

# Hurricane & Storm Damage Risk Reduction System Mississippi River Levees Co-Located Work Individual Environmental Report 33

Bayou Barriere Golf Clubhouse

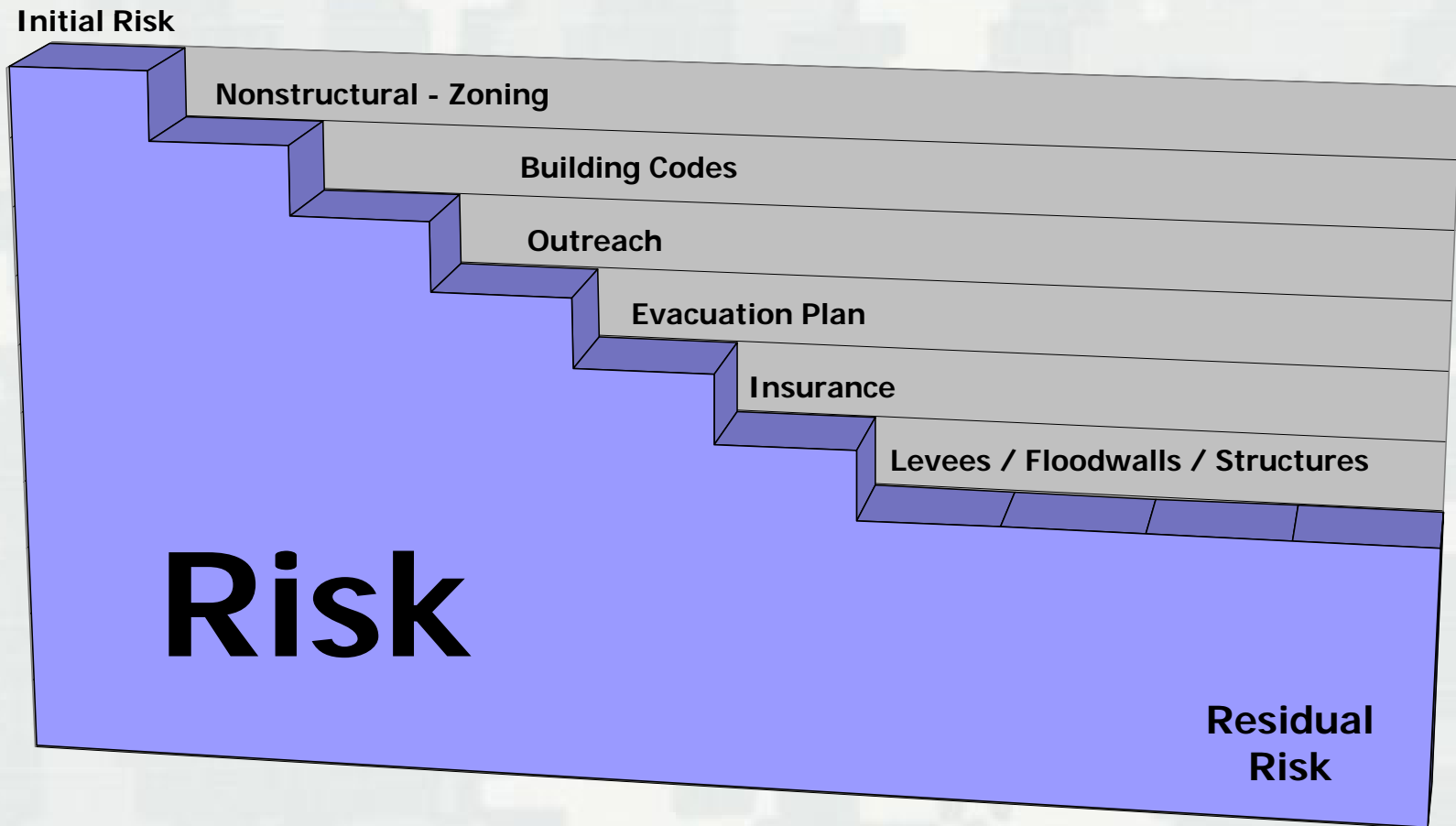
Dec. 6, 2010



US Army Corps of Engineers  
**BUILDING STRONG**®



# Risk – Shared Responsibility



# National Environmental Policy Act: NEPA

- Required of all major federal actions
- Analyze potential impacts to the human and natural environment and investigate reasonable alternatives
- Public involvement is KEY!
- Goal: more informed decision making through public involvement
- Analysis documented in Individual Environmental Reports (IER)
- Corps has made alternative arrangements to expedite project timelines



# Meeting Purpose

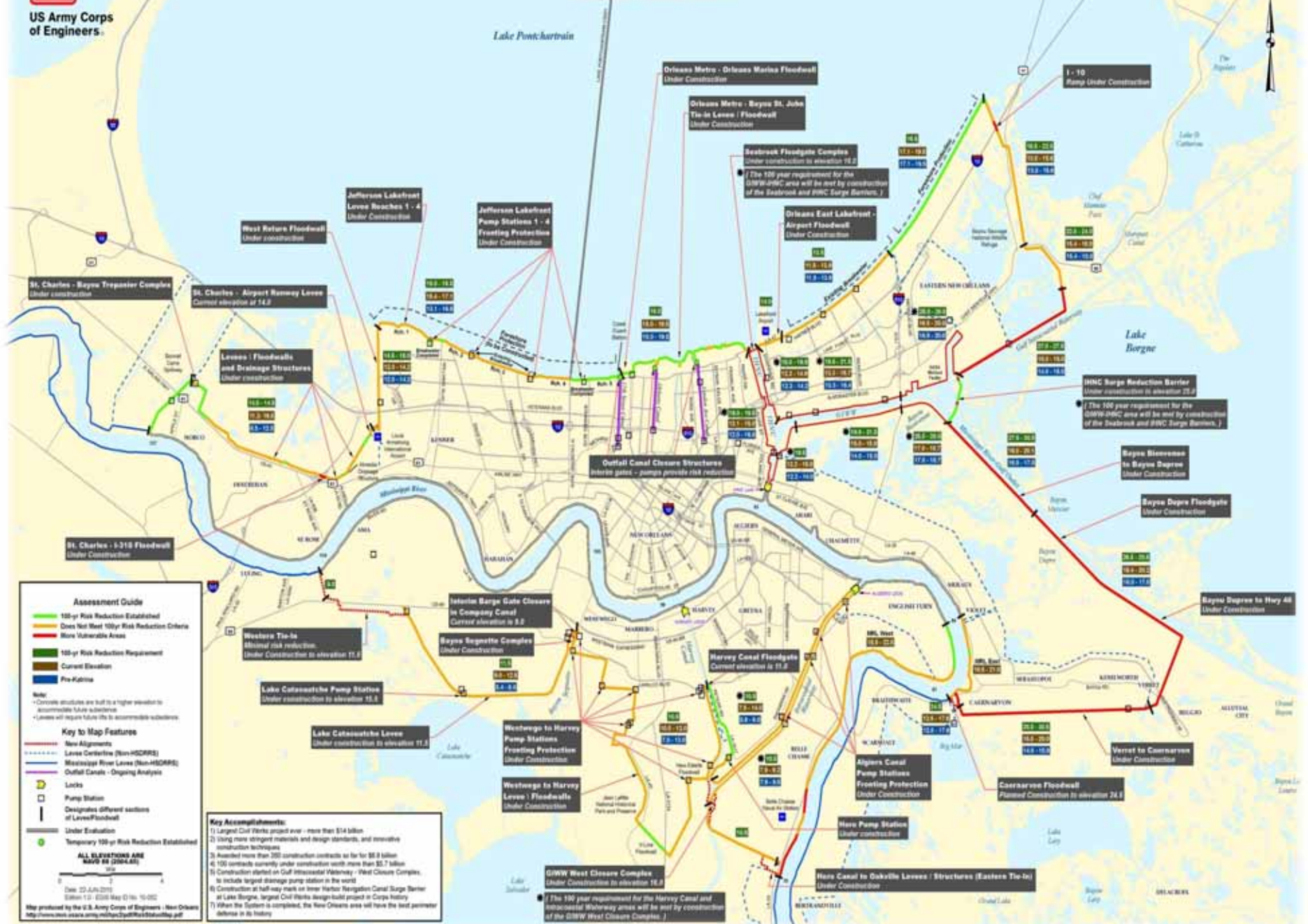
- **Describe methods and impacts associated with construction of higher and stronger risk reduction features in the Belle Chasse sub-basin**
- **Accept feedback on the proposal to raise the Mississippi River Levees in Plaquemines and Orleans parishes from English Turn to Oakville, LA as part of the West Bank & Vicinity hurricane system**





US Army Corps of Engineers

# GREATER NEW ORLEANS HURRICANE AND STORM DAMAGE RISK REDUCTION SYSTEM (HSDRRS) Status - June 2010



**Assessment Guide**

- 100-yr Risk Reduction Established
- Does Not Meet 100-yr Risk Reduction Criteria
- More Vulnerable Areas
- 100-yr Risk Reduction Requirement
- Current Elevation
- Pre-Flooding

**Key to Map Features**

- New Alignments
- Levee Outlines (New HSDRRS)
- Mississippi River Levee (New HSDRRS)
- Outfall Canals - Ongoing Analysis
- Locks
- Pump Station
- Designates different sections of Levee/Floodwall
- Under Evaluation
- Temporary 100-yr Risk Reduction Established

**ALL ELEVATIONS ARE NAVD 83 (2011.0)**

Date: 22 JUN 2010  
 0 1 2 Miles  
 0 1 2 Kilometers

Map produced by the U.S. Army Corps of Engineers - New Orleans  
 http://www.usace.army.mil/neworleans/HSDRRS/MapStatus0610.pdf

**Key Accomplishments:**

- 1) Largest Civil Works project ever - more than \$14 billion
- 2) Using more stringent materials and design standards, and innovative construction techniques
- 3) Awarded more than 200 construction contracts so far for \$6.9 billion
- 4) 100 contracts currently under construction worth more than \$2.7 billion
- 5) Construction started on Gulf Intracoastal Waterway - West Closure Complex, to include largest storage pump station in the world
- 6) Construction at half-way mark on Inner Harbor Navigation Canal Surge Barrier at Lake Borgne, largest Civil Works design build project in Corps history
- 7) When the System is completed, the New Orleans area will have the best perimeter defense in its history

**DRW West Closure Complex**  
 Under construction to elevation 18.0

**The 100 year requirement for the Harvey Canal and Intracoastal Waterway areas will be met by construction of the DRW West Closure Complex.**

**DRW Barge Reduction Barrier**  
 Under construction to elevation 25.0

**The 100 year requirement for the DRW BRC area will be met by construction of the Diablock and DRW Barge Barriers.**

**Orleans Metro - Orleans Marina Floodwall**  
 Under Construction

**Orleans Metro - Bayou St. John Trench Levee / Floodwall**  
 Under Construction

**Diablock Floodgate Complex**  
 Under construction to elevation 18.0

**The 100 year requirement for the DRW BRC area will be met by construction of the Diablock and DRW Barge Barriers.**

**Orleans East Lakefront - Airport Floodwall**  
 Under Construction

**Jefferson Lakefront Pump Stations 1 - 4**  
 Flooding Protection Under Construction

**Jefferson Lakefront Levee Reaches 1 - 4**  
 Under Construction

**West Return Floodwall**  
 Under construction

**St. Charles - Bayou Trepasier Complex**  
 Under construction

**St. Charles - Airport Runway Levee**  
 Current elevation of 14.0

**Levees / Floodwalls and Drainage Structures**  
 Under construction

**Outfall Canal Closure Structures**  
 Intake gate - jumps provide risk reduction

**Bayou Bienvenue to Bayou Du Large**  
 Under Construction

**Bayou Du Large Floodgate**  
 Under Construction

**Bayou Du Large to Huey 46**  
 Under Construction

**Western Tiahs**  
 Minimal risk reduction. Under Construction to elevation 11.0

**Bayou Segnette Complex**  
 Under Construction

**Harvey Canal Floodgate**  
 Current elevation of 11.0

**Lake Cataouatche Pump Station**  
 Under construction to elevation 15.0

**Lake Cataouatche Levee**  
 Under construction to elevation 11.0

**Westwego to Harvey Pump Stations**  
 Flooding Protection Under Construction

**Westwego to Harvey Levee / Floodwall**  
 Under Construction

**Algiers Canal Pump Station**  
 Flooding Protection Under Construction

**Harve Pump Station**  
 Under construction

**Coronaire Floodwall**  
 Planned Construction to elevation 24.0

**Vermot to Coronaire**  
 Under Construction

**Harris Canal to Oakville Levees / Structures (Eastern Tiahs)**  
 Under Construction

# Greater New Orleans Levees Overview

- The Hurricane and Storm Damage Risk Reduction System (HSDRRS) is made up of the Lake Pontchartrain & Vicinity (LPV) and West Bank & Vicinity (WBV) projects
- LPV reduces hurricane risk on eastbank of Mississippi
  - ▶ St. Bernard, St. Charles, Jefferson, New Orleans metro, New Orleans East, lower/upper 9<sup>th</sup> Ward
- WBV reduces hurricane risk on westbank of Mississippi
  - ▶ Algiers, Belle Chasse, Jefferson, St. Charles



# Greater New Orleans Levees Overview

- **Mississippi River Levees protect against a riverine flood event**
- **In southeast Louisiana Mississippi River Levees are an integral part of the hurricane system**
- **In the Greater New Orleans area, Mississippi River Levees serve to reduce risk from both riverine and hurricane flood risks**



Many Mississippi River levee stretches include gravel topped crowns and concrete slope paving on the flood or protected side.



# Levees Along the Mississippi River

- **Mississippi River Levees and Hurricane System levees coincide in the following areas:**

- **Lake Pontchartrain & Vicinity:  
Caernarvon Freshwater Diversion (RM 81.5) to Bonnet Carre Spillway (RM 127)**
- **West Bank & Vicinity: Eastern Tie-In (RM 70) to Davis Pond Freshwater Diversion (RM 118.5)**

- **Mississippi River Levees and Hurricane System levees are co-located in the following areas:**

- **WBV: River Mile 85.5 (near English Turn to Eastern Tie-In (RM 70))**
- **In this reach, the height of the levee for hurricane purposes needs to be higher than that required for river purposes**



The Corps is constructing a 700 ft. demonstration section in Belle Chasse at the intersection of the river with F. Edward Hebert Blvd.





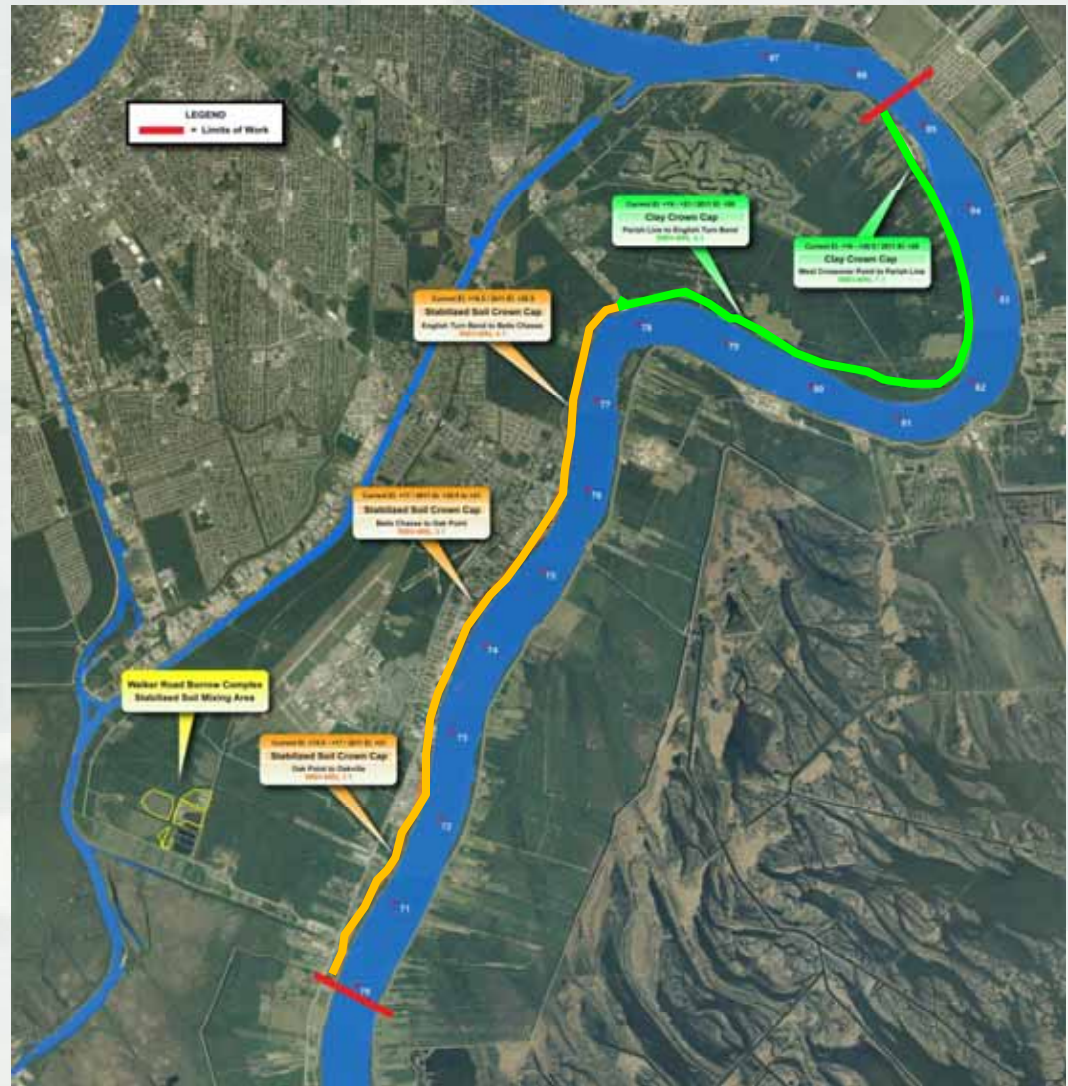
# West Bank & Vicinity



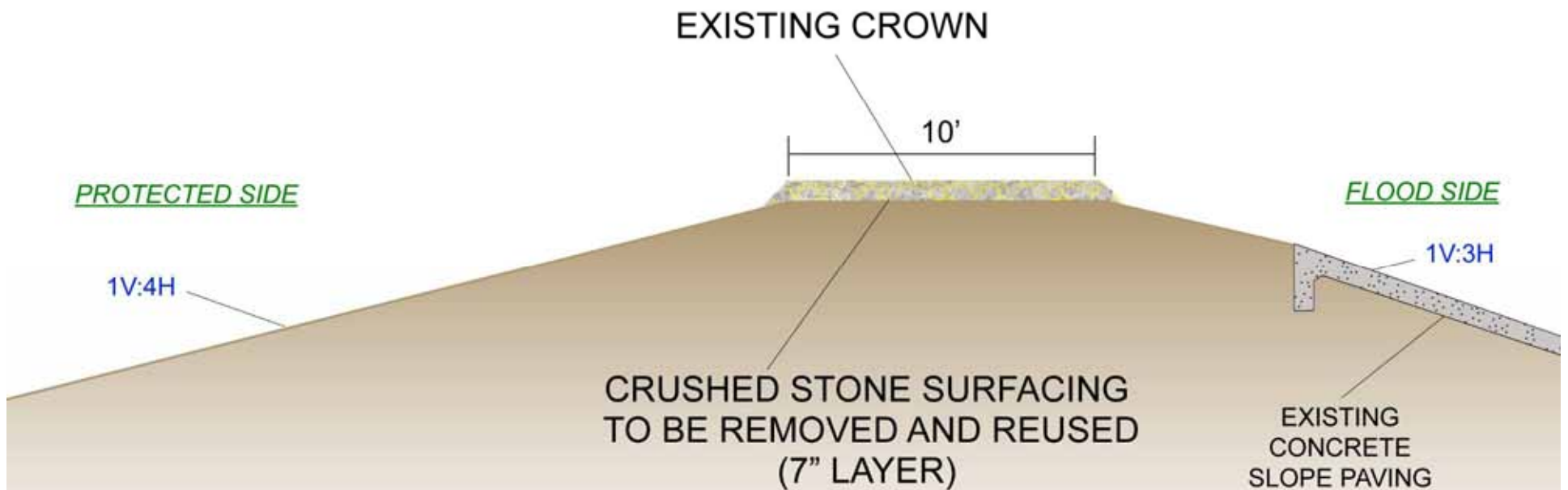
# Co-located Levees

## Individual Environmental Report 33 proposed action:

- Raise levees using **all-earthen clay cap** in the two upstream contract reaches
- Raise levees using a **stabilized soil clay cap** in the downstream reaches
- Build the higher and stronger levees within existing right-of-way
- Minimize potential environmental and cultural resources impacts
- Risk reduction measures in place in hurricane season 2011



# Existing Levee Conditions



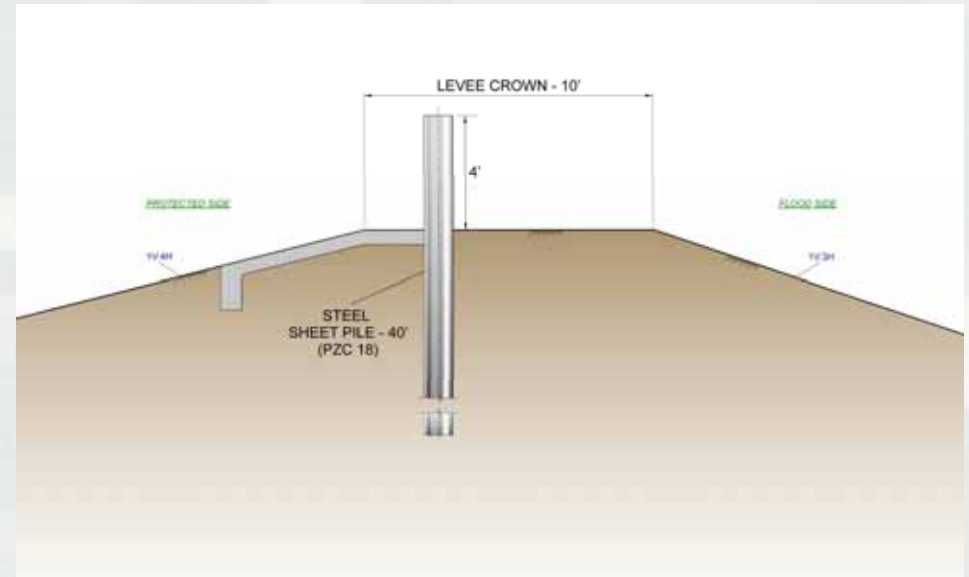
Typical Cross Section  
Drawing is not to scale



# Alternatives Considered

## Criteria Used to identify Proposed Action:

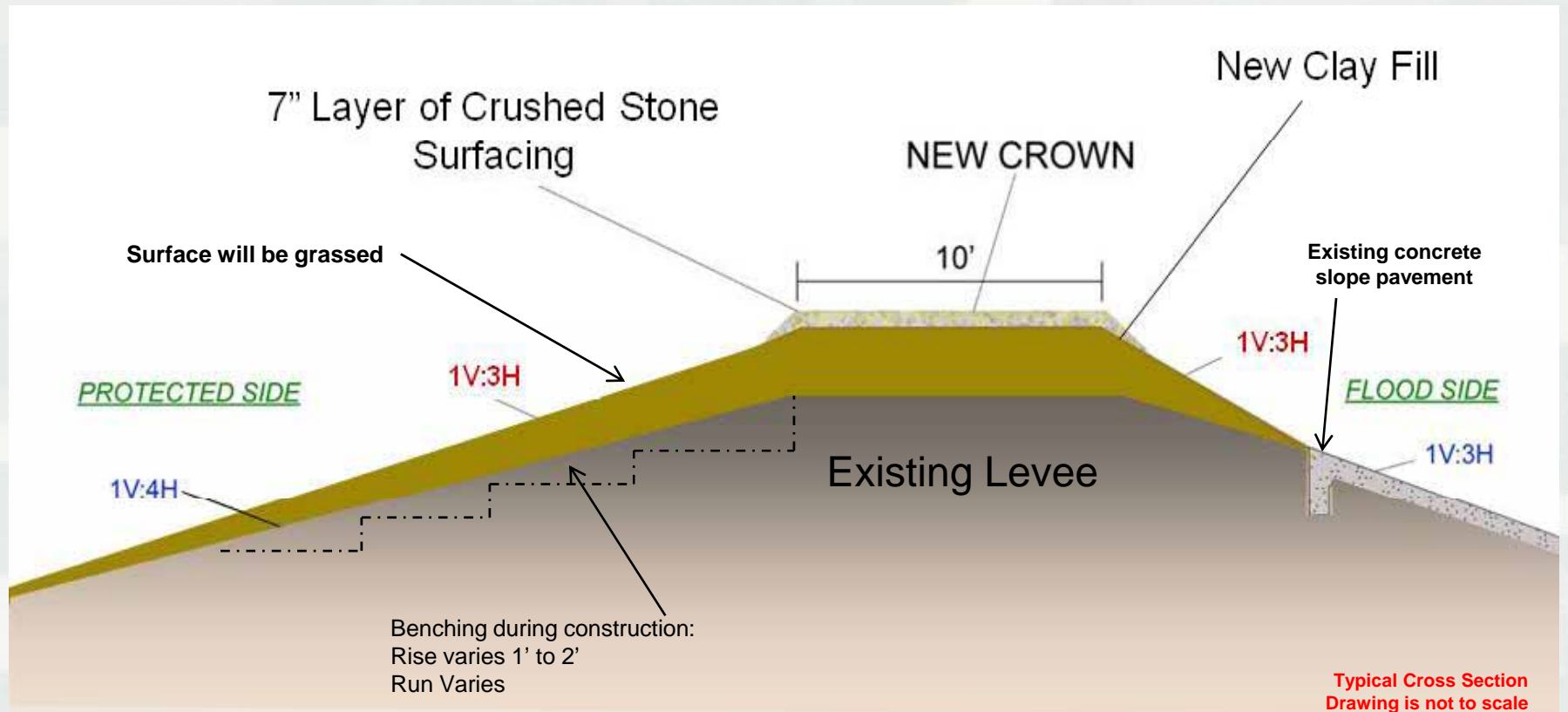
1. Risk and Reliability
2. Time/Constructability
3. Total Project Cost
4. Human and Natural Environmental Impacts
5. Operations and Maintenance Impacts



In addition to the proposed action, a Steel Sheetpile Barrier, was evaluated as a method to reduce risk to the Belle Chasse basin.



# Proposed Action (Upstream) Clay Cap Alternative



- Crown width 10 ft
- New centerline of levee may be shifted
- Any shift in levee would not be so great as to exceed existing right-of-way either side

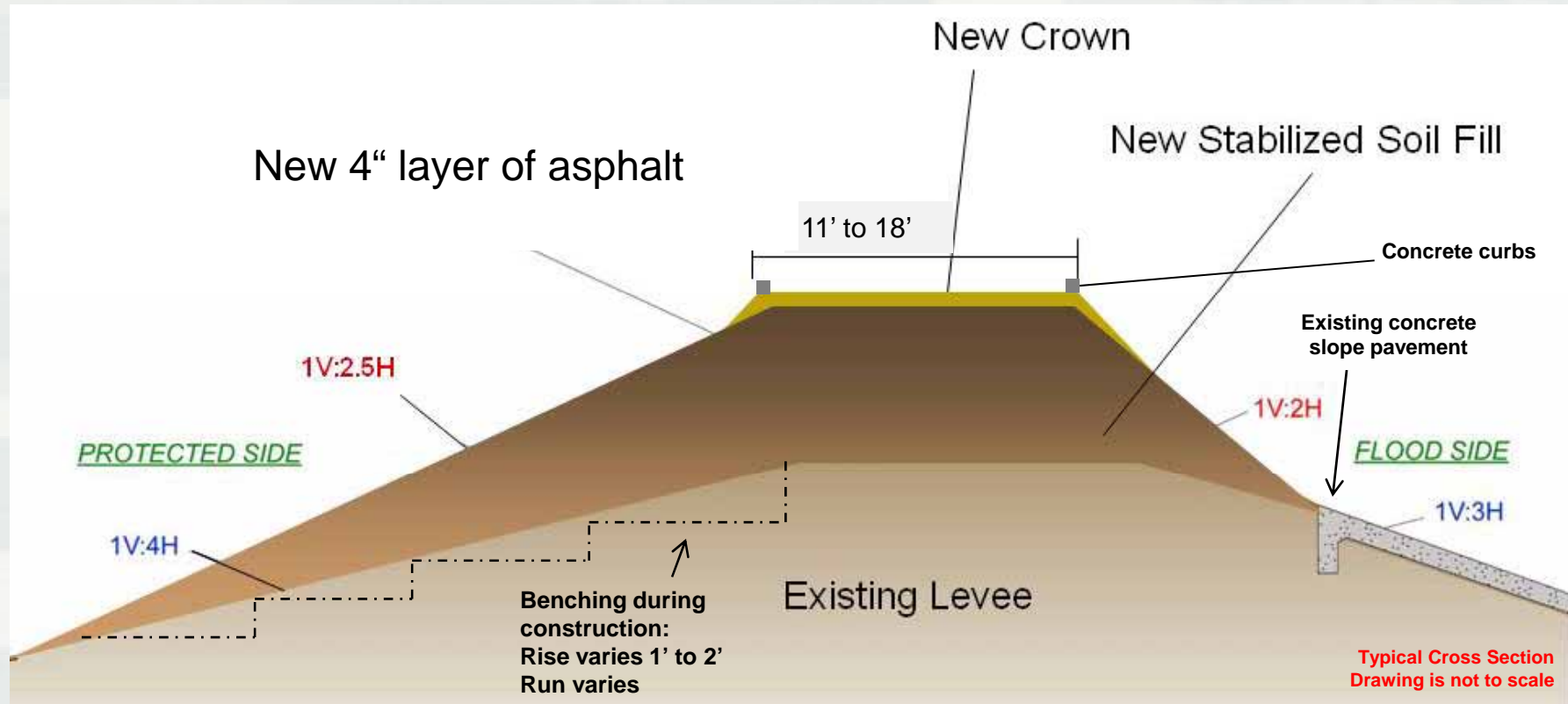
- Existing side slopes shown are approximate
- Side slopes of new fill added (all-clay) may vary from those shown



# Proposed Action

## (Downstream)

### Stabilized Clay Cap Alternative



- Crown width varies 11'-18'
- New centerline of levee may be shifted
- Any shift in levee would not be so great as to exceed existing right-of-way either side

- Existing side slopes shown are approximate
- Side slopes of new fill added (either lime stabilized soil, fly-ash and/or bed-ash stabilized soil) may vary from those shown



# Construction

## Clay Cap (Upstream)

- Typical levee lift
- Aesthetically identical to existing levees

## Stabilized Clay Cap (Downstream)

- Clay is mixed with either lime or ash and then placed on the existing levee
- Less aesthetically pleasing



# Soil Mixing and Haul Routes

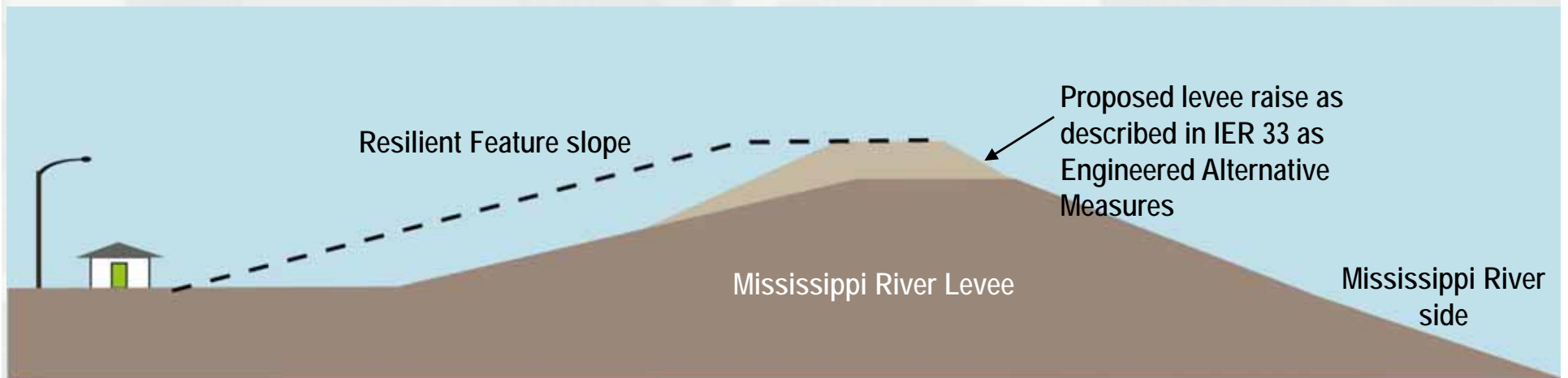
- Clay will be hauled to Walker Rd and mixed with either lime or ash
- Staging areas are within existing right-of-way
- Haul routes:
  - Hwy 406
  - River Rd.
  - Patterson Rd.
  - F. Edward Hebert Blvd.
  - Main St. (not through residential area)
  - Avenue G
  - Hwy 23
  - Walker Rd





# Resilient Features

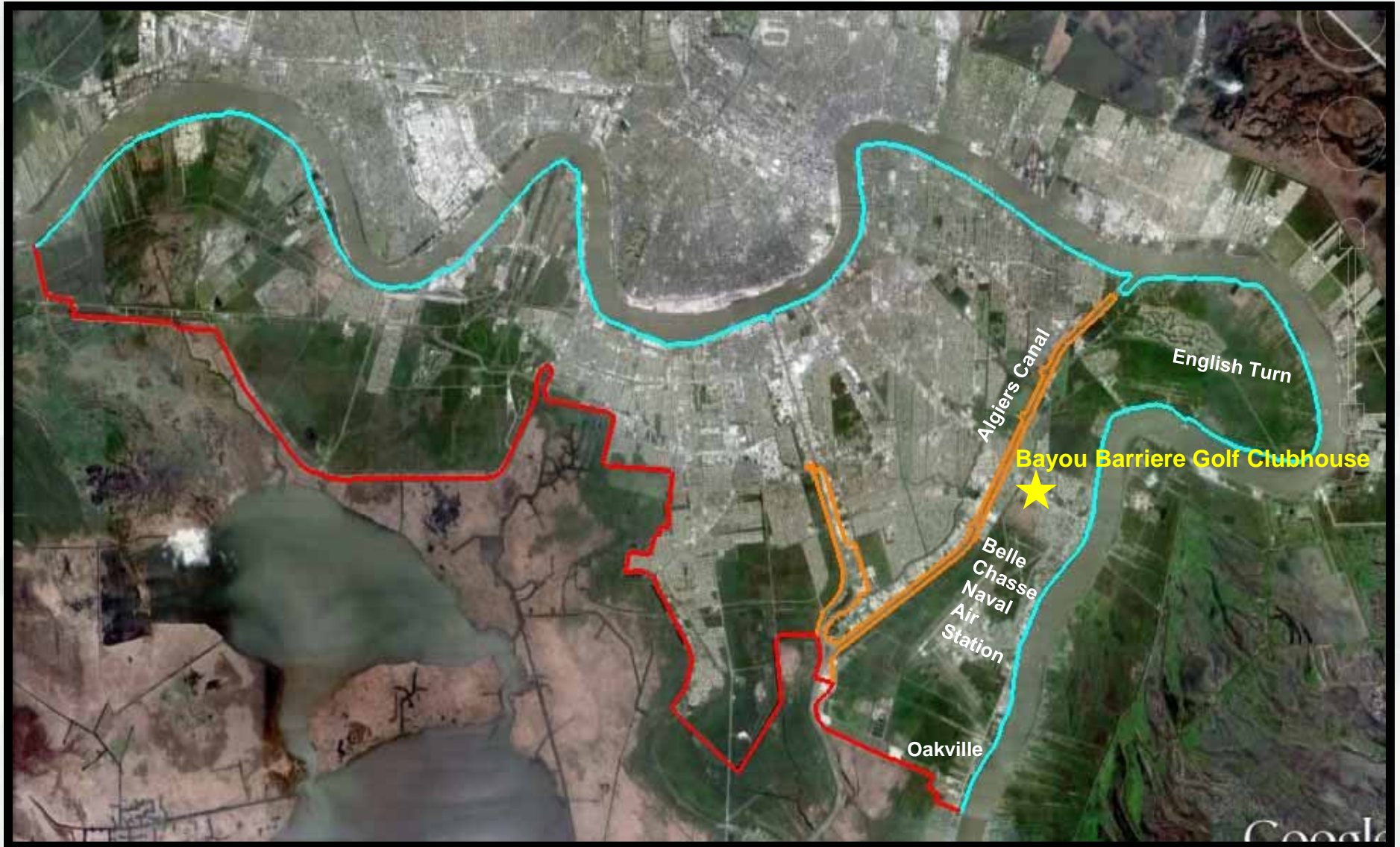
## Conceptual



**Resilient features involve more gradual levee slopes, berms, and possibly armoring to reduce the damages to levees from large storm events. Furthermore, resilient features would require additional rights-of-way and potential relocation of real estate, facilities, and utilities.**



# West Bank & Vicinity



# Eastern Tie In

Connects to the Hero Canal Levee and the Mississippi River Levees in Oakville



# Eastern Tie-In

**Plan approved in IER 13 and includes construction of:**

- **56 ft stoplog gate across the Hero Canal**
- **Two pump stations**
- **Earthen levees will connect to the Mississippi River Levee**
- **Three swing gates at Hwy 23**
- **A concrete T-wall built to elevation 14 ft on the southern edge of Capt. Larry's Seafood Restaurant Parking lot**
- **Emergency Bypass Road**

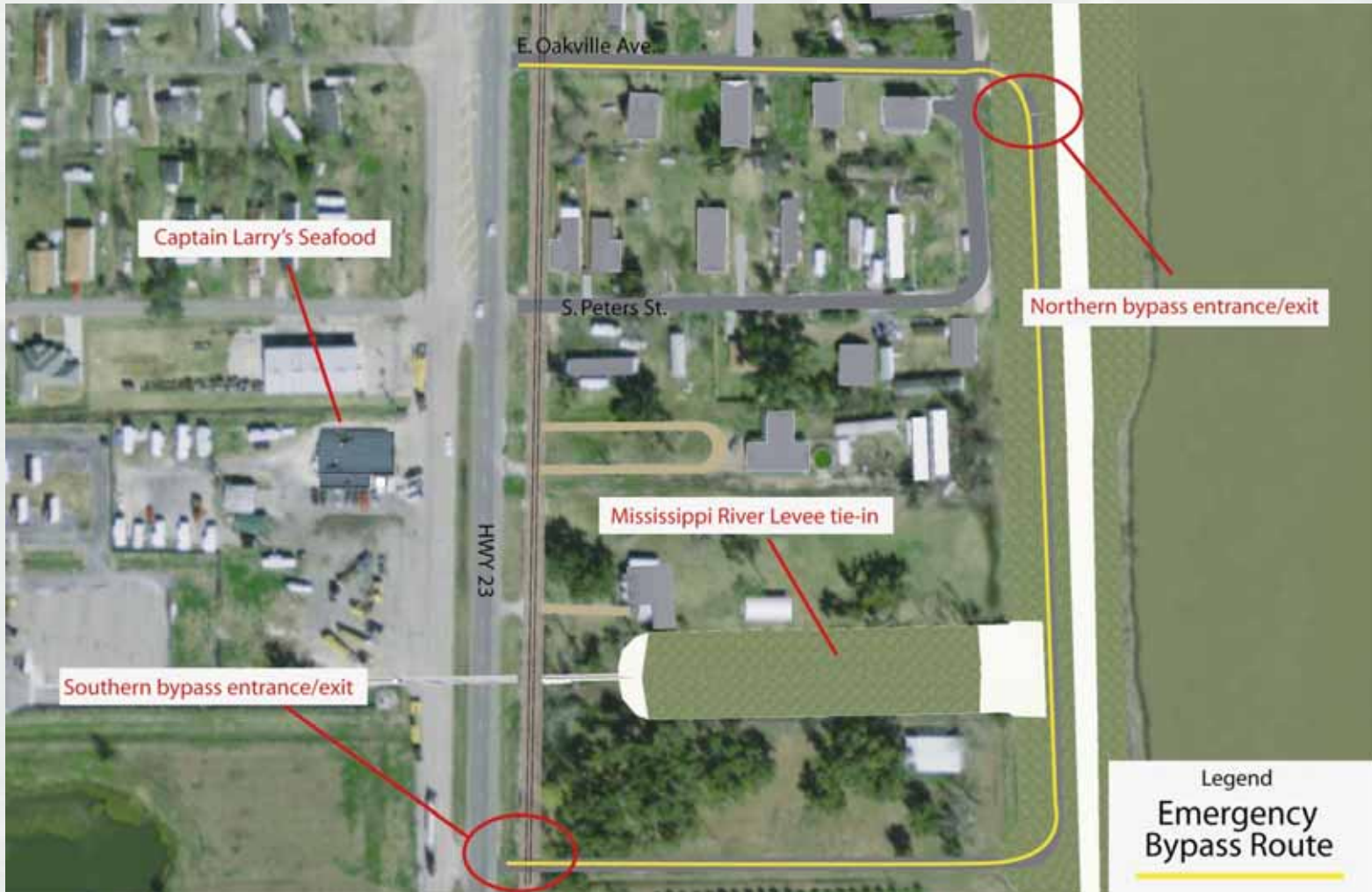


Dec. 2, 1010

Construction of the Hero Canal levee began earlier this year.



# Emergency Bypass Road



The Emergency Bypass Road will be maintained at all times during construction.



# Currently Available for Public Review

- IER 33 – Co-located Mississippi River Levees
  - Public review through Dec. 25, 2010
- Comments can be submitted by:
  - Calling 504-862-1544
  - E-mailing [mvnenvironmental@usace.army.mil](mailto:mvnenvironmental@usace.army.mil)
  - Or at any time at [www.nolaenvironmental.gov](http://www.nolaenvironmental.gov)



# Comprehensive Environmental Document (CED)

**Purpose of the CED: Discuss Cumulative benefits and impacts of the Hurricane and Storm Damage Risk Reduction System, Mitigation, Data Gaps**

**Draft CED Release Date April 2011.** Draft CED document will address cumulative impacts and benefits, operations and maintenance and other data gaps that have been finalized at that time.

**Future CED documents.** Additional documents will be prepared to update cumulative impacts and provide information about additional commitments (i.e. long term monitoring and analysis at Bayou aux Carpes and Inner Harbor Navigation Canal) or IER documents in preparation as the monitoring or additional NEPA documents are completed.

**A CED Specific Public Scoping Meeting was held on 2 September 2009.** Information from that scoping meeting can be found under Project/CED or under the meeting data on [www.nolaenvironmental.gov](http://www.nolaenvironmental.gov)



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# Upcoming Public Meetings

## **Tuesday, Dec. 7, 2010**

LPV Mitigation and St. Charles Parish construction update public meeting  
American Legion Post 366  
12188 River Rd  
St. Rose, LA 70087  
Open House 6:00 to 6:30 p.m.  
Presentation 6:30 p.m.

## **Thursday, Dec. 9, 2010**

WBV Mitigation, status of Company Canal/Bayou Segnette construction and IER 15 Supplemental public meeting  
Westwego Tassin Senior Center  
701 4th St.  
Westwego LA 70094  
Open House 6:00 to 6:30 p.m.  
Presentation 6:30 p.m.

## **Monday, Dec. 13, 2010**

Atchafalaya Basin Floodway System Master Plan Update public meeting - Opelousas  
Opelousas High School  
1014 Judson Walsh Dr.  
Opelousas, LA 70525

## **Tuesday, Dec. 14, 2010**

Atchafalaya Basin Floodway System Master Plan Update public meeting - Port Allen  
West Baton Rouge Community Center  
749 N. Jefferson St.  
Port Allen, LA 70767

## **Wednesday, Dec. 15, 2010**

Causeway Construction  
New Orleans Marriott Metairie at Lakeway  
3838 N. Causeway Blvd  
Metairie, LA 70002  
Open House 5:00 to 8:00 p.m.





# Opportunities for Public Input

- Regular public meetings throughout the Hurricane and Storm Damage Risk Reduction System (HSDRRS) Area
- Make sure to sign in tonight to get on our meeting notification mailing list
- Construction Impact Hotline: 1-877-427-0345
- Comments can be submitted at any time at [www.nolaenvironmental.gov](http://www.nolaenvironmental.gov)

Questions and comments may be submitted to

Telephone: 504-862-2201

[E-mail: AskTheCorps@usace.army.mil](mailto:AskTheCorps@usace.army.mil)





US Army Corps  
of Engineers  
New Orleans District

# Social Web Networking Communities

and what they mean to you

## twitter



is an online messaging and social networking system that allows people to share their daily life experiences minute-by-minute, hour-by-hour, and/or day-by-day via their computer or mobile phone. Team New Orleans is joining in and taking on the opportunity to tweet with the public and offer reports on developments, additions, changes, and upcoming public meetings and events that will affect local communities. Check it out by going to [twitter.com/teamneworleans](https://twitter.com/teamneworleans).

Flickr is an online community platform for global photo management and sharing applications via the web. Team New Orleans has become a part of the movement and is using Flickr to visually explain our projects. Check out our photos at

[www.flickr.com/photos/37671998@N05](https://www.flickr.com/photos/37671998@N05).

## flickr



## facebook

is a global social networking Web site that links people from across the world and is currently ranked as the most popular of its kind. Team New Orleans is following in the trend and is using Facebook to update the public about projects, events, activities and public meetings.

Become friends with Team New Orleans by visiting [www.facebook.com](https://www.facebook.com), search New Orleans District.



# Resources

[www.nolaenvironmental.gov](http://www.nolaenvironmental.gov)

**NOLA Environmental**  
NEW ORLEANS, LOUISIANA  
Environmental Compliance Data Bank  
[www.nolaenvironmental.gov](http://www.nolaenvironmental.gov)

PROJECTS MEETINGS LIBRARY DATA VIEWER GET INVOLVED RELATED LINKS

Welcome to NOLA Environmental! This site has been set up to share with the public the efforts being made by the U.S. Army Corps of Engineers and other federal and state agencies in south Louisiana regarding the environmental compliance for proposed federal and state Hurricane Risk Reduction Projects. Additional information pertaining to other federal and state agencies hurricane recovery efforts in southeast Louisiana will also be posted on the site as it becomes available.

The U.S. Army Corps of Engineers, Mississippi Valley Division, New Orleans District implemented Alternative Arrangements on March 13, 2007 under the provisions of the Council on Environmental Quality Regulations for implementing the National Environmental Policy Act (40 CFR § 1506.11). Learn more...

**Announcements**

- Draft [IER 2 Public Comment](#) Period 5/6 - 6/4
- Draft [IER 13 Comment](#) Period extended to 5/18
- Draft [IER 5 Public Comment](#) Period 5/4 - 4/3
- Draft [IER 16 Public Comment](#) Period 5/1 - 5/30
- Draft [IER 6 Public Comment](#) Period 4/24 - 5/23
- [IER 6 - The Clean Water Act Section 404 Public Notice Comment](#) Period 4/24 - 5/23
- [Orleans Parish Pump Station Stormproofing EA #474 Drafts Public Comment](#) Period 4/17 - 5/23
- [Jefferson Parish Pump Station Stormproofing EA #475 Drafts Public Comment](#) Period 4/14 - 5/20
- Draft [IER 10 Public Comment](#) Period 4/13 - 5/12

**Upcoming**

- [05/11/2009 - Public Meeting IER 8, 9, 10 and 10/10/09](#)
- [05/17/2009 - Draft IER 10 Public Comment Period Ends](#)

**Newly Available**

**NEW** NOLA Environmental Basic Data Viewer

- [News Release 06 May 09 Draft IER 5](#)
- [IER 5 - Phase 2 Final Report: Operating Scenario Analysis](#)

**FEATURED PROJECT**

USACE-MVH Emergency Alternative Arrangements  
Greater New Orleans  
Hurricane and Storm Damage  
Risk Reduction System Projects

<http://www.mvn.usace.army.mil>

U.S. Army Corps of Engineers New Orleans District - Microsoft Internet Explorer: provided by USACE, New Orleans District

**US Army Corps of Engineers**  
New Orleans District

SEARCH

**PUBLIC INFORMATION**

Thank you to Flood Risk Reduction Team. Learn more about what the Corps is doing to reduce risk. [Click here for more information.](#)

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[Food Safety](#) [Disaster Preparedness](#) [Health Information and More](#)

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