# Staff Update

**Environmental Remediation Update** 

# **Woody Frossard**

Project Manager, Panther Island Central City Flood Project

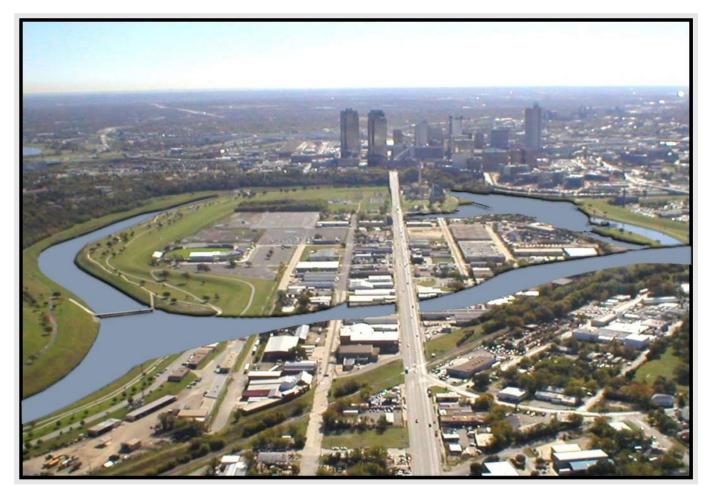


**ENVIRONMENTAL UPDATE** 





**BYPASS CHANNEL** 





# **Bypass Channel Design**



**East side: "Hard edge"** for development

West side: "Soft edge" for recreation



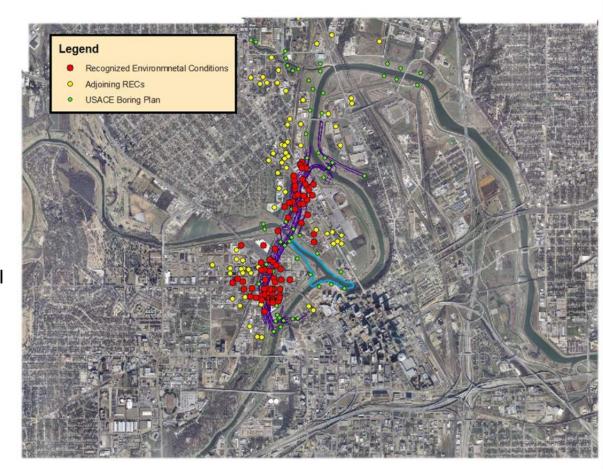
**ENVIRONMENTAL UPDATE** 

Environmental Assessments

Preliminary review of regulatory file data in 2005

Over 79 sites identified as potential Recognized Environmental Conditions (RECs)

Completion of Phase I and Phase II Environmental Site Assessments has reduced total number of properties to 28





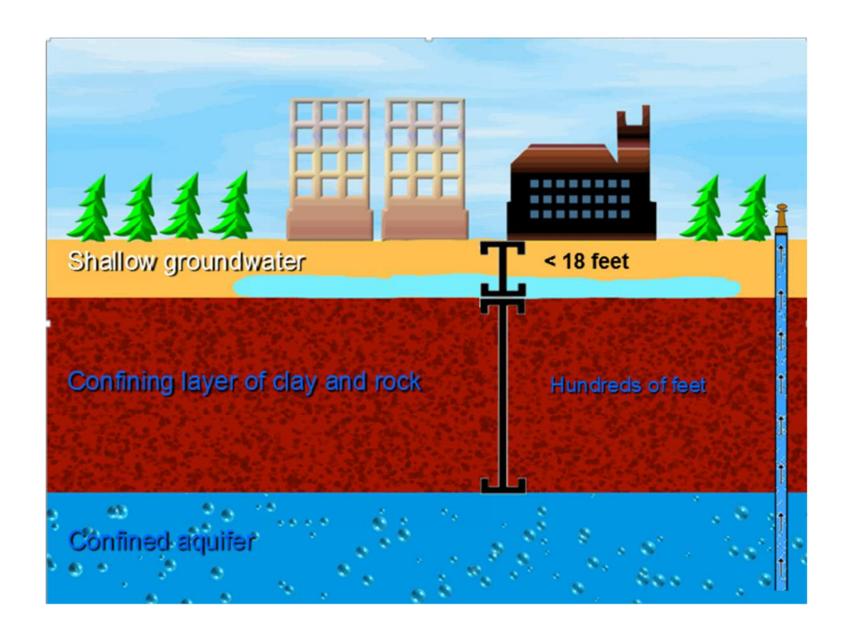
#### What is an MSD?

A Municipal Setting Designation (MSD) defines a depth of contaminated groundwater which will be use-restricted.

Before the Texas Commission on Environmental Quality certifies a municipal setting designation, the city where it is located must prohibit use of "designated groundwater" for potable purposes.

The City of Fort Worth passed an ordinance in 2005 to implement the prohibited use of shallow groundwater.







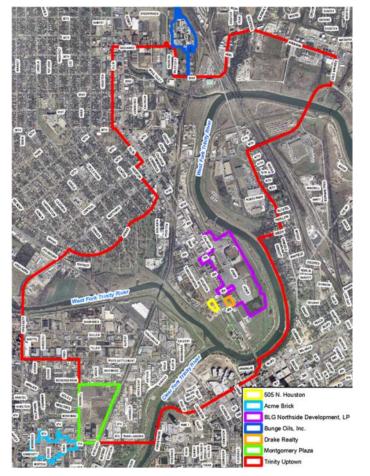
**ENVIRONMENTAL UPDATE** 

#### **Municipal Setting Designation**

Established for the Trinity Uptown Project Area by the City of Fort Worth, Encompassed four existing MSDs

Certified by TCEQ in Dec 2007

Eliminates groundwater ingestion pathway but not groundwater to surface water contamination.







# **Groundwater & Soil Sampling Locations**

Soil Sample Location

Groundwater Sample Location

**OVER 700 LOCATIONS** 











#### **Technical Memorandum ECO-11**

To:

Woody Frossard, TRWD

From:

Bob Brashear, CDM

Date:

07-June-2005

Subject:

Response to Water Quality Concerns Raised by the Modified Draft

US Fish and Wildlife Service Coordination Act Report

Status: Draft

#### 1.0 Introduction and Background

As required under the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the U.S. Fish and Wildlife Service (USFWS) provided the U.S. Army Corps of Engineers (USACE) Fort Worth District a draft report (USFWS 2005a) containing the Service's assessment and opinions of the Central City project as a part of the environmental impact process conducted by USACE. This report was included in the Draft Environmental Impact Statement (DEIS) (USACE 2005).

Within this draft report, two water quality concerns were raised:

- Reintroduction of legacy pollutants (e.g.; chlordane and PCBs) into the water column from disturbance of existing sediment in the waterway during construction;
- Increase of pollutants from construction activities and post-construction transportation sources in the Central City/Trinity Uptown area.

This memorandum examines each of these concerns and discusses the merits of each. However, this memorandum is not intended to replace the assessment and discussion of the water quality characteristics of the Central City project that are contained in previous documents supporting the DEIS. Instead, this memorandum will supplement and clarify this existing material. In particular, CDM 2005 and USACE 2005 cover the issues raised by USFWS and these sources do not appear to be have been incorporated by USFWS in its assessment (at least they are not referenced as supporting material in USFWS 200a).

It should also be noted that all assessments of water quality in support of the environmental impact assessment of the Central City project were done in strict relation to the water quality standards of the State of Texas which, in turn, are reviewed and approved by the U.S. Environmental Protection Agency (USEPA) to ensure compliance with the federal Clean

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FLOOD

#### TOTAL MAXIMUM DAILY LOADS FOR PCBS IN SEGMENTS 0805, 0806, 0829, AND 0841 OF THE TRINITY RIVER

#### **FINAL TECHNICAL REPORT**



Prepared by:

#### **PARSONS**

PREPARED IN COOPERATION WITH THE Texas Commission on Environmental Quality AND U.S. ENVIRONMENTAL PROTECTION AGENCY

The preparation of this report was financed through grants from the U.S. Environmental Protection Agency through the Texas Commission on Environmental Quality

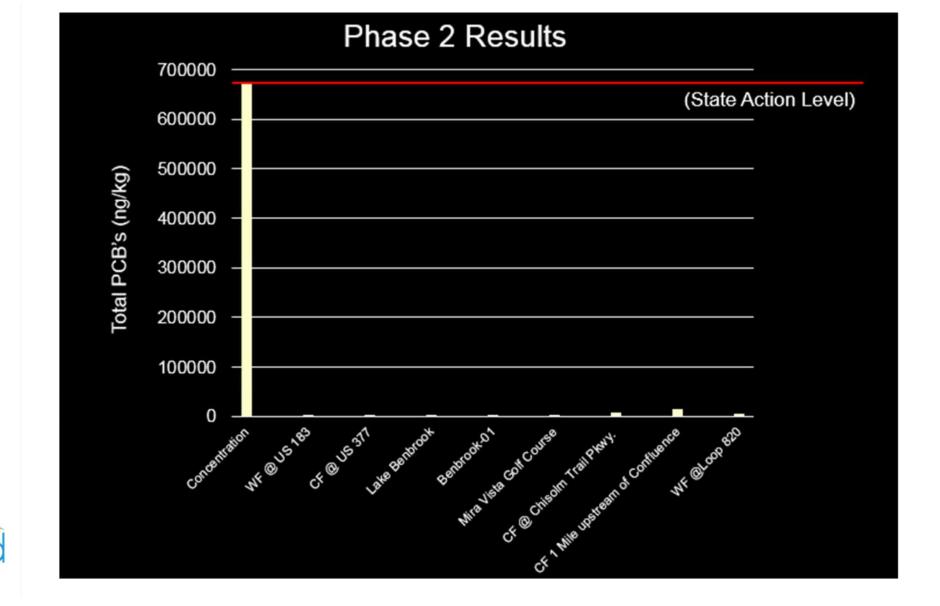
November 2009





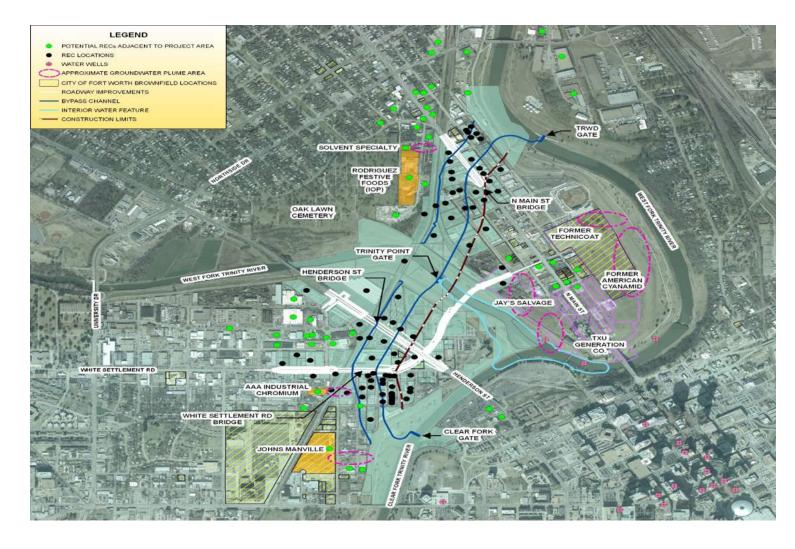
#### Phase 2 Results Dioxin/Furan EPA non-im Total D/F TEQ ng/kg Total PCBs ng/kg TCEQ PCBs Screening Level 676,000 ng/kg 18000 16000 14000 Total PCBs (ng/kg) 12000 10000 8000 6000 4000 2000 16119 16120 15157 15151 10815 10816 10934 Elm Fork White Rock Crk st Fo. 16120 21423 Lower West Fork 17164 10816 10990 11089 West Fork 16119 10934 13614 17122 10815 **Trinity River** 13623 Mountain Creek Benbrook Lake 15151 15157 **1**3691 Clear Fork

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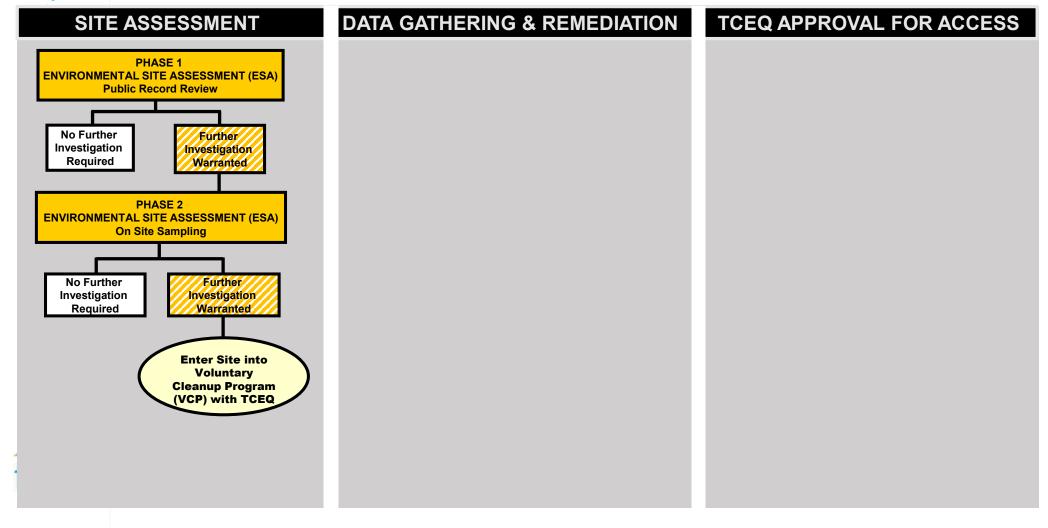


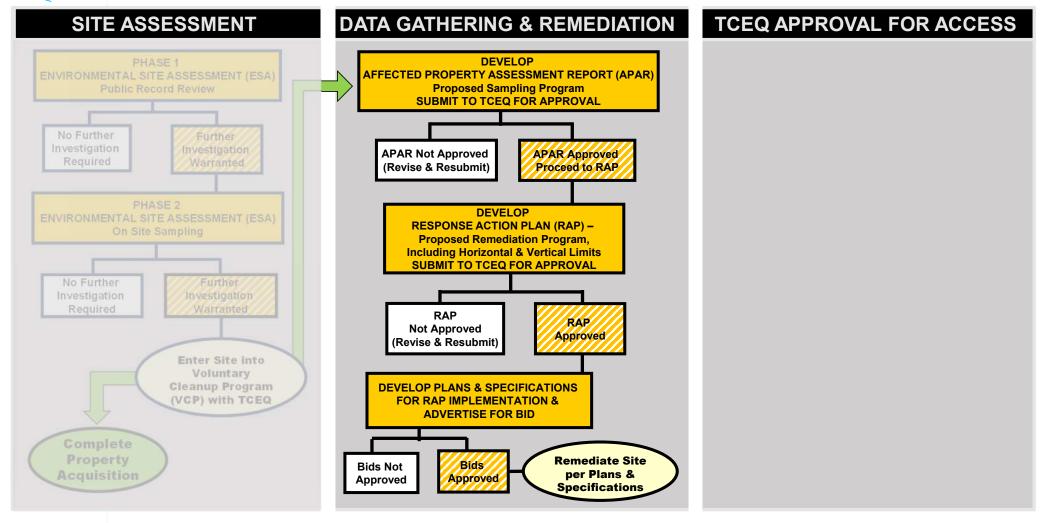


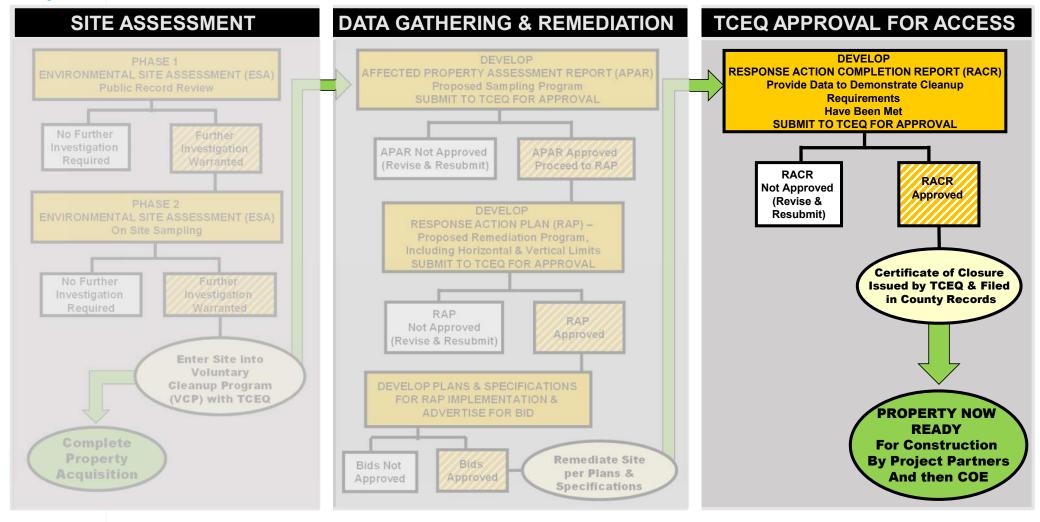
### **Groundwater Contamination**

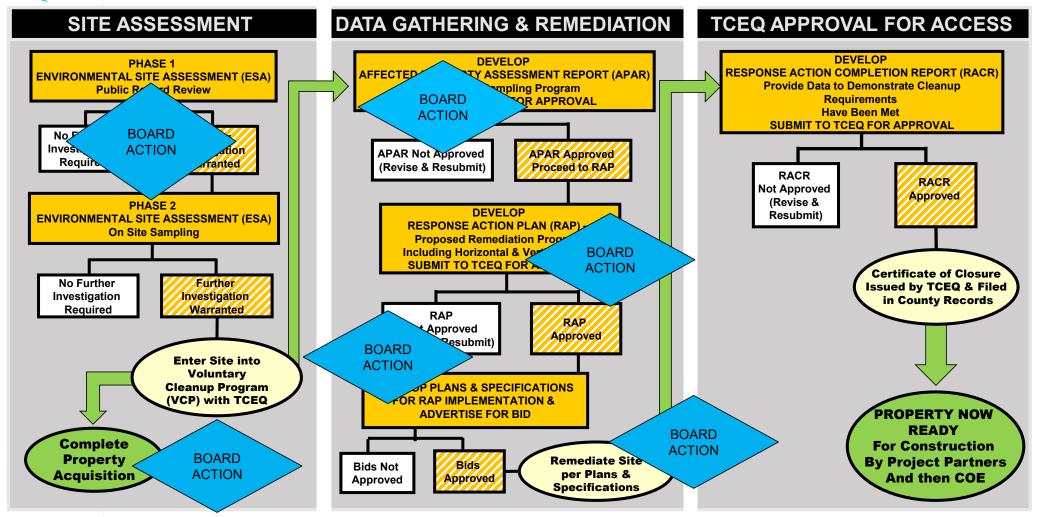












### **Texas Commission on Environmental Quality**

Land Use Types and Remediation

#### Residential vs. Commercial/Industrial

TRWD has remediated all but 1 site to the higher Residential Standards

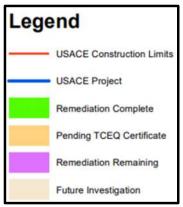
The Vertical and Horizontal extent of surface soils remediated is greater which:

- 1) reduces potential delays and costly impacts on USACE during construction
- 2) benefits future use by the public as Parks,
- 3) and future residential occupancy.



#### **Voluntary Cleanup Program**

- To date, TRWD has entered 28 sites into the Voluntary Cleanup Program
- and obtained 21 Certificates of Completion
- Total groundwater treated 44,291,278 gallons
- Contaminated soil removed 339,992
   Tons







# **Examples of Projects Remediated**



### In Place Treatment of Soil Prior to Removal

Application of reagent to reduce lead leachability, thereby reducing volume of Hazardous/Class 1 waste entering landfills, reducing carbon emissions by decreasing haul miles, and saving significant project costs.







### **Removal of Contaminated Soils to Bedrock**

Excavations down to bedrock to remove impacted material from past industry practices

# **Reducing Contaminants with Chemical Injection**

Technicoat





In order to oxidize the chlorinated-hydrocarbons remaining in the soil and groundwater, a groundwater drilling machine was used to directly inject and mix a promangenate solution into the soil and groundwater to remediate the contamination of both.



# Hardened Asphalt & Acetylene Sludge Removal

Excavation of contaminated material associated with acetylene and asphalt facilities. The dark black material is asphalt waste, and the light-colored material is acetylene waste.







Replacing the shallow aquifer





**ENVIRONMENTAL UPDATE** 



# "BIG 5 SITE" 5 properties in 1 contract

- Consists of:
  - Commercial Metals
  - Stevens Core Drilling
  - Airco (McKinley South)
  - MMM (former APAC)
  - UPRR Spur
- Chemicals of concern (COC) include metals, PAHs, TPH, PCBs and caustic byproduct pits
- Proposed Remedial Action Excavation for Offsite Disposal

# **Former Metals Recycling Site**

During remediation activities at a former metals recycling facility, hydrocarbonimpacted materials and PCBs, along with remaining metal debris, were excavated and removed from the site.





# **Former Refinery Site**





Evidence of contamination at a former refinery site, including oil seeping from wooden pipes, petroleum being rinsed from a gravel layer by groundwater, and buildup of a foundation with contaminated material.

# **Former Refinery Site**



REMEDIATION OF TECHNICOAT SITE



REMEDIATION OF TECHNICOAT SITE



REMEDIATION OF TECHNICOAT SITE



REMEDIATION OF COMMERCIAL METALS SITE

