DALLAS FLOODWAY PROJECT

DRAFT FEASIBILITY REPORT and DRAFT ENVIRONMENTAL IMPACT STATEMENT PUBLIC MEETING

Rob Newman

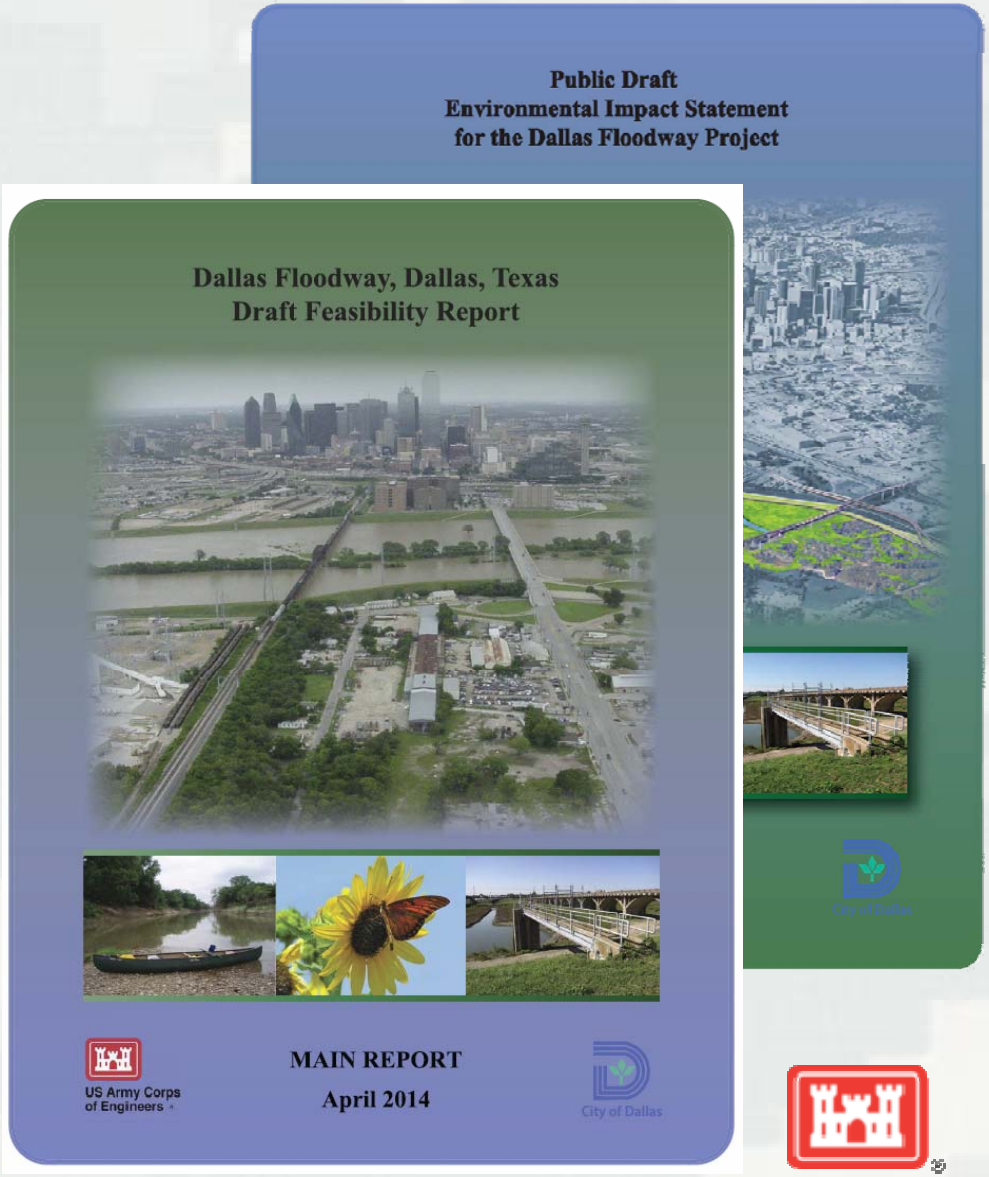
Director, Trinity River Corridor Project,
Fort Worth District

8 May 2014

US Army Corps of Engineers
BUILDING STRONG®

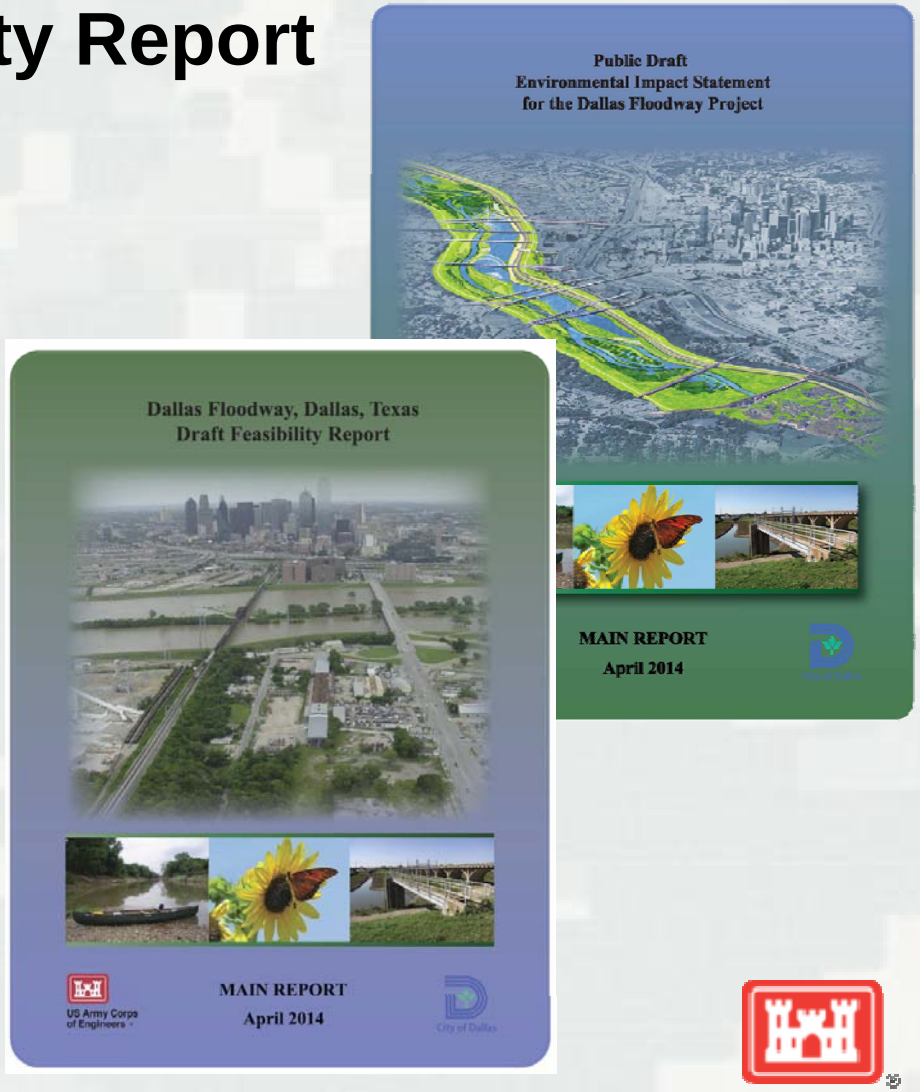
Purpose of This Public Meeting

- Describe the Proposed Action and the Recommended Plan for the Dallas Floodway Project to the public
- Summarize the potential impacts associated with the Project
- Solicit comments from the public on what clarification or revisions should be incorporated into the Final Environmental Impact Statement (EIS) and Feasibility Report



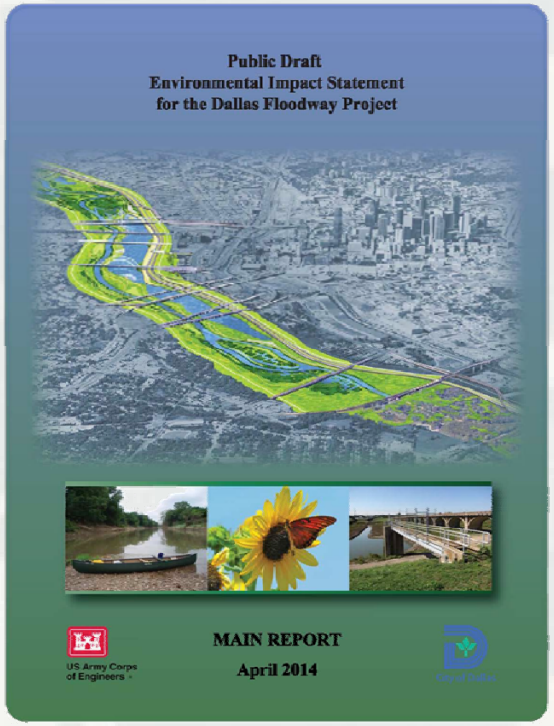
Two Documents: Environmental Impact Statement and Feasibility Report

- EIS – Proposed Action
  - Adheres to NEPA process
  - Discloses impacts
  - Facilitates design and construction under Section 408 permitting process
- Feasibility Report – Recommended Plan
  - Adheres to Corps of Engineers Civil Works Planning Process
  - Formulates for maximum economic benefits
  - Determines which actions suitable for federal support and sets project federal-local cost-share proportions



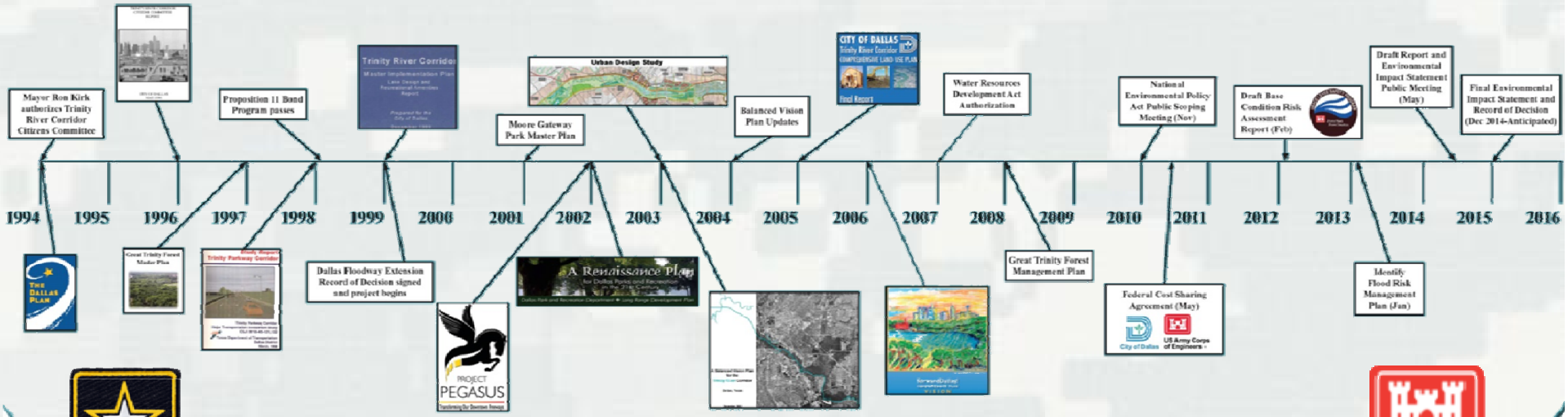
Proposed Action Presentation Overview

- Description of the Proposed Action contained in the Draft Environmental Impact Statement
- Results of the Impact Analysis
- Conclusions
- Opportunities for Ongoing Public Involvement



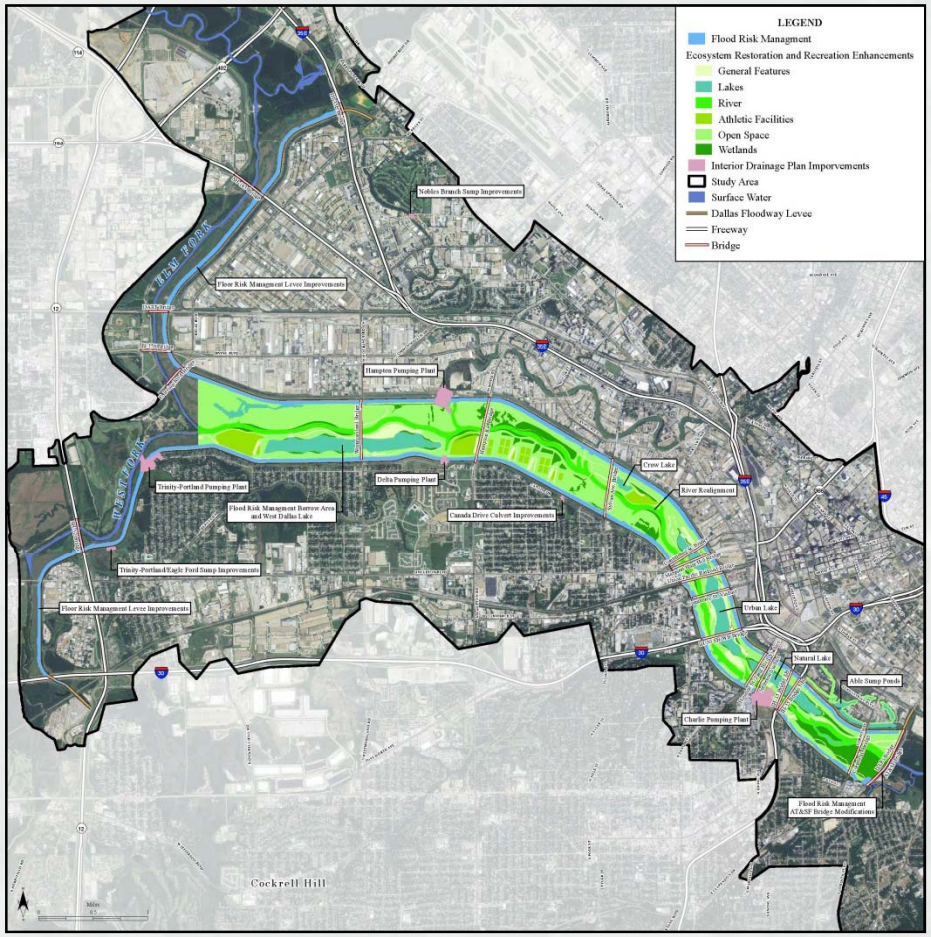
Proposed Action: Background

- The Proposed Action represents the culmination of decades of planning by the city and the citizens of Dallas.
- Since 2007, the U.S. Army Corps of Engineers has been a partner in the development and planning of the Trinity River Corridor features.



Environmental Impact Statement – Proposed Action

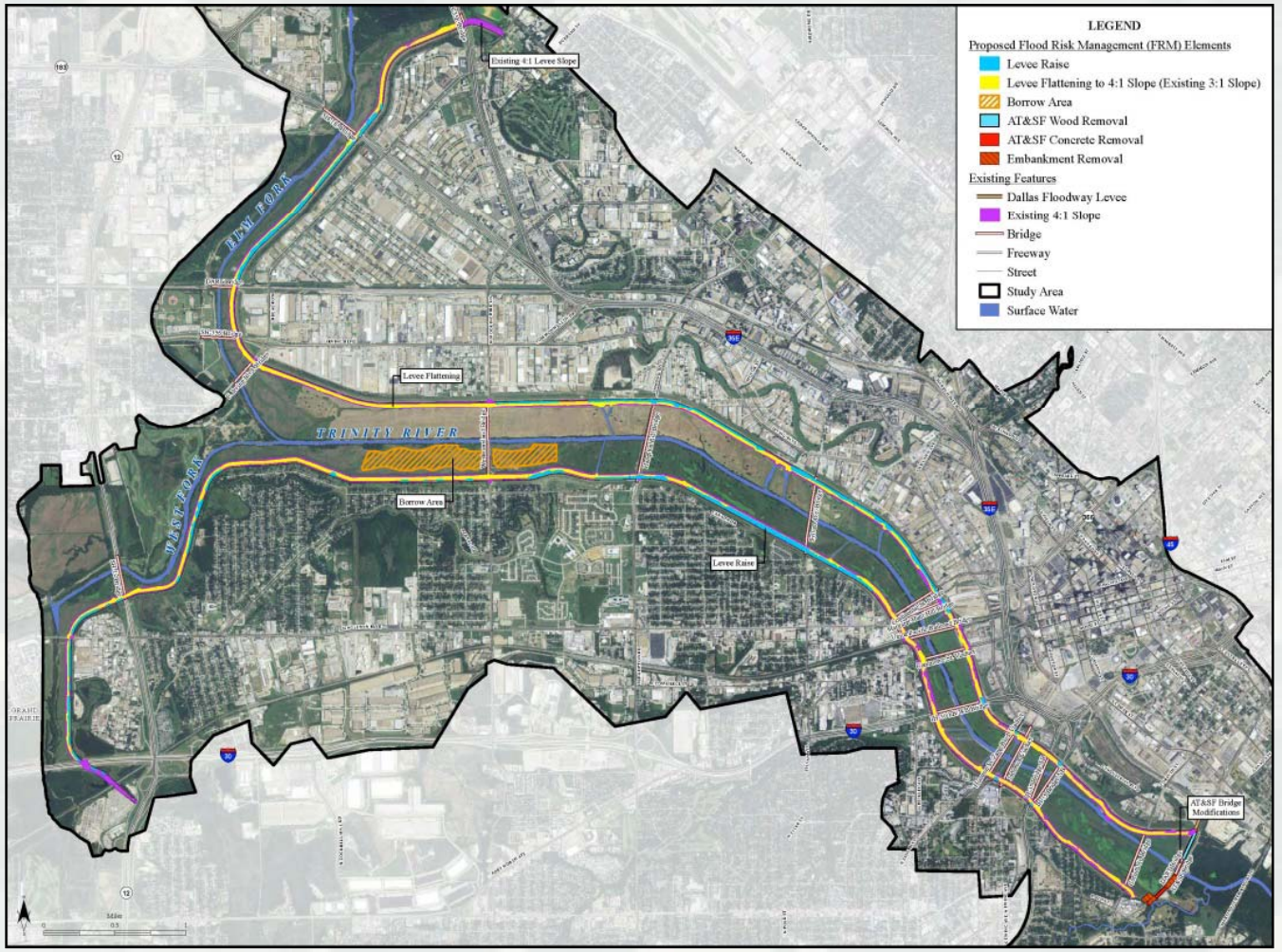
Proposed Action: Overview



- Flood Risk Management
- Ecosystem Restoration
- Recreation Enhancements
- Interior Drainage Improvements

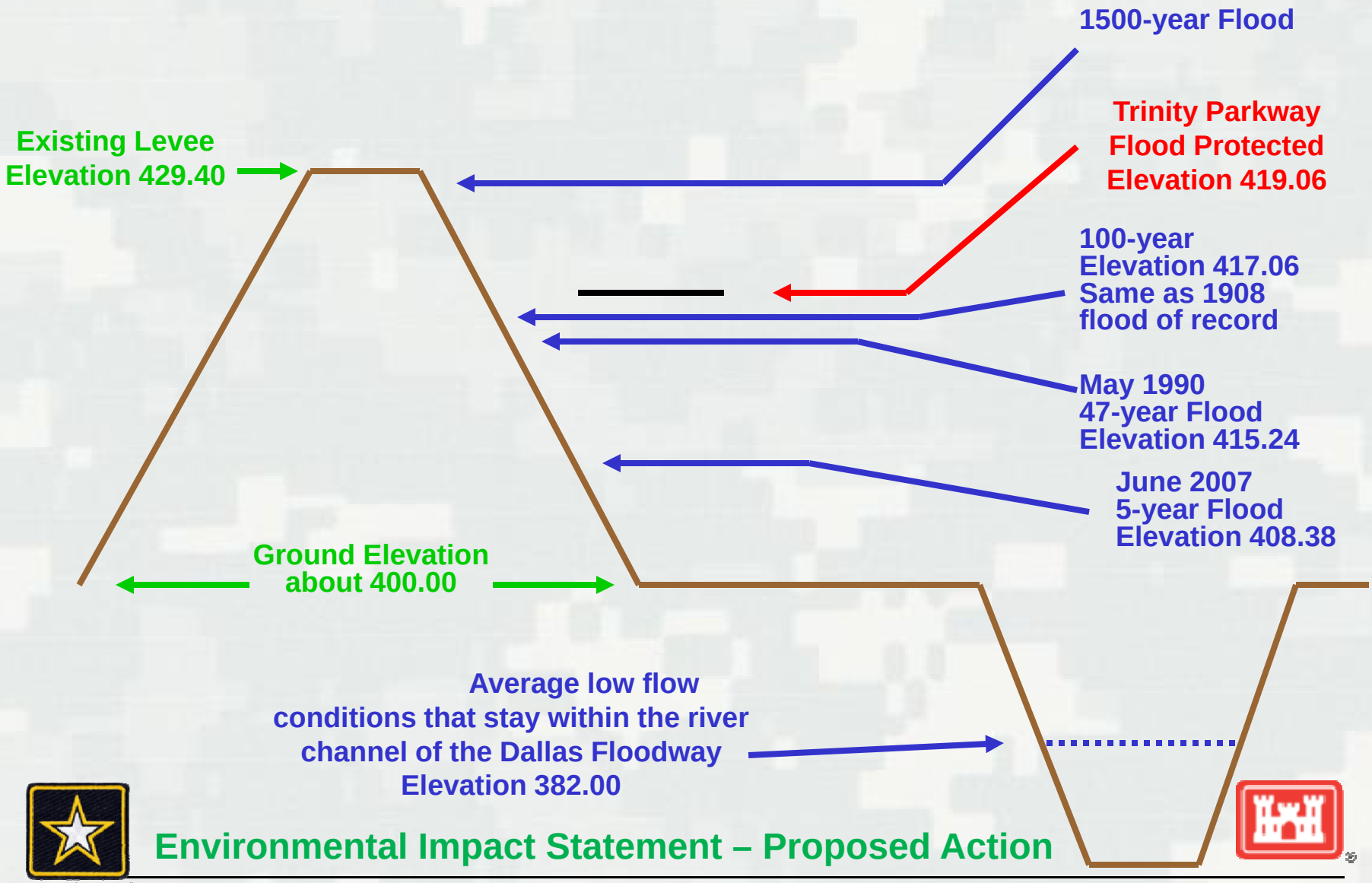
Flood Risk Management (FRM)

- 4 Main Elements
  - Levee raise
  - AT&SF Bridge modification
  - Levee flattening
  - Nonstructural flood control improvements



Environmental Impact Statement – Proposed Action

FRM: Levee Raise



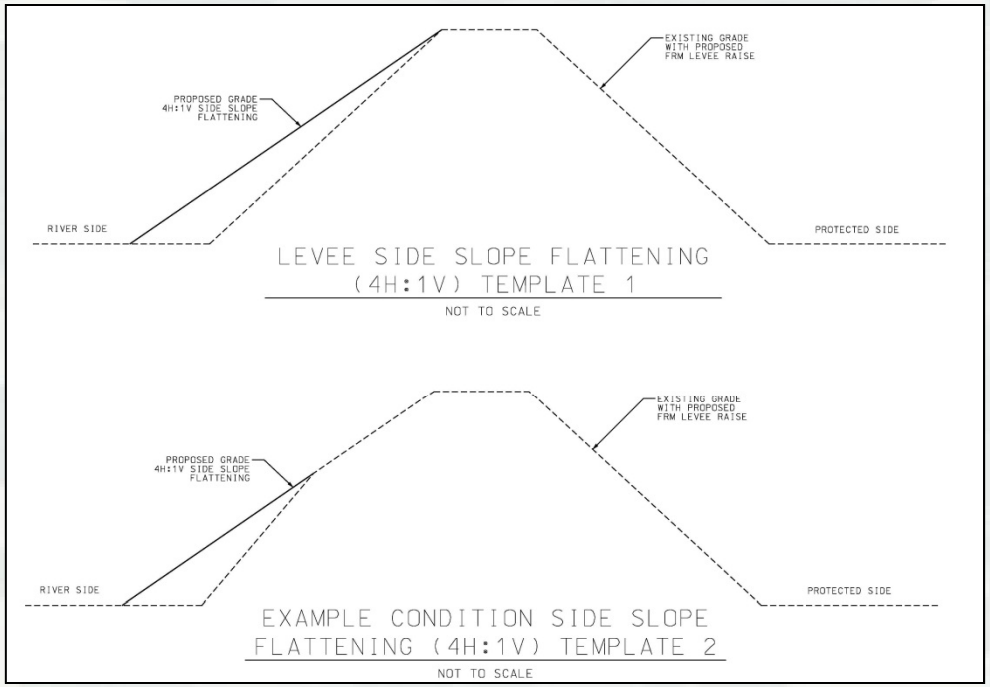
Environmental Impact Statement – Proposed Action

FRM: AT&SF Bridge Modification

- Remove embankments and remaining narrowly spaced wooden piers that block flood flows

- Retain a 350-foot section of historic wooden trestle associated with the Santa Fe Trestle Trail

FRM: Levee Flattening



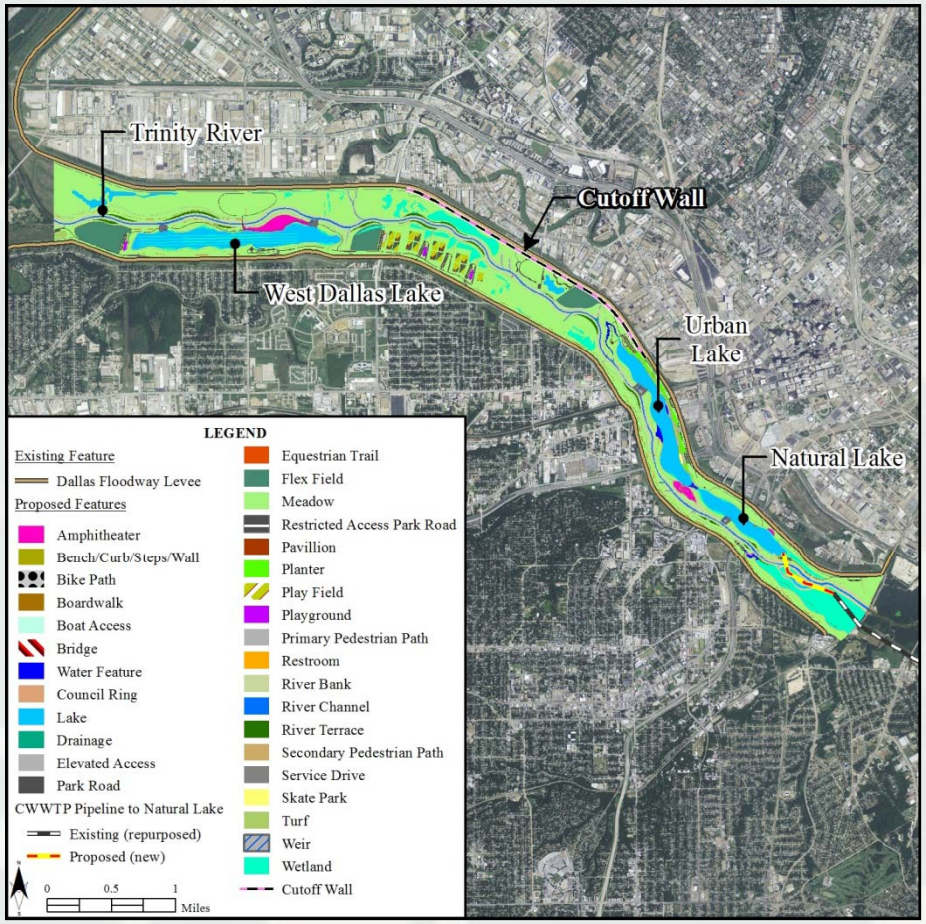
- Modify the levees to a 4:1 slope
- Benefits of the shallower slope:
  - ► safer mower maintenance, and
  - ► reduced risk of slides
- The excavation of material would double as the preliminary excavations for the West Dallas Lake

FRM: Nonstructural Improvements

- The City of Dallas currently has a very advanced effective warning system and Emergency Action Plan (EAP)
- Improved inundation mapping and data sharing can help improve EAP revision and implementation

Ecosystem Restoration and Recreation Enhancement

Balanced Vision Plan Study Ecosystem Restoration and Recreation Enhancements	
Lakes	West Dallas Lake
	Urban Lake
	Natural Lake
River	Relocation and Modification
Wetlands	Marshlands
	Cypress Ponds
	Corinth Wetlands
Athletic Facilities	Potential Flex Fields
	Playgrounds
	River Access Points
General Features	Parking and Public Roads
	Lighting
	Vehicle Access
	Pedestrian Amenities
	Restrooms
	Amphitheaters
Interior Drainage Outfall Modifications	Pump Station Outfalls
	Pressure Sewer Outfalls
Able Sump Ponds	Recreation and Ecosystem Enhancements



Environmental Impact Statement – Proposed Action

Ecosystem Restoration and Recreation Enhancement: Lakes

- The Proposed Action includes three lakes:
  - West Dallas Lake
  - Urban Lake
  - Natural Lake

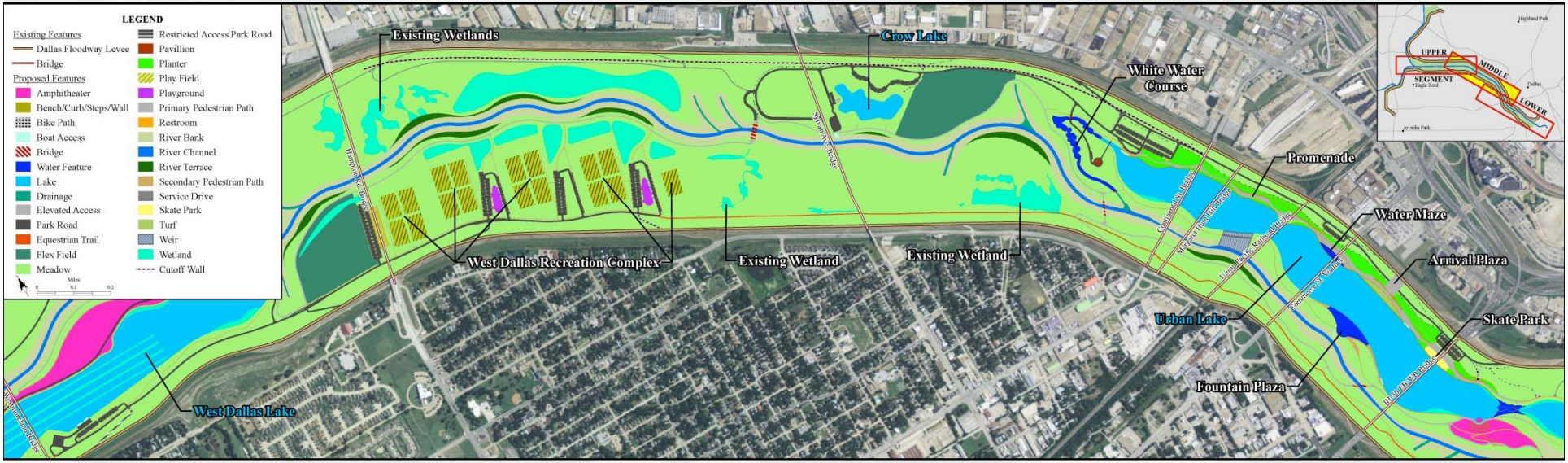
Rendering of rowing on the West Dallas Lake

Rendering of Reunion entrance to the promenade and Urban Lake

Rendering of view across the Natural Lake

Ecosystem Restoration and Recreation Enhancement: River

- 8 miles of the river channel would be modified
- River meanders would improve water quality and habitat



Ecosystem Restoration and Recreation Enhancement: Wetlands

Rendering of Marshlands alongside Proposed Lake

- 3 main areas of wetlands:
  - Marshlands
  - Cypress Ponds
  - Corinth Wetlands

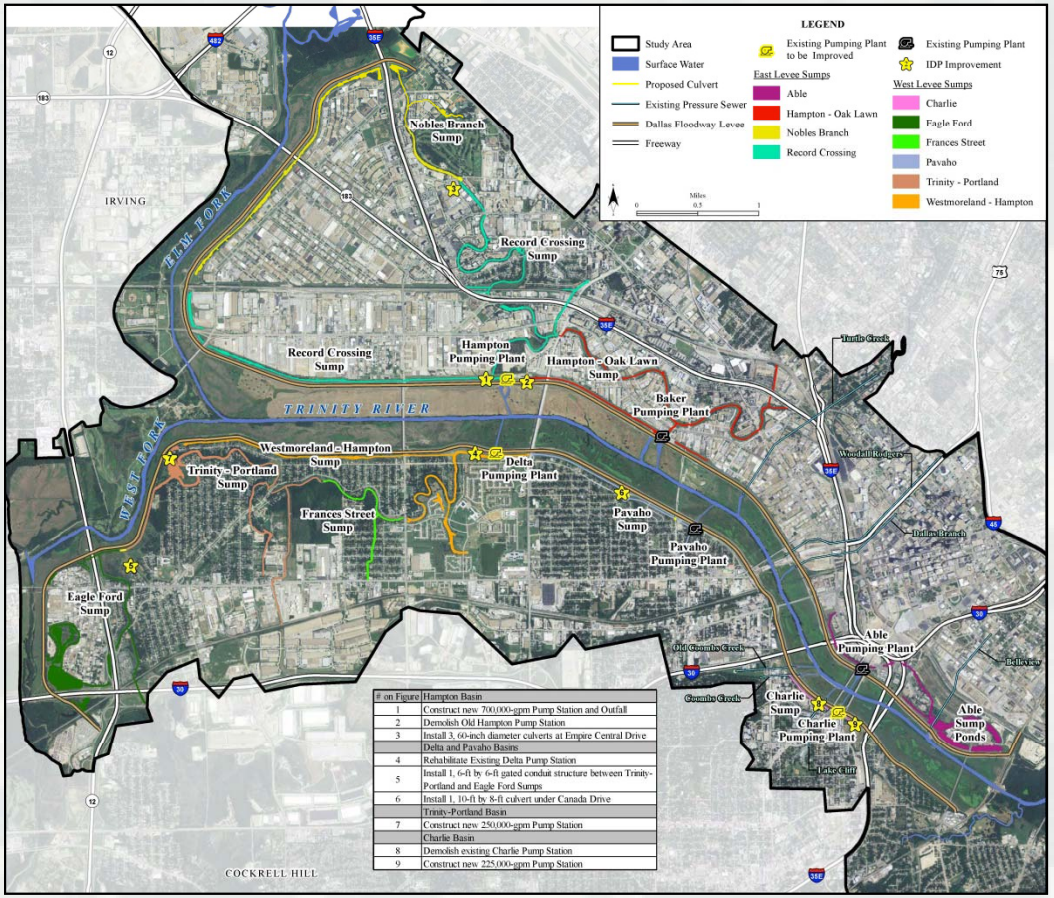
Rendering of Corinth Wetland

Ecosystem Restoration and Recreation Enhancement: Recreational Facilities

- Flex fields and playgrounds
- River Access
- Gathering and entertainment Venues
- Trails

Interior Drainage System Improvements

Interior Drainage Plan Improvements	
East Levee	Demolish Old Hampton Pump Station
	Construct New Hampton Pump Station
	Nobles Branch Sump Improvements
West Levee	Demolish Charlie Pump Station
	Construct New Charlie Pump Station
	Rehabilitate Existing Delta Pump Station
	Construct New Delta Pumping Station
	Eagle Ford and Trinity-Portland Sump Improvements
	Construct New Trinity-Portland Pumping Plant



Environmental Impact Statement – Proposed Action

Alternatives Considered

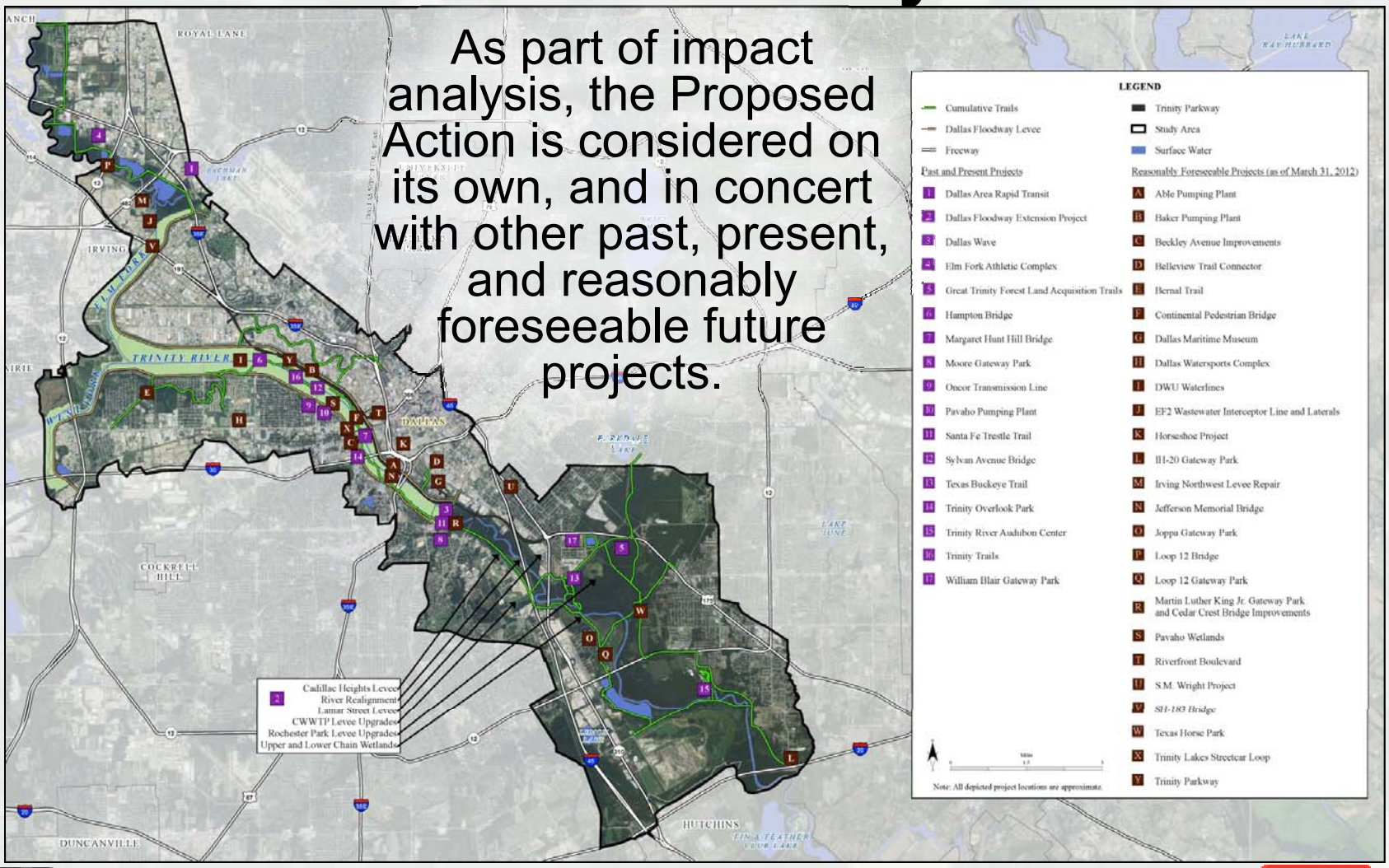
- No Action Alternative
- Alternative 2: Proposed Action *with* the Parkway
- Alternative 3: Proposed Action *without* the Parkway

Notable Differences

Feature	*Alternative 2*	*Alternative 3*	*Change (from 2 to 3)*
Bike Path	0 miles	3.4 miles	+ 3.4 miles
Flex Fields	77.8 acres	88.1 acres	+ 10.3 acres
Amphitheaters	2	3	+ 1
Meadow	1,259.5 acres	1,230.0 acres	- 29.5 acres
Park Road	9.6 miles	11.8 miles	+ 2.2 miles
Planter Boxes (raised vegetation)	4.9 acres	14.7 acres	+ 9.8 acres
Secondary Pedestrian Path	17.5 miles	16.9 miles	- 0.6 miles
Wetlands	201.3 acres	206.7 acres	+ 5.5 acres
Parking Area	17.75 acres	19.75 acres	+ 2 acres
Number of Access Gateways	25	29	+ 4

Cumulative Analysis

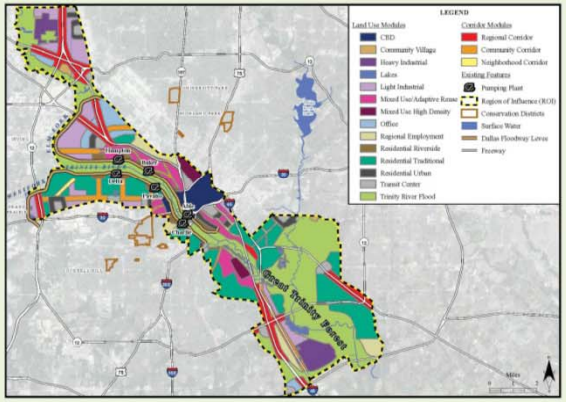
As part of impact analysis, the Proposed Action is considered on its own, and in concert with other past, present, and reasonably foreseeable future projects.



Environmental Consequences

LAND USE

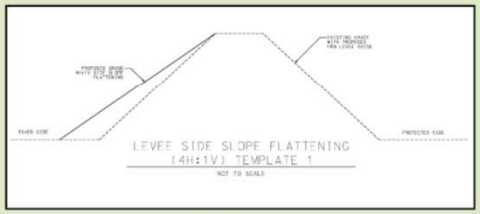
- **Impact Summary:**
  Beneficial impacts
- The Proposed Action would be consistent with current zoning and the Trinity River Corridor Comprehensive Land Use Plan.



Trinity River Corridor Comprehensive Land Use Plan

GEOLOGY AND SOILS

- **Impact Summary:**
  Less than significant impacts
- Proposed flood risk management elements would have less erosion potential and be more stable, thus reducing risk associated with geologic hazards (e.g., slumps and slides).
- Proposed recreation and landscaping features would further stabilize soils.



Levee Template

HYDROLOGY AND HYDRAULICS

- **Impact Summary:**
  Less than significant impacts
- The plan with the highest performing flood risk and life safety benefits for the City of Dallas would be achieved.
- The Proposed Action would not meet the Trinity River Environmental Impact Statement criteria for the 100-year water surface or valley storage, but potential negative impacts are insignificant, and a variance to the criteria is recommended.
- Water surface elevations of the 100-year flood would be contained by the levees.

Frequency Flows at Dallas for Existing and Future Conditions

Location	*100-Year Flood Event Water Surface Elevation (feet)*			*Standard Project Flood Event Water Surface Elevation (feet)*		
	Existing Condition	*Proposed Action*	*Difference*	*Existing Condition*	*Proposed Action*	*Difference*
West & Elm Fork Confluence	423.27	423.09	-0.18	435.43	435.01	-0.42
Hampton Bridge	420.32	419.91	-0.41	432.93	432.31	-0.62
Commerce Bridge	416.83	416.64	-0.19	429.04	428.57	-0.47
DART Rail Bridge	413.91	413.63	-0.28	425.42	424.51	-0.91

WATER RESOURCES

- **Impact Summary:**
  Significant adverse impacts during construction; Beneficial impacts during operation
- Direct impacts to jurisdictional wetlands and waters of the U.S. would be offset by Balanced Vision Plan (BVP) features.
- The Proposed Action would result in a net gain of 1,735 linear feet for the Trinity River; a net gain of 240 acres of other waters; and a net gain of 12 acres of wetlands.

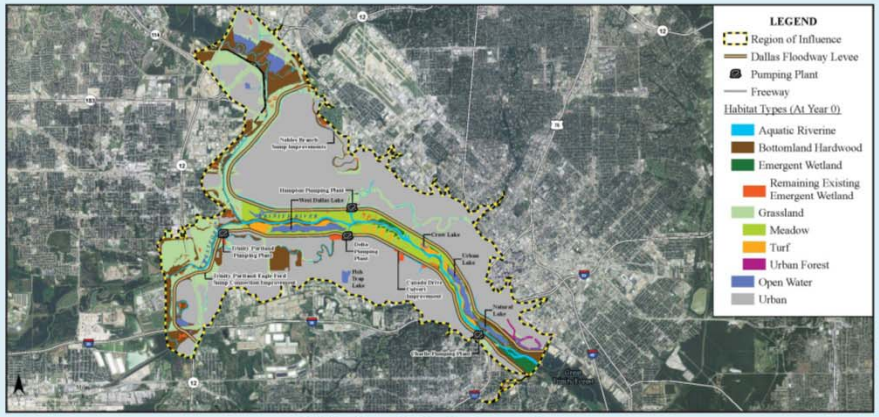
Jurisdictional Wetlands and Other Waters of the U.S. in the Study Area under the Proposed Action

Project Component	*Trinity River (linear feet acres)*	*Other Waters (acres)*	*Wetlands (acres)*
Project Impacts			
BVP Study FRM	-	0.70	0.94
BVP Study Ecosystem	38,232/134.2	21.82	146.96
BVP Study Recreation	-	0.25	18.21
Interior Drainage Plan Improvements	-	0.06	0.27
Total Impact	38,232/134.2	22.83	166.37
Wetlands or Other Waters Created or Enhanced by the BVP Study			
River Relocation	39,967/209.7	2.99	-
West Dallas Lake	-	122.87	7.07
Urban Lake	-	84.19	2.01
Natural Lake	-	49.45	6.53
Drainage Sumps	-	3.09	-
Other Open Waters	-	0.22	-
Stormwater Management Wetlands	-	-	46.12
Corinth Wetlands	-	-	83.78
Forested Ponds	-	-	9.76
River Terraces	-	-	23.26
Total Created or Enhanced	**39,967/209.7**	**262.81**	**178.53**
Net Gain (Loss)	**1,735/75.5**	**239.98**	**12.16**
Net Functional Gain (Loss)	**6,938**	**N/A**	**50.35**

Environmental Consequences

BIOLOGICAL RESOURCES

- **Impact Summary:**
  Significant adverse impacts during construction; Beneficial impacts during operations
- Given the magnitude of the proposed construction activities, which would result in nearly complete disturbance of the Floodway, implementation of Proposed Action would result in significant adverse impacts to biological resources within the Floodway during construction.
- Post-construction, there would be an increase in key habitat acreage and value. Impacts to special status species located within the Dallas Floodway would be minimized through the implementation of avoidance, minimization, and mitigation measures.
- Most, if not all species, are expected to recolonize habitat after construction.



Habitat Types Under the Proposed Action

CULTURAL RESOURCES

- **Impact Summary:**
  Significant adverse impacts
- The removal of large portions of the AT&SF Railroad Bridge would diminish its ability to convey its significance and result in an impact to a historic property. A portion of the existing wood trestle bridge, steel trestle, and the open steel truss center would remain.

AT&SF Railroad Bridge Wood Trestle

- The demolition or alteration of contributing features to the Dallas Floodway Historic District would result in impacts to a historic structure as well as an impact to the overall historical integrity of the Dallas Floodway.

RECREATIONAL RESOURCES

- **Impact Summary:**
  Beneficial impacts
- Construction would result in temporary disruptions to recreation.
- The Proposed Action includes a significant increase in the number and types of recreation opportunities available to the people in the City of Dallas, significantly reducing the recreation shortfall within the City.

Rendering of Recreation Fields

- Proposed Interior Drainage Plan improvements would reduce the flood risk to some existing and proposed recreation areas.

Environmental Consequences

VISUAL RESOURCES

- **Impact Summary:**
  Beneficial impacts
- Temporary construction impacts to the visual environment within the Dallas Floodway.
- The overall visual quality of the Dallas Floodway and the interior drainage area would improve with the implementation of the Proposed Action.
- Night lighting features would be designed and operated to minimize impacts to nighttime views.

Urban Lake Promenade Rendering

SOCIOECONOMICS

- **Impact Summary:**
  Beneficial impacts
- Implementation of Proposed Action would create construction jobs, boost labor income, and increase economic output.
- The increase in recreational opportunities (and access to them) would directly benefit residents of Dallas.
- The anticipated increase in visitors to the City of Dallas would result in more money spent in the local economy and support tourism-related businesses such as hotels and retail establishments.
- Additional money spent by visitors would generate jobs and income for Dallas residents as well as tax revenues for local governments and the State of Texas.
- Reduction in flood risk and associated socioeconomic impacts within the Study Area.

SAFETY

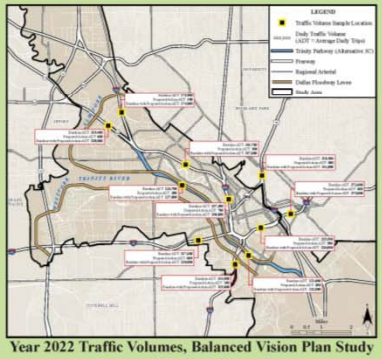
- **Impact Summary:**
  Beneficial impacts
- Proposed Action would result in an increase in Floodway access points, emergency response services, and a reduction in flood-related safety concerns.

Slides Observed in 2007

These slides were identified in 2007 and have been repaired by the City of Dallas. Proposed flood risk management would reduce the likelihood of similar slides in the future.

TRANSPORTATION

- **Impact Summary:**
  Less than significant impacts
- Temporary impacts from construction vehicles.
- Users of the proposed recreational facilities and amenities would create a substantial and recurring daily traffic increase on highways approaching the Floodway and on internal streets that provide access to and from the facilities.
- Roads potentially subject to flooding would have a reduced risk of flooding-related closure following implementation of the proposed flood risk management elements and Interior Drainage Plan improvements.

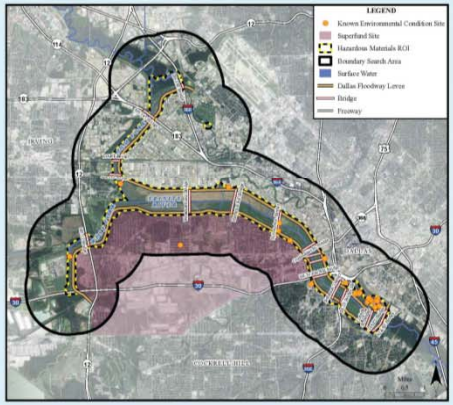


Year 2022 Traffic Volumes, Balanced Vision Plan Study Proposed Action, Operation

Environmental Consequences

HAZARDOUS MATERIALS AND WASTES

- **Impact Summary:**
  Less than significant impacts
- Known environmental contamination would be avoided.
- Based on previous sampling, the soil proposed for use as borrow material would be acceptable for use under Texas Risk Reduction Program Tier 1 Residential standards.



Sites with Known Environmental Conditions

UTILITIES

- **Impact Summary:**
  Beneficial impacts
- Any impacts to utility services during construction would be temporary and communicated to customers ahead of the temporary outage.
- The proposed Interior Drainage Plan (IDP) improvements would substantially increase the level of stormwater conveyance.

Charlie Pump Station

- A slight increase in utility demand would be met by utility providers and Balanced Vision Plan Study features (e.g., solar panels).
- The proposed IDP improvements would substantially increase the level of stormwater conveyance.

AIR QUALITY

- **Impact Summary:**
  Significant adverse impacts during construction; Less than significant impacts during operation
- Oxides of nitrogen (NO_x) emissions generated by construction activities would exceed regulatory *de minimis* thresholds.
- No substantial long-term increase in mobile or stationary source emissions would occur.

Annual Summary of Estimated VOC and NO_x Emissions from Implementation of the Proposed Action and Comparison to GCR *de minimis* Thresholds

Year	*Estimated Emissions (in tons per year)*	
	VOCs	*NOx*
2016	1.51	13.08
2017	25.84	**202.54**
2018	20.85	**166.57**
2019	48.84	**445.80**
2020	45.55	**390.87**
2021	41.93	**368.78**
2022	38.35	**341.86**
2023	32.48	**301.82**
2024	33.87	**323.21**
2025	18.91	**151.30**
2026	35.19	**310.79**
2027	36.04	**342.61**
2028	4.36	34.03
2029	1.45	11.55
de minimis Thresholds	50	50
Exceeds *de minimis* Thresholds?	No	Yes

Note: Bolded values represent years where exceedances of the GCR thresholds would occur. GCR = General Conformity Rule; VOC = volatile organic compound; NO_x = oxides of nitrogen.

NOISE

- **Impact Summary:**
  Less than significant impacts
- Construction noise would be temporary, localized, and comply with the City of Dallas noise ordinance. Construction activities are removed from sensitive noise receptors.
- Operational increases in ambient noise levels would be relatively minor, temporary, and consistent with existing conditions.

Construction at the Pavaho Pump Station
Temporary construction noise anticipated from the proposed IDP improvements would be similar to those made during the construction of the Pavaho Pump Station, which is now complete. The Pavaho Pump Station is operational, and is not part of the Proposed Action analyzed in the Environmental Impact Statement.

Environmental Consequences

Resource Period	*Impact Period*	*Alternative 2 Impacts*		*Alternative 3 Impacts*	
		Discrete	*Cumulative*	*Discrete*	*Cumulative*
Land Use	Both	+	+	+	○
Geology and Soils	Construction	○	○	○	○
	Operation	+	+	+	+
Hydrology and Hydraulics	Both	○	○	○	○
Water Resources	Construction	▲	▲	▲	▲
	Operation	+	+	+	+
Biological Resources	Construction	▲	▲	▲	▲
	Operation	+	+	+	+
Cultural Resources	Both	▲	▲	▲	▲
Recreational Resources	Construction	○	○	○	○
	Operation	+	+	+	+
Visual Resources	Both	+	○	+	+
Socioeconomics	Both	+	+	+	+
Hazardous Materials and Wastes	Both	○	○	○	○
Safety	Both	+	+	+	+
Transportation	Construction	○	▲	▲	▲
	Operation	○	▲	○	▲
Utilities	Construction	○	○	○	○
	Operation	+	+	+	+
Air Quality	Construction	▲	▲	▲	▲
	Operation	○	○	○	○
Noise	Both	○	○	○	○

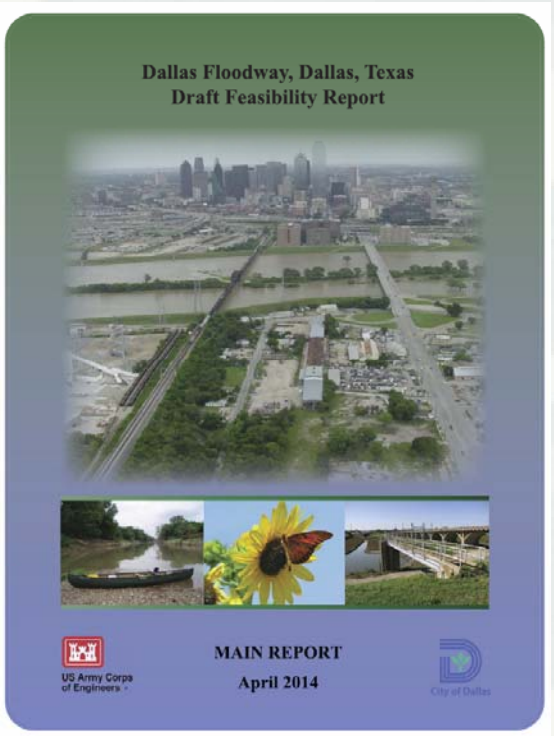
Impact Summary Key: + = Beneficial impacts ○ = Less than significant impacts ▲ = Significant adverse impacts.
Summary impacts presented assume the incorporation of all avoidance, minimization, and mitigation measured identified in Chapter 7 of the Environmental Impact Statement.

Alternative 2 is the U.S. Army Corps of Engineers' Preferred Alternative and has preliminarily determined it to be the Least Environmentally Damaging Practicable Alternative.

Environmental Impact Statement – Proposed Action

Recommended Plan Presentation Overview

- Review Flood Risk Management Plan
- Results of Comprehensive Analysis
- Overview of the Recommended Plan in the Draft Feasibility Report



Feasibility Report – Recommended Plan

Review of Flood Risk Management Plan

- U.S. Army Corps of Engineers and City of Dallas utilized an integrated approach for identifying a Flood Risk Management Plan for improving the levee system
- Utilized results from economic analyses and risk assessment
- Analyzed both structural and non-structural measures

Flood Risk Management
Recommended Plan Identified

Three (3) recommended actions:

- About $10 million dollars total
  - AT&SF Bridge modifications/partial removal
  - Raise the levees to contain a 277,000 cubic feet per second (cfs) flow
    - This flow equates to a 2,500-year flood event
  - Improvements to the City's Emergency Action Plan

Comprehensive Analysis

The Water Resources Development Act in 2007 (WRDA 2007) directed the Corps to ensure that the Balanced Vision Plan and Interior Drainage Plan are “technically sound” and “environmentally acceptable”

- Technical soundness is determined by completing comprehensive analysis of hydrology and hydraulics* (H&H), geotechnical and civil design

- Environmental acceptability is determined by completing National Environmental Policy Act (NEPA) process

**H&H analysis determines the amount of runoff, depth, extent, and velocity of the flood waters coming down the river*

Comprehensive Analysis Conclusions

- Trinity Parkway, Balanced Vision Plan (BVP) and Interior Drainage Plan (IDP) features have been determined individually to be technically sound at current level of design

- Potential negative impacts related to deviations from 1988 Record of Decision (ROD) criteria are insignificant; a variance to ROD is currently proposed

- With slight modifications of the expected design refinements, all features would function on a comprehensive system wide level from a Corps Civil Works perspective

Recommended Plan

•WRDA 2007, Section 5141, authorized $459 million total budget for Recommended Plan

- Includes cost share of 65% federal and 35% non-federal
- The City can spend a portion of its cost share portion before the Corps begins spending money

Recommended Plan (Alternative 2)

- The cost share portion of the project cannot exceed the WRDA 2007 authorization of $459 million plus inflation
  - The cost share portion includes flood risk reduction and ecosystem restoration
- Remaining BVP and IDP projects will be constructed by the City through the Section 408 process
- Accommodates Trinity Parkway construction by other entity

Recommended Plan (Alternative 2)

FLOOD RISK MANAGEMENT:

•Levees

- Raise levee low spots along 9.3 miles of levees to meet 277K flow
- Low spots to be filled from borrow area of future site of West Dallas Lake
- Modify AT&SF Bridge
- 3:1 to 4:1 slopes may be funded by City

•Interior Drainage

- •Baker Pump Station
- •Able Pump Station
- •Hampton Pump Station

ECOSYSTEM RESTORATION:

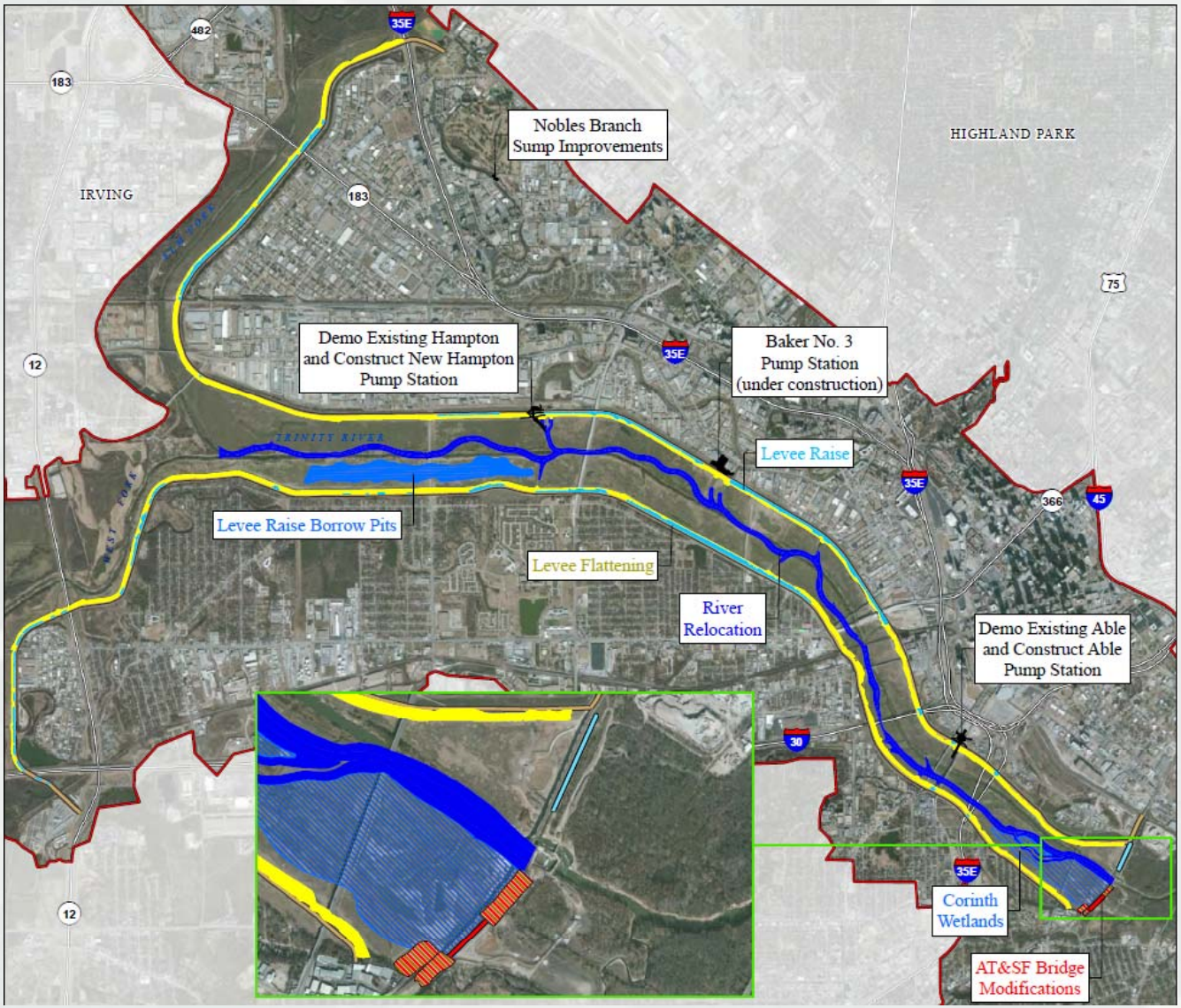
•River Relocation

- Adds meanders back to river
- Builds habitat pools to improve aquatic diversity

•Corinth Wetlands

- Expands existing wetland; Corps participates in excavation and plantings
- City may construct recreational features such as boardwalks and trails

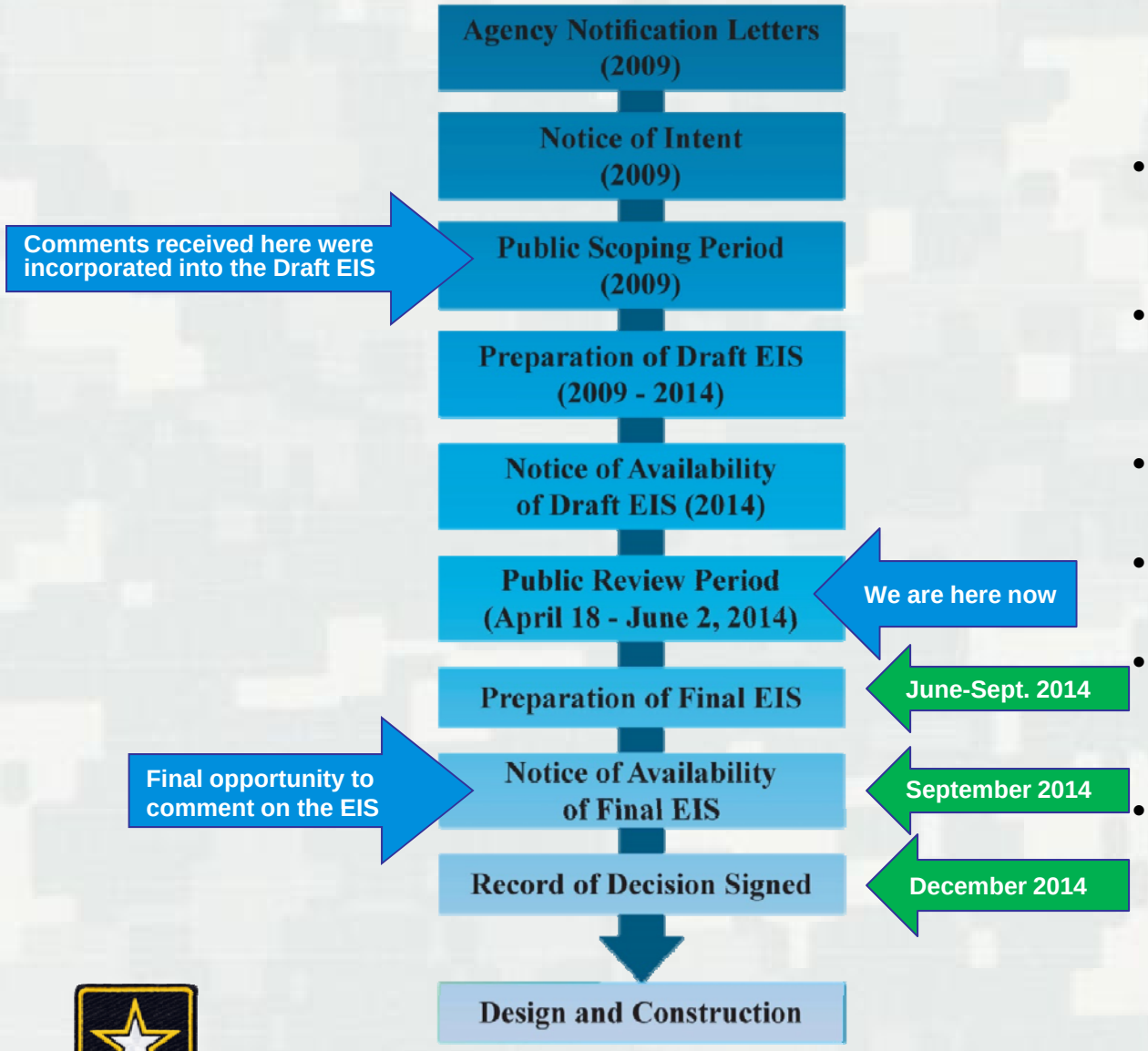
Recommended Federal Plan (Alternative 2)



Recommended Plan (Alternative 2) Cost Sharing Summary

- Total Cost: $529.1 million
- Federal Cost: $343.9 million
- Non-Federal Share: $185.2 million
  - 5% cash on Flood Risk Management: $10.4 million
  - Estimated Credit: $115.5 million
  - Lands, Easements, Rights of Ways and Relocations: $59.3 million
- Bottom line for City:
  - 10.4 million + $59.3 million = $69.7 million still needed

Public Involvement



HOW TO PROVIDE COMMENTS

- The Draft EIS Public Review Period runs from April 18th to June 2.
- Comments are being taken here in writing and spoken to a recorder.
- Comments may also be emailed or via US Mail.
- Submit your comments no later than June 2nd.
- For additional information on how to comment, visit the sign in table.
- *This is your best opportunity to be involved the in final development of this action!*