Decision completes the approval process for flood damage reduction, environmental (ecosystem) restoration, and recreation measures for the Dallas Floodway Extension, Texas, as described in the referenced report.

AUTHORITY

Authority for construction of water resource development features described in the Comprehensive Survey Report on Trinity River and Tributaries, Texas (reprinted as House Document 276/89/1), including the Dallas Floodway Extension, is contained in Section 301 of the Rivers and Harbors Act approved 27 October 1965 (Public Law 89-298). The authority is commonly known as the Trinity River and Tributaries Basinwide Study Authority. All studies conducted under this authority serve as an interim response to the basin wide authority, and do not close out the granting authority. Section 351 of the Water Resources Development Act (WRDA) of 1996 (Public Law 104 303) and Section 356 of WRDA 1999 (Public Law 106-53) authorized several project modifications.

The Dallas Floodway Extension is one of five local flood protection projects authorized for construction in 1965 as part of the basin wide 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. 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.

A General Design Memorandum (GDM), which assessed the Dallas Floodway Extension in greater detail, was completed in 1981. In 1985, however, work on the project was suspended following a failed city of Dallas bond election. Final approval of the 1981 GDM was subsequently discontinued, resulting in the retention of the 1965 plan as the authorized plan.

The current General Reevaluation Study was the result of a request by the city of Dallas to reactivate the authorized Dallas Floodway Extension Project, following the severe flood event of 1989. The project was reactivated in 1990 under the provision that a general reevaluation be conducted prior to construction.

DECISION

It is my decision that the Recommended Federally Supported Plan (FSP) for the Dallas Floodway Extension Project should be implemented as soon as practicable as a means to alleviate potential flood damages, restore the natural environment, and provide recreation facilities within the Dallas, Texas, area. Authority to implement the project is partially provided by Section 301 of the Rivers and Harbors Act approved 27 October 1965 (Public Law 89-298). In addition, Section 351 of WRDA 1996 (Public Law 104-303) authorized that the sponsor built Rochester Park Levee and CWTP Levee be included in the project and that the sponsor receive credit for work carried out which is integral with the project as authorized and as currently recommended. Section 356 of WRDA 1999 (Public Law 106-53) authorized environmental restoration and recreation as project purposes. All project features of the Recommended FSP are either specifically authorized by Congress, or can be implemented within the discretionary authority of the Chief of Engineers [33 U.S.C. 701(m)] and no additional project authorization is needed.

FINDINGS OF THE FINAL GENERAL REEVALUATION REPORT AND INTEGRATED ENVIRONMENTAL IMPACT STATEMENT

Implementation of the Recommended FSP, as presented in the Final General Reevaluation Report and Integrated Environmental Impact Statement, dated February 1999 (revised September 1999), would provide completion of a significant portion of the Authorized Plan for the Dallas Floodway Extension. The Recommended FSP, as described in summary below, is located within the authorized site, and includes smaller scale features of the authorized flood damage reduction plan. Future work efforts to more fully fulfill the scope of the authorized plan would not be adversely affected by the Recommended FSP.

COMPARISON OF ALTERNATIVE PLANS

Subsequent to the evaluation and assessment of potential water resources management measures in the Dallas area and formulation of those measures into plan components, various comprehensive plans were investigated. Evaluation of those plans in light of specified planning objectives and public involvement produced the array of alternative plans as detailed below.

The 1965 Authorized Plan consists of a combination flood control channel and floodway levees which would provide a Standard Project Flood (SPF) level of protection (approximately 800-year or 0.125 percent Annual Chance of Exceedence (ACE). The plan would include 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. This plan would no longer be economically justified, with current flood control first costs of $199.2 million (January 1997 prices), annual flood control costs of $17.1 million (7.375 percent interest, 50-year period of analysis), negative annual net flood control benefits of $4.1 million, and a benefit-to-cost ratio (BCR) of 0.76.

The National Economic Development (NED) Plan consists of clearing the vegetation along an upper and a lower overbank swale. The upper overbank swale would be about 1,200 feet wide and would extend from the confluence of Cedar Creek, at the upstream end of the project, to the river crossing of IH-45 for a length of about 7,800 feet, or 1.5 miles. The lower overbank swale would be about 1,200 feet wide extending from Hwy. 310, beginning at least 100' from the edge of the east bank, downstream to about 2,000 feet below Loop 12, for a total length of 17,300 feet, or 3.3 miles. Fragmentation of habitat would be unavoidable and would require extensive mitigation. Acquisition and management of approximately 3,200 acres of land would be required to offset the adverse environmental impacts associated with the project's implementation. This plan would have estimated flood damage reduction first costs of $50 million (January 1887 prices), annual flood control costs of $5.5 million (7.375 percent interest, 50-year period of analysis), annual net flood control benefits of $8.1 million, and a BCR of 2.46.

The Combination Non-structural / Structural Plan (which is the environmentally preferable alternative) consists of a chain of wetlands, a Standard Project Flood (SPF) levee protecting the Lamar neighborhood, and a 10-year buyout of the Cadillac Heights area (seven structures). The buyout of seven structures would leave 158 structures within the 100-year floodplain in Cadillac Heights. This plan would have estimated flood damage reduction first costs of $67.0 million (January 1997 prices), annual flood control first costs of $7.6 million (7.375 percent interest, 50-year period of analysis), annual net flood control benefits of $5.3 million, and a BCR of 1.70.

The Recommended FSP is a multi-objective project consisting of a swale for reducing flood damages, with an incorporated chain of wetlands for environmental restoration purposes, SPF levees protecting the Lamar and Cadillac Heights neighborhoods, environmental mitigation, and recreation facilities compatible with a larger, regional recreation master plan. Also included in this plan would be a proposed realignment of the existing river channel at the IH-45 bridge to prevent catastrophic failure of this designated national defense route, and to reduce significant annual maintenance costs due to debris accumulations at the bridge. This plan is also the locally preferred plan. This plan will provide an approximate 800-year or 0.125 percent ACE level of protection to the areas adjacent to and upstream of the project area. This plan would have an estimated first cost of $127.2 million (October 1998 prices), annual costs of $9.3 million

(6.875 percent interest, 50-year period of analysis), annual benefits of $19.1 million, and a BCR of 2.06.

PLAN SELECTION CONSIDERATIONS

Plan selection considerations involved a comparison of the cost effectiveness, environmental – social – economic balance, broad social acceptability, and adverse environmental impacts of the final plans. Plans formulated were evaluated based on their contribution to the National Economic Development account, and they are consistent with protection and restoration of the Nation's environment. In addition to these National objectives, additional planning objectives evolved from meetings with area residents, from contact with the local sponsor, State and Federal agencies, and from observations made in the area. Specific needs, desires, and goals of the community were identified. The plan selection considerations for the Dallas Floodway Extension project were as follows:

* Reduce flood damages, provide better health and safety measures, reduce emergency services, reduce potential for loss of life due to high velocity flows, reduce isolations caused by flood waters, reduce overtopping of bridges and roads along the Trinity River, and reduce the loss of jobs and/or wages caused by flooding from the Trinity River within the city of Dallas.

* Preserve and protect existing environmental and aesthetically pleasing areas and maintain, as much as possible, the existing vegetation and wildlife habitat along the Trinity. The channel portion of the Trinity River is possibly the largest remaining natural channel within Dallas.

* Preserve and/or protect historically and culturally significant areas.

In summary, a comparison of the alternatives reveals the 1965 Authorized Plan, which did not include mitigation, is no longer the best plan nor is it cost effective or environmentally or socially acceptable; the NED Plan would not provide the maximum protection to the project area and would require significant mitigation, with approximately 3,200 acres of land being required to offset the adverse environmental impacts; the Combination Non-structural / Structural Plan (environmentally preferable alternative) was not selected because it would leave 158 structures within the 100-year floodplain in Cadillac Heights without flood protection and would provide disproportionate flood protection within the project area , while requiring 1,027 acres of mitigation; and the Recommended FSP which provides the maximum protection to the project area, while requiring 1,179 acres of mitigation, best satisfies cost-effectiveness, social, and environmental acceptability criteria and is the locally preferred plan.

ENVIRONMENTAL CONSIDERATIONS IN THE FINAL GENERAL REEVALUATION REPORT AND INTEGRATED ENVIRONMENTAL IMPACT STATEMENT

Compliance with applicable environmental review and consultation requirements has been accomplished through coordination of the Final General Reevaluation Report and Integrated Environmental Impact Statement. In addition to satisfying the Fish and Wildlife Service Coordination Act, full compliance has been accomplished with the Clean Water Act, including the preparation of a Section 404(b)(1) analysis, Clean Air Act, Comprehensive Environmental Resource Compensation and Liability Act, Resource Conservation and Recovery Act, Endangered Species Act, National Historic Preservation Act, Floodplain Management (Executive Order 11988), Section 9 (33 U.SC. 401) and Section 10 (33 U.S.C. 403) of the Rivers and Harbors Act of 1899, and Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations (Executive Order 12898). The General Reevaluation Report and Integrated Environmental Impact Statement are being submitted to Congress to satisfy the requirements of Subsection 404(r) of the Clean Water Act [33 U.S.C. 1344(r)]. Subsection 404(r) waives the requirement to obtain the state water quality certification and requires that the project EIS be submitted to Congress prior to appropriation of funds for the project. The integrated project EIS provides information regarding the effects of the discharge of dredged or fill material, related to project construction of the Recommended FSP.

A signed Programmatic Agreement with the Advisory Council on Historic Preservation, Texas Historic Preservation Office, and other interested parties has been developed to address cultural resources with due diligence.

All practicable means to avoid or minimize environmental impacts have been adopted and were incorporated in the development of the Recommended FSP. The Final Fish and Wildlife Coordination Act Report, dated February 3, 1999, has been coordinated with Texas Parks and Wildlife Department. The conclusion was that if the Recommended FSP is implemented, the project should include the acquisition and intensive management of a minimum of 1,179 acres of terrestrial habitat, including 926 acres of bottomland hardwoods and reforestation of 253 acres of mixed grass-forb lands. Once the environmental restoration and mitigation features have been turned over to the non-Federal sponsor for long term operation and maintenance, a program to monitor the success of the environmental restoration and mitigation features of the project will be initiated. The U.S. Army Corps of Engineers, Fort Worth District, will conduct annual inspections of the environmental restoration and mitigation areas and any deficiencies would be documented. Enforcement procedures to rectify any deficiencies in the environmental restoration or mitigation features will be adopted and jointly implemented by the non-Federal sponsor and the U.S. Army Corps of Engineers. The non-Federal sponsor will be responsible for all Operation, Maintenance, Repair, Rehabilitation, and Replacement requirements of the environmental restoration and mitigation features.

CONCLUSIONS

I have reviewed and evaluated all documents concerning the Fort Worth District Engineer's recommendation, including the views of other interested agencies and the general public, and have considered prevailing administrative policies and procedures. Based on these factors, I find the Recommended FSP as contained in the Final General Reevaluation Report and Integrated Environmental Impact Statement, dated February 1999 (Revised September 1999), suitable for use as a plan for implementation of flood damage reduction, environmental restoration, and recreation at Dallas, Texas. I further conclude that the Dallas Floodway Extension project should be implemented as soon as practicable.

Based on the conditions set forth in the Fort Worth District Engineer's findings and the conditions set forth herein, I conclude that the public interest is best served by the decisions as set forth herein.

HANS A. VAN WINKLE
Major General, U.S. Army
Deputy Commander for
Civil Works

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF:

RECORD OF DECISION
PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT
UPPER TRINITY RIVER BASIN
TRINITY RIVER, TEXAS

Study Authority, History and Objectives

The Programmatic Environmental Impact Statement (PEIS) describes and addresses cumulative impacts identified to date related to reasonably foreseeable Corps of Engineers actions that might result from ongoing Upper Trinity Feasibility Studies. These studies are being conducted in response to the authority contained in the United States Senate Committee on Environment and Public Works Resolution dated April 22, 1988, as follows:

> *Resolved by the Committee on Environment and Public Works of the United States Senate, that the Board of Engineers for Rivers and Harbors is hereby requested to review the report of the Chief of Engineers on the Trinity River and Tributaries, Texas, House Document No. 276, Eighty-Ninth Congress, and other pertinent reports, with a view to determining the advisability of modifying the recommendations contained therein, with particular reference to providing improvements in the interest of flood protection, environmental enhancement, water quality, recreation, and other allied purposes in the Upper Trinity River Basin with specific attention on the Dallas-Fort Worth Metroplex.*

Existing environmental and socioeconomic resources of the study area are described in the PEIS. Likewise, past actions of the Corps and other entities within the study area are identified, along with an analysis of the effects that those actions have had on study area resources. The Corps and its project sponsors have constructed four Congressionally Authorized floodways and five multiple purpose reservoir projects within the upper Trinity River Basin. A fifth major floodway, the Dallas Floodway Extension Project (DFE), was authorized for construction in 1965 and modified in 1999 to include ecosystem restoration and recreation as project purposes. The DFE Project is considered to be in-place for defining baseline conditions. Additionally, under the Corps' Continuing Authority Programs, twelve projects for local flood damage-reduction, three projects for streambank stabilization, and one project for ecosystem restoration have been constructed within the study area. Collectively, these projects have directly altered and impacted the region's natural and cultural resources. They have further contributed to secondary impacts on these resources as population growth and associated land use intensification have occurred within the study area.

The primary objectives of the evaluations in the PEIS were: 1) provide a synopsis of existing conditions within the overall study area for key areas of concern, primarily hydraulic and floodplain environmental features; 2) describe changes in conditions since the Trinity Regional Environmental Impact Statement was completed in 1988; 3) address the programmatic effects of potential projects which could result from the Upper Trinity River Basin Feasibility Study; 4) identify reasonably foreseeable projects of others within the study area; 5) disclose direct, indirect, and cumulative impacts of potential Corps of Engineers projects relative to reasonably foreseeable projects of others.

Proposed projects considered in the PEIS

The study area is generally defined as the standard project floodplain (SPF) of the Trinity River in the Dallas and Fort Worth Metroplex. This area has undergone extensive alterations in the past 50 years due to rapid urbanization, the construction of various flood control and water supply reservoirs, major

channel/levee projects, and numerous smaller projects which have affected the physical characteristics of the Upper Trinity River watershed. In addition, baseline conditions for cumulative assessment within the study area for the Upper Trinity River Feasibility Study assume the authorized Dallas Floodway Extension (DFE) project to be in-place. Originally authorized in 1965, the Dallas Floodway Extension project was modified by the Water Resources Development Act of 1999 (Public Law 106-053), Section 356, to include environmental restoration and recreation as project purposes. The Final EIS for the DFE project was circulated for public comment during the spring of 1999 and the Fort Worth District Engineer signed the Record of Decision on December 1, 1999. Project construction is scheduled to commence in January 2003.

Approximately 90 potential projects, which provide for flood damage reduction, ecosystem restoration, water quality, and recreation outputs, were identified within the study area during the course of the Upper Trinity River Feasibility Study. Of these, three potential Corps of Engineers projects have been carried into detailed feasibility studies and are addressed in detail in the PEIS. These projects include the Johnson Creek project, in Arlington, the Stemmons North Industrial project, in Dallas, and the Dallas Floodway project, in Dallas. A Feasibility Study Cost Sharing Agreement was signed for a fourth study in February 2000 during preparation of the Draft PEIS. The local sponsor for the West Fork and Clear Fork project is the Tarrant Regional Water District. This study will focus on ecosystem restoration, and flood damage reduction needs and opportunities. Study plans are under development and thus, no details are provided in the Final PEIS.

The authorized plan for Johnson Creek consists of the acquisition and removal of 140 structures from the 25-year floodplain. Recreation features would include 2.25 miles of concrete trails, information kiosks, security lighting, drinking fountains, and footbridges spanning the creek, 70 uncovered picnic sites and a pavilion. Ecosystem restoration measures include acquisition of 155 acres of undeveloped areas within the corridor. The undeveloped area includes 61 acres of grassland and 94 acres of riparian forest. Forest management techniques will be employed to improve the quality of habitat for wildlife. Recreation features including a concrete hike/bike trail will also be added to the ecosystem restoration lands. Project construction is scheduled to begin in November 2000.

The Stemmons North Industrial Corridor is generally bounded by the Elm Fork on the west and south, Loop 635 on the north, and IH-35 on the east. Present development of the area includes extensive commercial and industrial activities with mixed multi-family and high-density residential areas. A structural plan consisting of a levee and floodwall providing 500-year flood protection to approximately 1000 acres along Mañana Street has been preliminarily identified to be feasible. An earthen levee would begin at Interstate 35 (Stemmons Freeway) on the north side of Mañana Drive and extend west to Wasco Creek. An intermittent earthen levee / concrete floodwall system would then be utilized, continuing south and west along the creek to the Burlington Northern Railroad track, then south along the railroad track to Northwest Highway. An earthen levee would then resume, extending south and east, and eventually tying in to the embankment of Loop 12. A non-structural plan, which would provide for buy-out and removal of structures within various flood zones does not appear feasible based on the studies conducted to date, but will be further investigated.

A flood damage reduction alternative was developed within the area of the existing Dallas Floodway to maximize the flood protection in the area behind the existing levees. This alternative would consist of raising the existing Dallas East and West Levees to a crest height 2 feet above the projected SPF water surface. An additional 18 inches of road base material would be placed on top of the impervious fill to accommodate vehicular traffic for maintenance and inspections. No excavation of fill material would occur beneath any of the bridges. A separate environmental quality (EQ) alternative was also developed for the Dallas Floodway area. The objectives of the EQ alternative were to improve the environmental character of the study area to benefit fish and wildlife habitat, water quality, and aesthetic properties while minimizing adverse impacts to existing cultural resources and flood damage reduction benefits. The EQ alternative consists of excavating a new meandering, low-flow channel between the levees, the establishment of forested areas and additional wetlands, and raising the levees to provide a flood damage risk comparable to the "Future Without Project", or "No Action", alternative condition. Trees would be planted along the top of the bank of the meandering channel on one side at a minimum width of 100 feet. Other tree planting zones would be established in random locations within the floodplain.

Existing depressions in the floodplain would be preserved or enhanced to provide seasonal wetland functions and to support wetland vegetation. No structures for the purposes of water management of individual wetland sites are proposed.

An array of other reasonably foreseeable projects being proposed by other entities was also reviewed and has been included in the PEIS where sufficient details were available to evaluate their cumulative effect on water and related land resources. In 1998, the Texas Department of Transportation (TxDOT) completed a Major Transportation Investment Study (MTIS) encompassing much of the Upper Trinity River study area within the City of Dallas. Based upon support from the City of Dallas and the North Texas Tollway Authority, the Federal Highway Administration, on June 17, 1999, issued Notice of Intent to prepare an Environmental Impact Statement on the Trinity Parkway. The EIS will address four alternative alignments for the Trinity Parkway which will include: 1) combined parkway constructed on the East levee of the Dallas Floodway, 2) split parkway constructed on the riverside slopes of the Dallas Floodway East and West levees, 3) split parkway constructed on the landside slopes of the Dallas Floodway East and West levees, and 4) modifying or reconstructing the existing Industrial Boulevard to accommodate increased traffic load. Each of these alternatives is assessed in preliminary detail in this PEIS.

The City of Dallas Trinity River Corridor Master Implementation Plan, dated August 1999, was also reviewed and included in the PEIS. This plan proposes a series of lakes, a split river channel, constructed wetlands, recreation trails, parklands, grasslands, and pedestrian bridges. The lakes and split river channel would involve one large lake, minimally 135 acres in size with options to expand to 235 acres, and other smaller lakes or wetlands within the existing Dallas Floodway. A combination of groundwater and Central Wastewater Treatment Plant effluent, polished by wetlands, is currently being considered as a possible source of water for the lakes. The main river channel would be split into two channels running parallel to the levee on either side of the lower half of the Dallas Floodway. The lakes would be located between the split channels with a raised berm surrounding the lakes to prevent floodwater inundation of the lake up to a 2-year flood event. This alternative could also include all of the water-related recreational features mentioned. Different variations of this alternative are being considered with selected alternatives for the proposed Trinity Parkway route. The Trinity River Corridor Master Implementation Plan also proposes upgrading of several bridges that cross the Floodway slated for replacement to attain "signature" status. These bridges were not evaluated in this PEIS because their designs have not been sufficiently developed to allow evaluation.

Summary of Major Environmental Findings and Cumulative Effects

The studies conducted to prepare this PEIS indicate clearly that extensive changes in land use within the 100-year and standard project floodplains of the study area have continued to occur since 1988 within the study area. That date represents the date of the Trinity Regional EIS and Record of Decision. Cumulative hydraulic impacts have not been as significant as have impacts to vegetative cover within the study area. The greatest cumulative impact identified has been to the extent of floodplain forested resources. Habitat quality evaluation of the remaining forested areas was not conducted, however, it is likely that overall fragmentation of forest as a result of floodplain encroachments has also cumulatively diminished value for wildlife that utilized floodplain forest resources.

An analysis of cumulative impacts of various potential Corps of Engineers projects or alternatives was made in combination with selected features of the North Texas Tollway Authority's (NTTA) proposed Trinity Parkway and the City of Dallas' Trinity River Corridor Master Implementation Plan alternatives. The authorized Johnson Creek Project would contribute favorably in the areas of forested resources, floodplain recreation, natural floodplain values, aesthetics, and public services and community structure. The Stemmons corridor would have little cumulative effect on any factors other than hydraulics, but the levees would be slightly negative in terms of aesthetics and natural values while the non-structural alternative would be slightly beneficial in regard to those same parameters. The effects of the Stemmons alternatives on the hydraulics of other projects vary, depending upon the alternative considered.

Among the alternatives considered in the area of the Dallas Floodway, the, EQ, plan would be the most beneficial in terms of forested resources, floodplain recreation, natural floodplain values, and

aesthetics, but without appropriate hydraulic mitigation would have the effect of increasing the flood risk for upstream floodplain areas not protected by the Dallas Floodway levees. The optimal flood damage reduction plan would be essentially neutral in terms of impacts on other resources, unless significant ecosystem restoration and recreation features were to be included. The "Lakes Only" Plan, if implemented by the City of Dallas, would have a slight negative effect on forested resources, or minimal effect with substantial plantings. This project should also be beneficial in terms of recreation and aesthetics. The NTTA Parkway alternatives, all of which would include the "Chain of Lakes", would have slightly negative to no effect (with substantial plantings) on forested resources, slightly negative effects on environmental justice issues and community structure and essentially a neutral effect on hydraulics.

Areas of Controversy

The potential for cumulative adverse impacts created the need to address the environmental consequences of all reasonably foreseeable proposed actions. Concerns were raised over the number and scope of potential projects being proposed for implementation by the Corps and others. The cumulative effects of various projects on flood damages and natural floodplain functions are considered to be controversial. Structural measures implemented to reduce flood damages often adversely impact natural flood plain values. Thus, many often consider use of flood plains controversial for purposes contrary to their natural function. Issues identified early in the public involvement process as controversial remained so throughout the review of the PEIS. Foremost among controversial issues was the proposal to place transportation features laterally within the floodplain, and the perception that the Dallas Floodway Extension project was being constructed in order to accommodate roadways between the existing levees.

Public Involvement

A Notice of Intent (NOI) to prepare a draft Programmatic EIS for the Upper Trinity River Basin was published in the *Federal Register* on November 8, 1996. The NOI provided background information related to the Upper Trinity Study, current status of ongoing studies and rationale for preparing the PEIS.

Notice of Public Scoping Meetings was mailed to all known interested parties on December 11, 1996. Scoping meetings were held on January 7, 1997 in Dallas, and on January 9, 1997 in Arlington, Texas. The Dallas meeting was held at the Downtown Public Library with approximately 50 individuals in attendance and 10 providing comments. The Arlington meeting was held in the City Council Chambers and 35 individuals attended. Four speakers presented comments. Major issues and concerns rose from these meetings dealt with the need for preservation of environmental quality, along with protection of life and property from flood damages. Another area of concern included overlapping of the PEIS study area with that of the proposed Dallas Floodway Extension (DFE) project area and any action undertaken on the DFE proposal prior to completion of the PEIS. The public also raised issues about the potential adverse impacts of multiple projects proposed within the Trinity River floodplain along the Dallas Floodway, the Elm Fork adjacent to Stemmons Freeway, and the West Fork on important ecosystem resources such as riparian and bottomland forests and wetlands. Issues also arose on the effects these multiple projects possibly would have on the ability of existing, and other proposed flood damage reduction projects to provide desired levels of flood protection. Concerns were also raised about the possible negative effects of the proposed Trinity Parkway on recreational use and West Dallas community cohesion.

In addition to the above-mentioned scoping meetings, other avenues provided opportunities to gather input for use in development of an understanding of the range of needs, opportunities and potential solutions identified that were addressed during the PEIS preparation. This included holding various meetings, on a recurring basis and additional coordination with multiple local, state and federal agencies and the City of Dallas to gather input needed to fulfill the NEPA process.

The Draft PEIS was filed with EPA in the Federal Register on December 17, 1999, and a Public Meeting was held in Dallas on January 13, 2000. Approximately 75 individuals attended the meeting with formal statements received from 31 of those present. The official comment period on the Draft EIS remained open through February 22, 2000, to allow others to provide written comments on the draft PEIS.

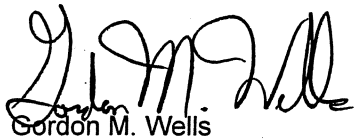
The principle issue of concern raised at the meeting was the location of the proposed tollway. Because of several verbal requests received at the public meeting, the public comment period was extended for an additional two weeks beyond the original 54-day comment period.

A total of 37 letters were received commenting on the Draft PEIS. Technical comments focused on the hydraulics and hydrology, water quality, community cohesion, recreation, and access to and from the Dallas Floodway considering the effects of the tollway. The business and industrial interests generally spoke in favor of a tollway between the levees. Several comments questioned the rationale for assuming the Dallas Floodway Extension to be in-place and commented specifically on features of that project which was documented previously under NEPA in the completed DFE EIS. Additional information was added to the PEIS to clarify cumulative impacts identified in the draft.

The Final PEIS was available for public review from June 30, 2000 to July 31, 2000. Five letters of comment were received addressing similar issues raised during review of the draft PEIS. All comments received on the Draft and Final PEIS were fully considered during the formulation of the Record of Decision for the PEIS.

Conclusions and Recommendations

Based upon analyses and findings developed as a result of preparation of this PEIS and the public comments received during review of the draft and final document, I have determined that any of the projects being considered by the Corps and other entities could likely be implemented provided appropriate environmental and hydraulic mitigative measures are followed. These mitigative measures include avoidance and minimization of impacts. This Record of Decision is not intended to replace regulatory criteria associated with the 1988 Trinity Regional EIS Record of Decision and the local communities' Corridor Development Certificate process. Those review mechanisms, along with new emphasis on floodplain management provided by Section 202(c) of Water Resources Development Act of 1996 provide support to bolster my commitment to protect and mitigate important floodplain resources. Ecosystem values and hydrology and hydraulics will continue to be given full consideration whenever the Corps has a role in the decision-making regarding potential floodplain modifications within the study area. Corps higher authority will continue to review the various proposals as they progress and will have final policy approval of proposed Corps project or permit actions. Any of the projects discussed and considered in this PEIS that may be carried forward for implementation must be carefully planned and designed to avoid or minimize adverse direct and cumulative impacts. Mitigation will be required to compensate for identified unavoidable adverse effects to existing hydrological and hydraulic conditions and to environmental resources of regional and national importance such as wetlands, riparian woodlands and recreation and other uses related to flood plains.



Gordon M. Wells
Colonel, Corps of Engineers
District Engineer

Date: September 15, 2000

APPENDIX C

RECORDS OF DECISION
for

GENERAL REEVALUATION REPORT and EIS,
DALLAS FLOODWAY EXTENSION

and

PROGRAMMATIC EIS
UPPER TRINITY RIVER BASIN FEASIBILITY STUDY