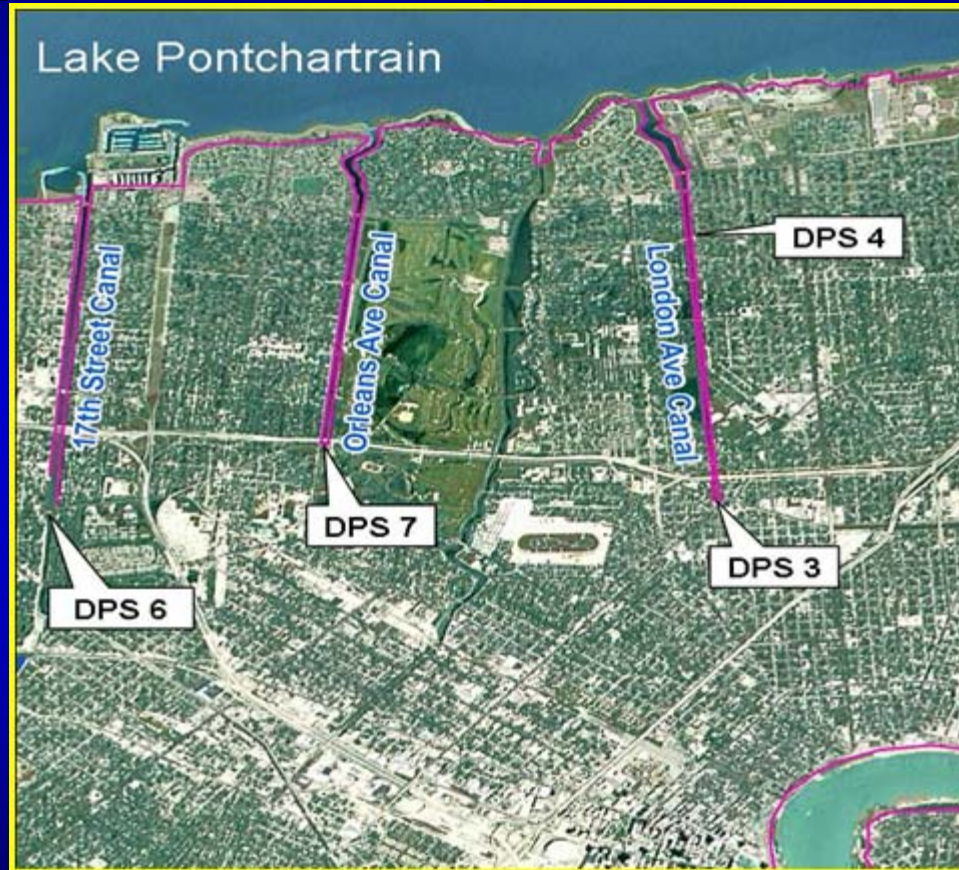




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Permanent Protection System for the Outfall Canals



Individual Environmental Report #5

One Team: Relevant, Ready, Responsive and Reliable



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Why we are here tonight

To discuss how to permanently protect Orleans and Jefferson Parishes from storm surge-induced flooding through the 17th Street, Orleans Avenue, and London Avenue Canals, while not impeding the ability of the area's internal drainage system to remove storm water.



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National Environmental Policy Act

“NEPA”

- **Required for all major Federal actions**
- **Analyze potential impacts to the human and natural environment and investigate reasonable alternatives**
- **Analyses documented in Environmental Assessments (EA), Environmental Impact Statements (EIS) or Individual Environmental Reports (IER)**
- **Public involvement is KEY: We want to hear from you!**
- **Goal: more informed decision making through public involvement**



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NEPA Process and Path Ahead

- March/April 07: NEPA Process began with Public Scoping Meetings
- April 07 through now: Alternatives developed
- **Now through Early March 08: Conduct Impacts Analysis, Continue Solicitation of Public Input and Complete Draft IER**
- Early March 08: Release Draft IER (including preferred alternative and preferred site) for 30-day public comment period
- Early April 08: Review Public Comments
- Mid/Late April 08: Make Final Decision



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NEPA Alternatives

- 1. No Action (NEPA Mandated)**
 - 2. Non-Structural (WRDA Mandated)**
 - 3. Barrier Plan**
 - 4. Canal Closure**
 - 5. Parallel Protection**
 - 6. Canal Closure and Pumps**
- Additional Features**



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NEPA Alternatives

1. No Action (NEPA Mandated):

No further actions other than maintenance would be done to the projects that are now in place; the Interim Control Structures would remain in place for the life of the project.

2. Non-Structural (WRDA Mandated):

Includes floodproofing by raising homes and businesses, or real estate acquisition or relocation of residences within the Orleans East Bank sub basin to a safe, sanitary, decent and comparable residence selected by the homeowner.

3. Barrier Plan:

First investigated in the 1972 LPV EIS, this system would provide a barrier between Lake Pontchartrain and the Gulf.



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NEPA Alternatives

4. Canal Closure:

Includes various alternative gate configurations to block Lake Pontchartrain storm surge from entering the outfall canals

5. Parallel Protection:

Includes alternatives such as concrete lined canals or replacing “I-walls” with “T-walls”



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NEPA Alternatives

6. Canal Closure and Pumps:

Variations of this alternative include a pressurized conduit system, conversion of the interim control structures to permanent systems, or construction of new permanent gated or closure structures and pump stations at or near the mouths of the canals, which would concurrently block storm surge while allowing for drainage of storm water



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NEPA Alternatives

- **Additional Features:**

Various water diversion projects that would decrease the capacity demands of any pump station installed on the outfall canals. These diversion projects include options such as diverting water from the 17th Street Canal to the Mississippi River through Hoey's Basin and from the London Avenue Canal to the Industrial Canal.



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Opportunities for Public Input

- **Monthly Public Meetings throughout New Orleans Metro Area**
 - Make sure to sign in tonight to get on our meeting notification mailing list
- **Comments can be submitted at any time at www.nolaenvironmental.gov**
- **Individual Environmental Reports (IER) 30-day Public Review**

**Questions and comments regarding Hurricane Protection Projects
should be addressed to:**

**Gib Owen
PM-RS
P.O. Box 60267
New Orleans, LA 70160-0267
Telephone: 504-862-1337**

E-mail: mvnenvironmental@usace.army.mil



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NOLA

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NEW ORLEANS, LOUISIANA

Environmental Compliance Data Bank

www.nolaenvironmental.gov



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Environmental Processes and NEPA Compliance

[What is NEPA?](#)

FEATURED PROJECT



USACE-MVN Emergency Alternative Arrangements
West Bank & Vicinity & Lake Pontchartrain & Vicinity
Hurricane Protection Projects

[USACE NEPA Questions & Answers](#)

[USACE Alternative Arrangements NEPA Process](#)

[USACE Alternative Arrangements NEPA Process Appendix](#)

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 Protection 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). This process was implemented in order to expeditiously complete environmental analysis for the 100-year level of Hurricane and Storm Damage Reduction effort authorized and funded by the Administration and the Congress. The proposed actions are located in southern Louisiana area and relate to the Federal effort to rebuild the Hurricane and Storm Damage Reduction system in the New Orleans Metropolitan area as a result of Hurricanes Katrina and Rita. [Learn More](#)

[IER 18 Government Furnished Borrow Draft Report](#) Public [Comment](#) Period: Oct. 28, 2007 - Dec. 04, 2007

[IER 19 Contractor Furnished Borrow Draft Report](#) Public [Comment](#) Period: Nov. 2, 2007 - Dec. 6, 2007

UPCOMING EVENTS: [Public Meetings](#)

Nov. 29, 2007 7:00 - 9:00 pm (Open House: 6:00 - 7:00 pm), Orleans East Bank (IER 5)

Dec. 06, 2007 7:00 - 9:00 pm (Open House: 6:00 - 7:00 pm), St. Charles (IER 1, 2, 3)

Dec. 11, 2007 7:00 - 9:00 pm (Open House: 6:00 - 7:00 pm), Environmental Justice





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Back-up slides



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New Pump Station Alternatives

17th Street Site Locations

Location C

Location A



Location B



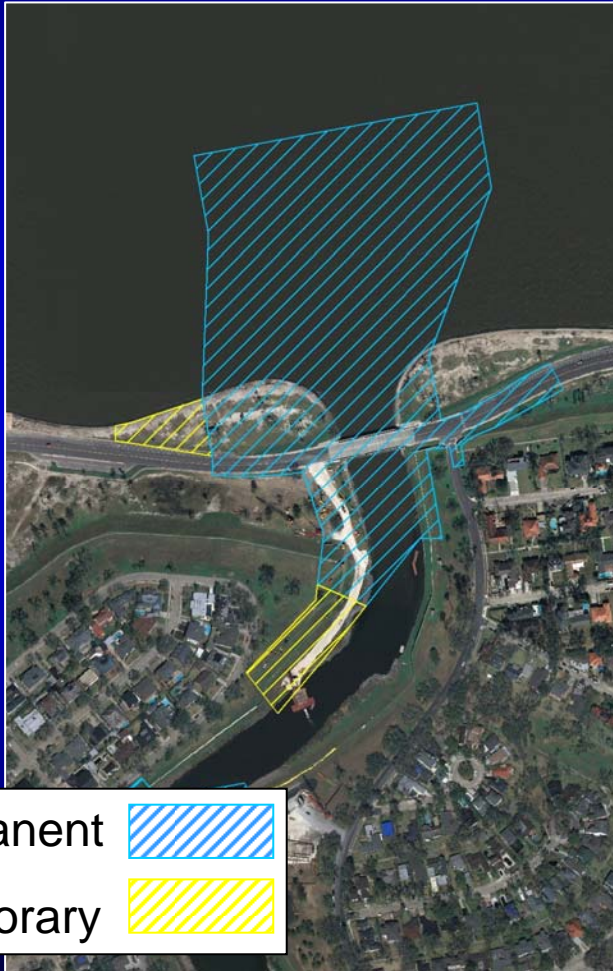
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New Pump Station Alternative Orleans Ave. Site Locations

Location A



Permanent



Temporary



Location B



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New Pump Station Alternative Orleans Ave. Site Locations

Location C



Permanent



Temporary



Location D



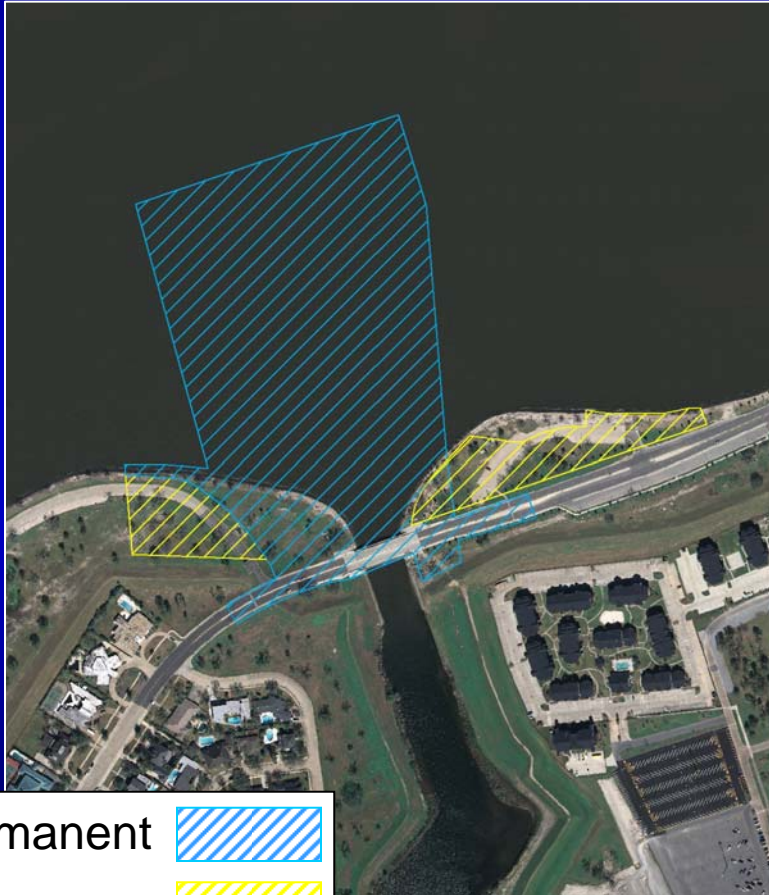
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New Pump Station Alternative London Ave. Site Locations

Location A



Location B



Permanent



Temporary



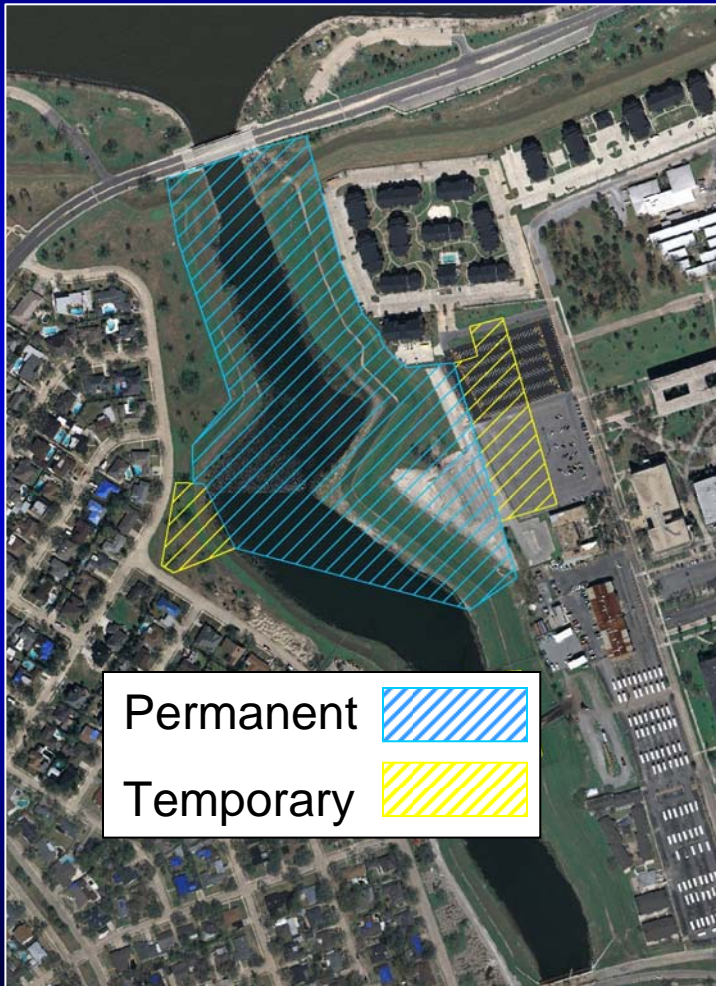
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New Pump Station Alternative London Ave. Site Locations

Location C



Location D



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NEPA/WRDA Mandated Alternatives

1. No Action (NEPA Mandated)



2. Non-Structural Solutions (WRDA 1974 Mandated)



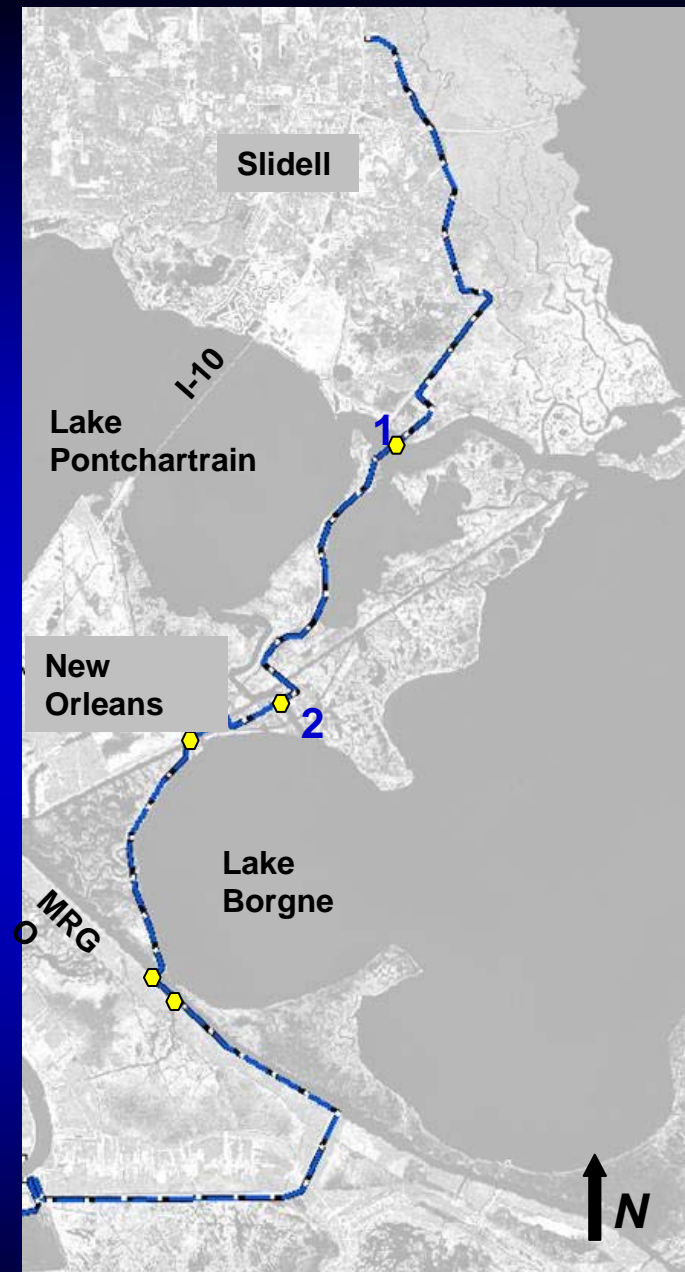
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3. *Barrier Plan*

- Originally proposed for 1974 Lake Pontchartrain and Vicinity Hurricane Protection Project
- Includes storm surge barriers at Rigolets (1) and Chef Menteur (2) Passes to restrict tidal influx into Lake
- Does not address wind-driven surge on Lake Pontchartrain

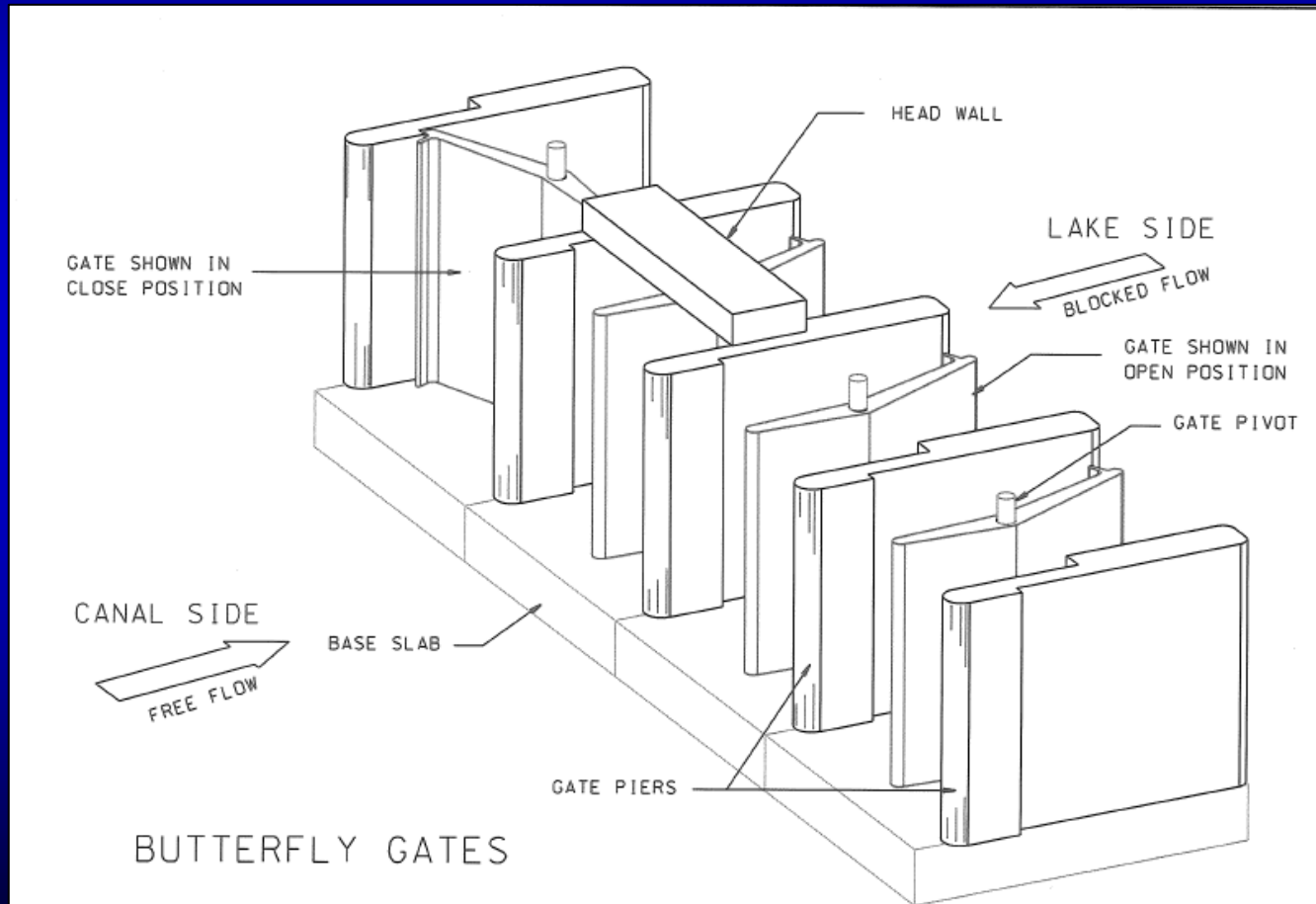




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4. Canal Closures

A. One Directional Flow Gate (passive system)

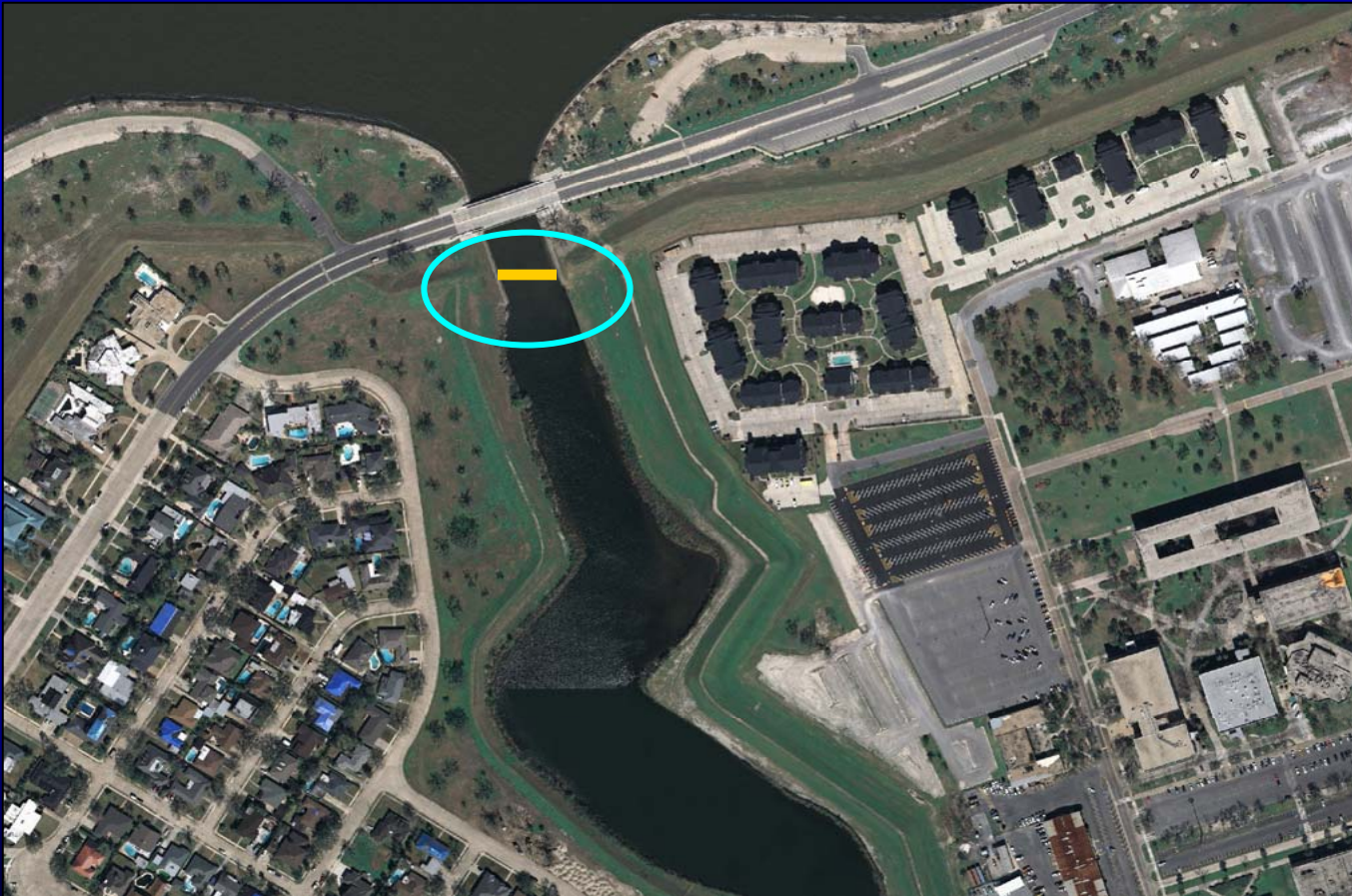




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4. Canal Closures

B. New Manual Gate



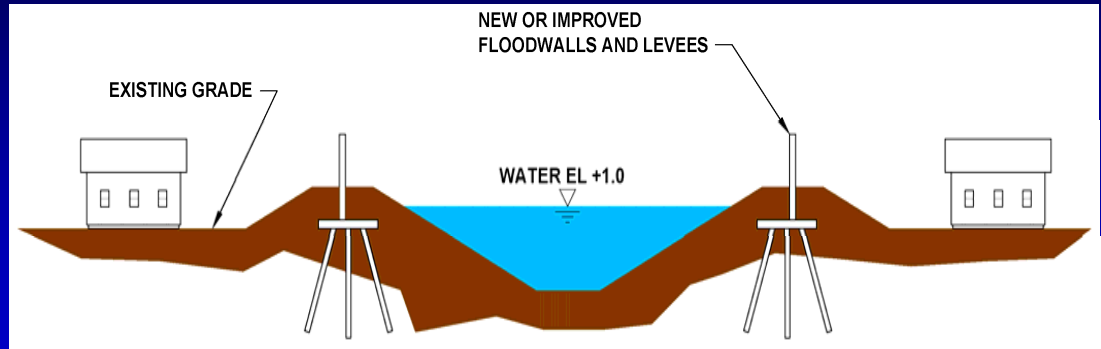
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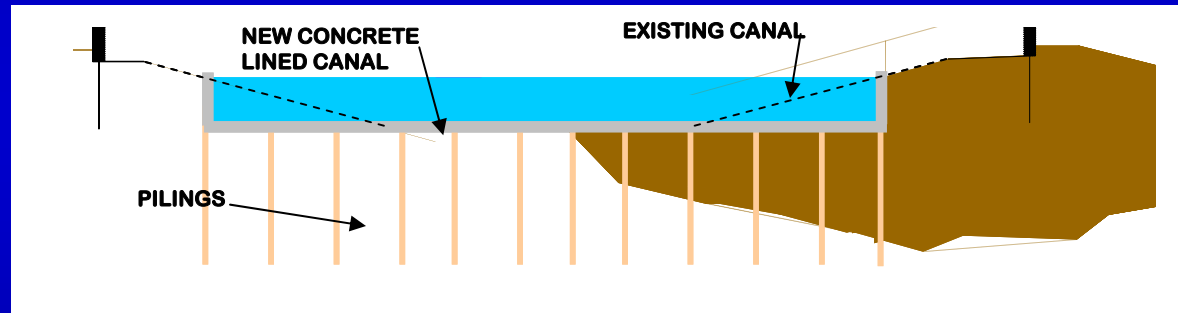
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5. 100 Year Parallel Protection

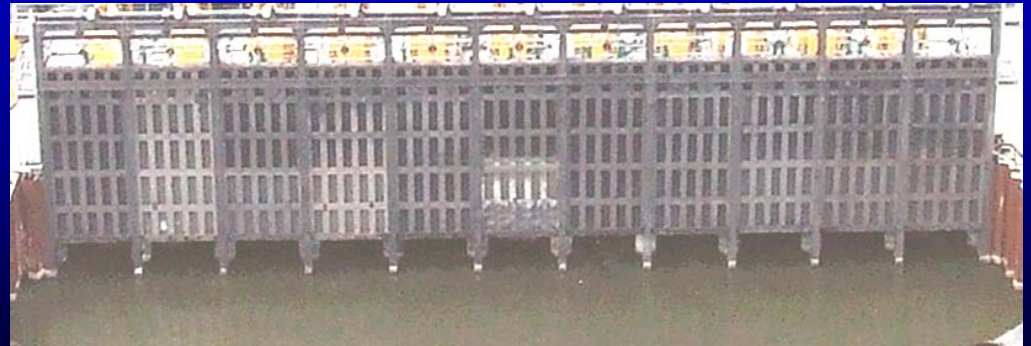
A. Replace I-walls With T-Walls



B. Concrete Lined Canal



C. T-Walls leaving the Interim Control Structure Gates In Place

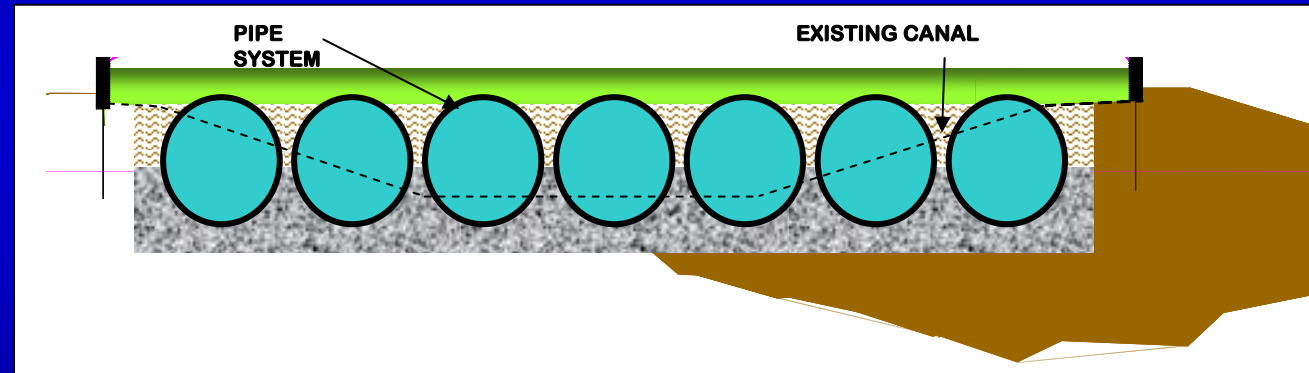
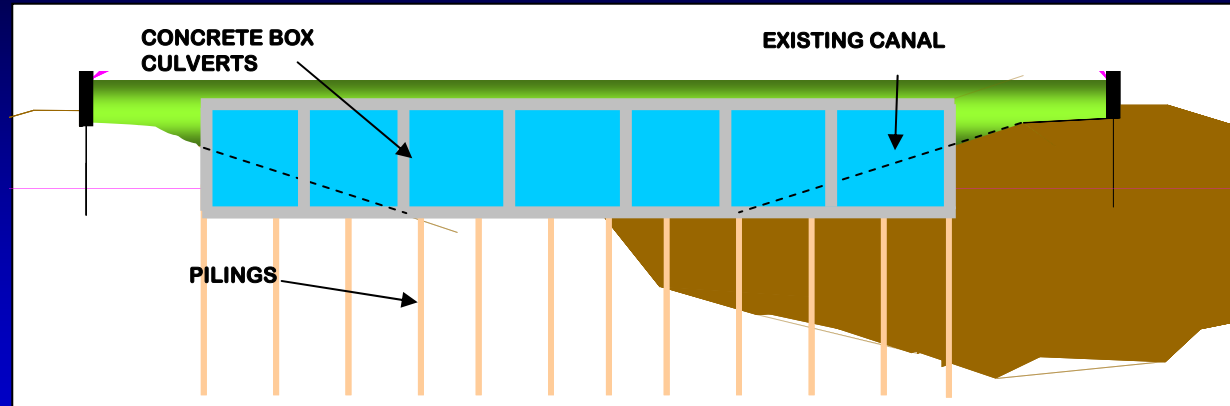




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6. Canal Closures and Pumps

A. Pressurized System (box culverts or pipes)



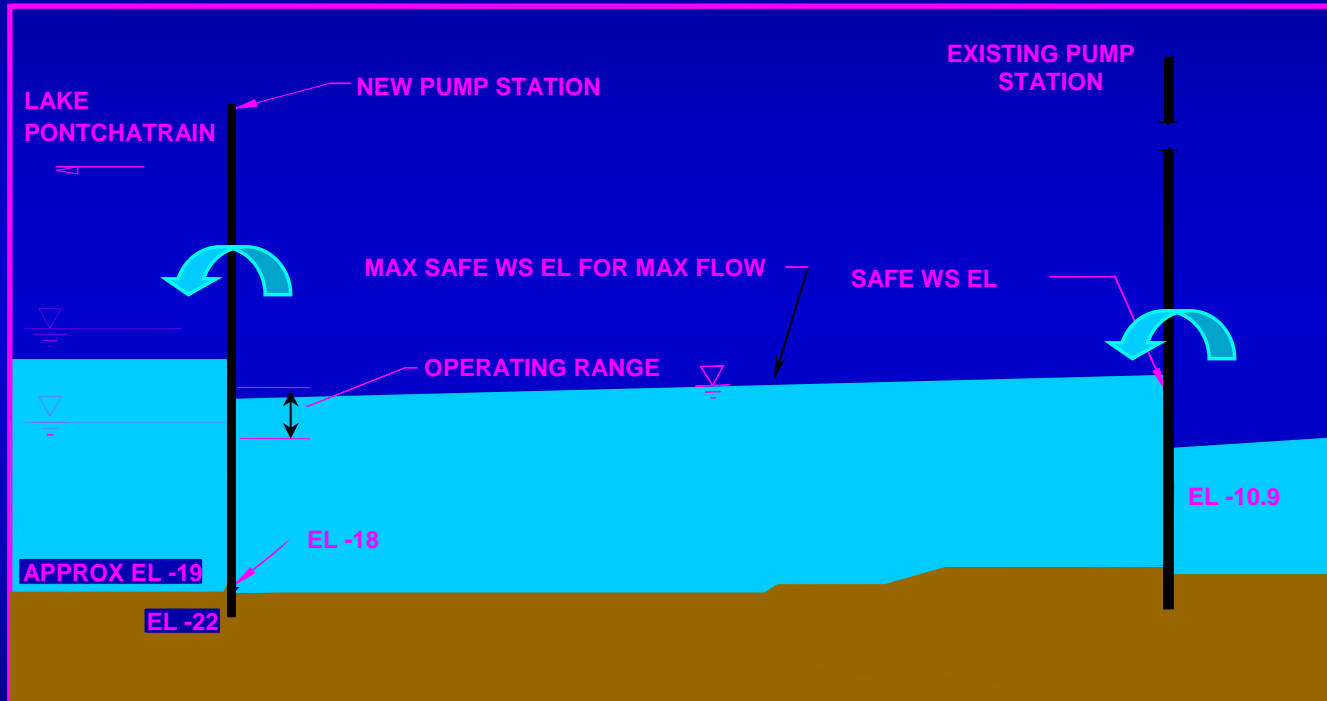
B. Upgrade Interim Control Structures to Permanent



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6. Canal Closures and Pumps

C. New Gated Pump Station



**CANAL
LONGITUDINAL SECTION**

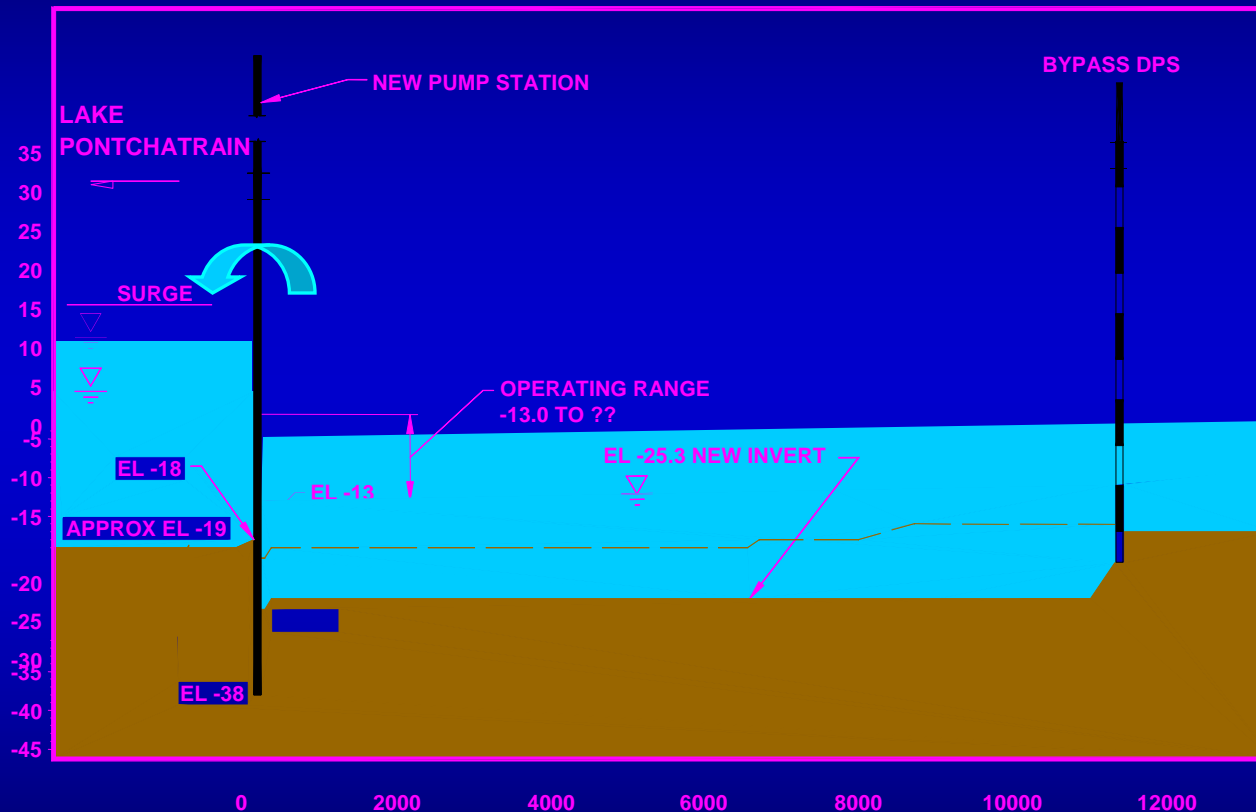
Elevation	EL
Water Surface	WS



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6. Canal Closures and Pumps

D. New Permanent Closure Pump Station



Elevation	EL
Drainage Pump Station	DPS

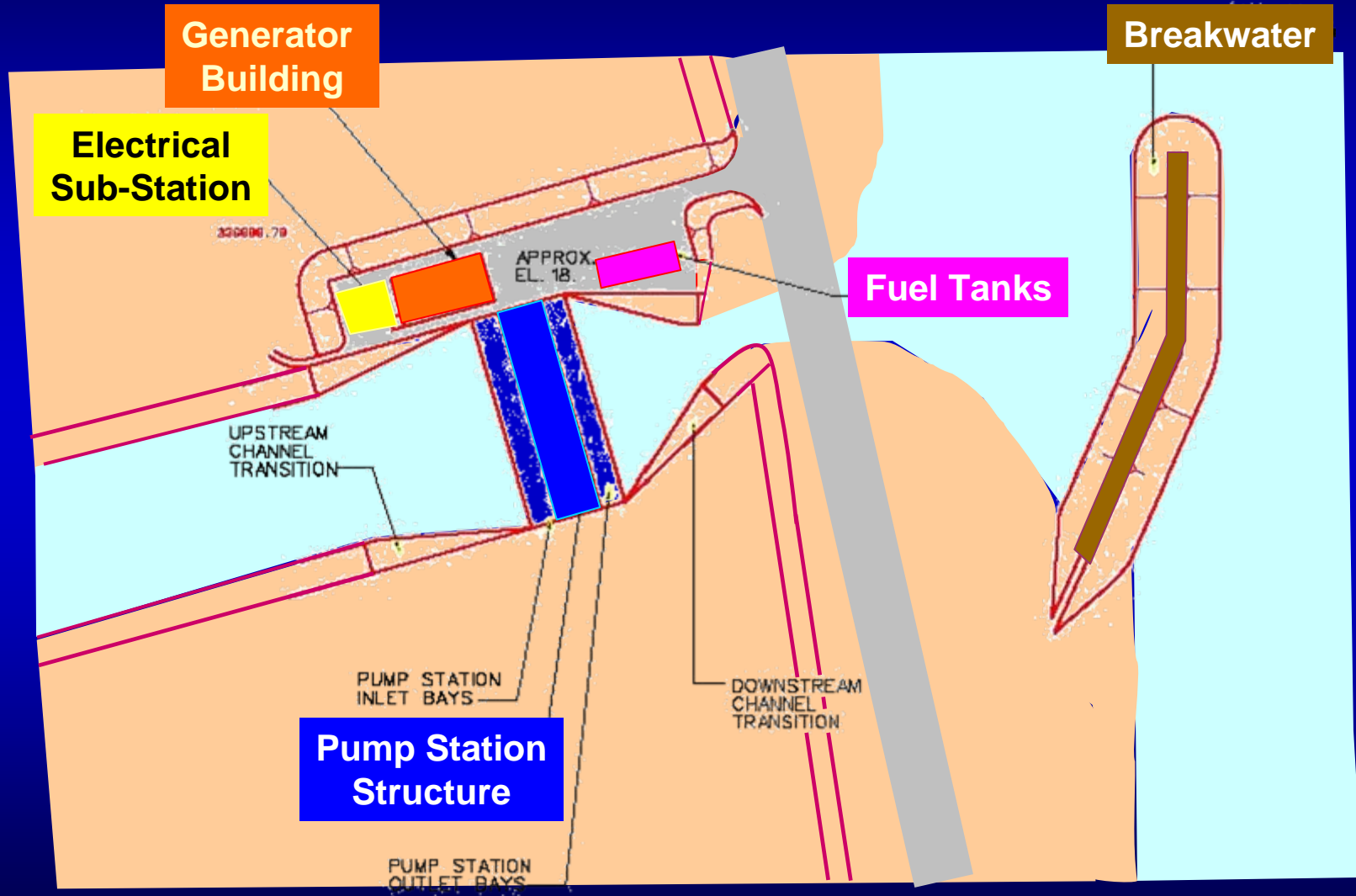
CANAL
LONGITUDINAL SECTION

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Typical Pump Station Components



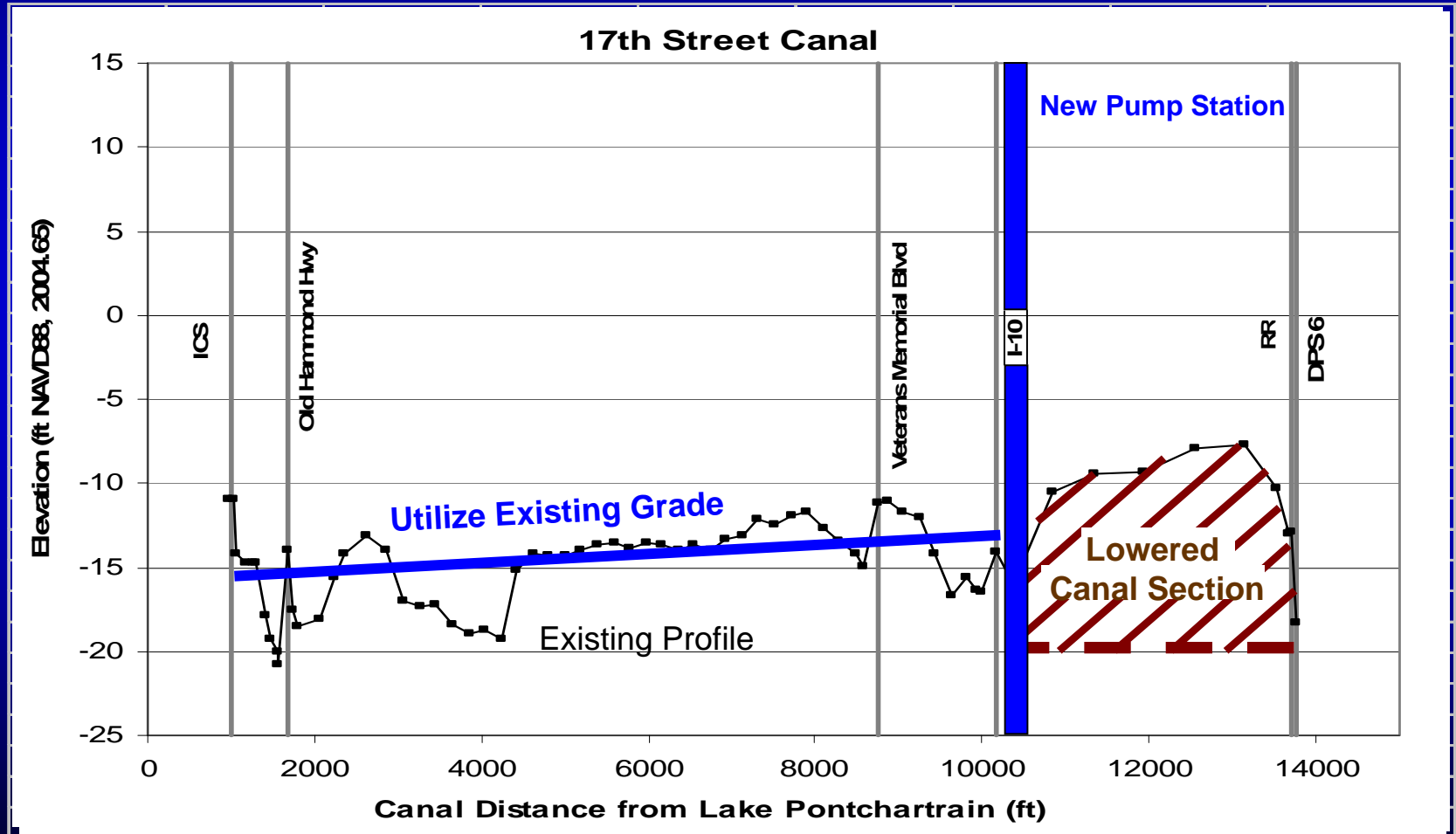
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6. Canal Closures and Pumps

E. Utilize Grade Variation



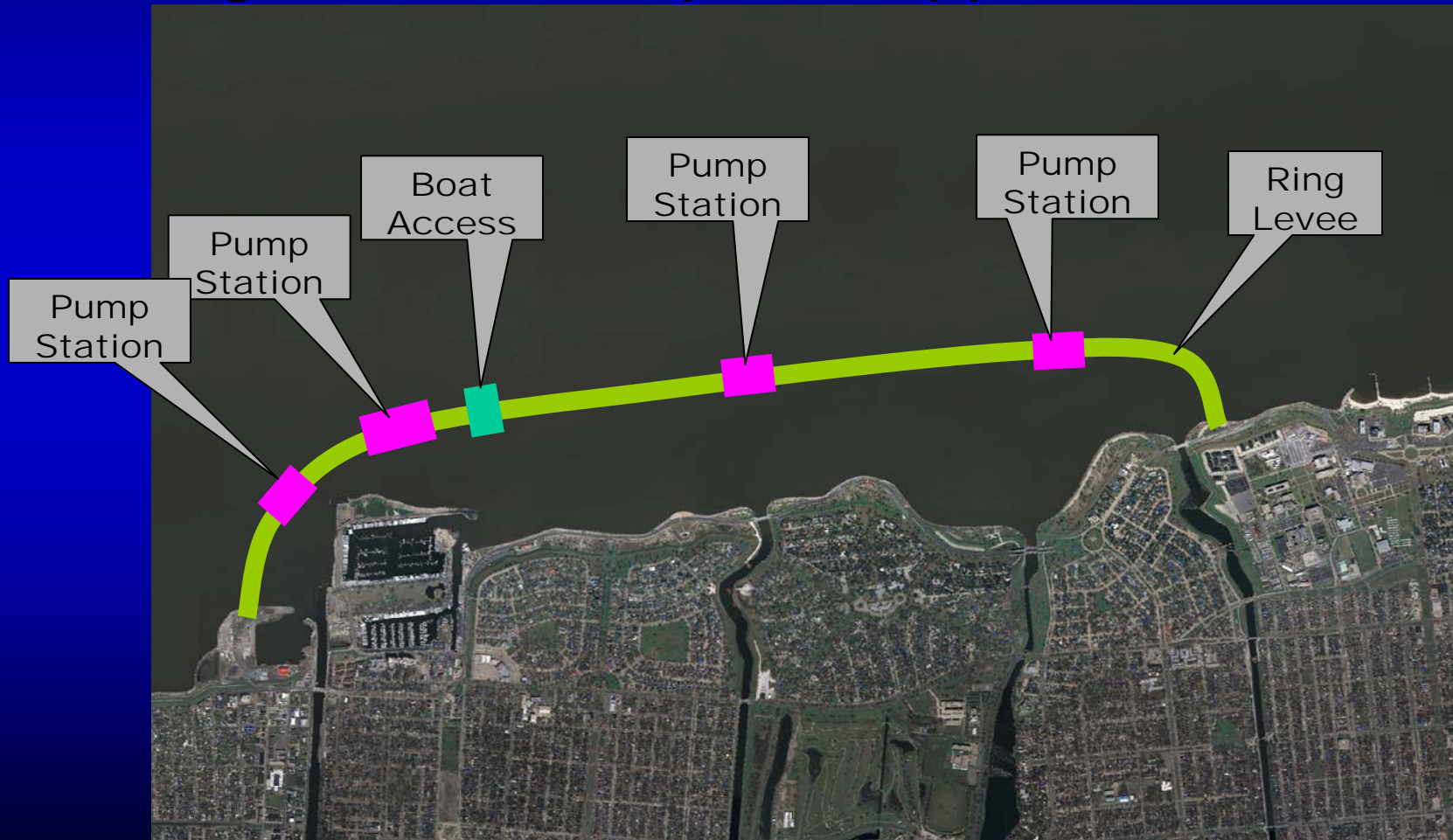
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6. Canal Closures and Pumps

F. Ring Levee and Pump Station(s) in Lake



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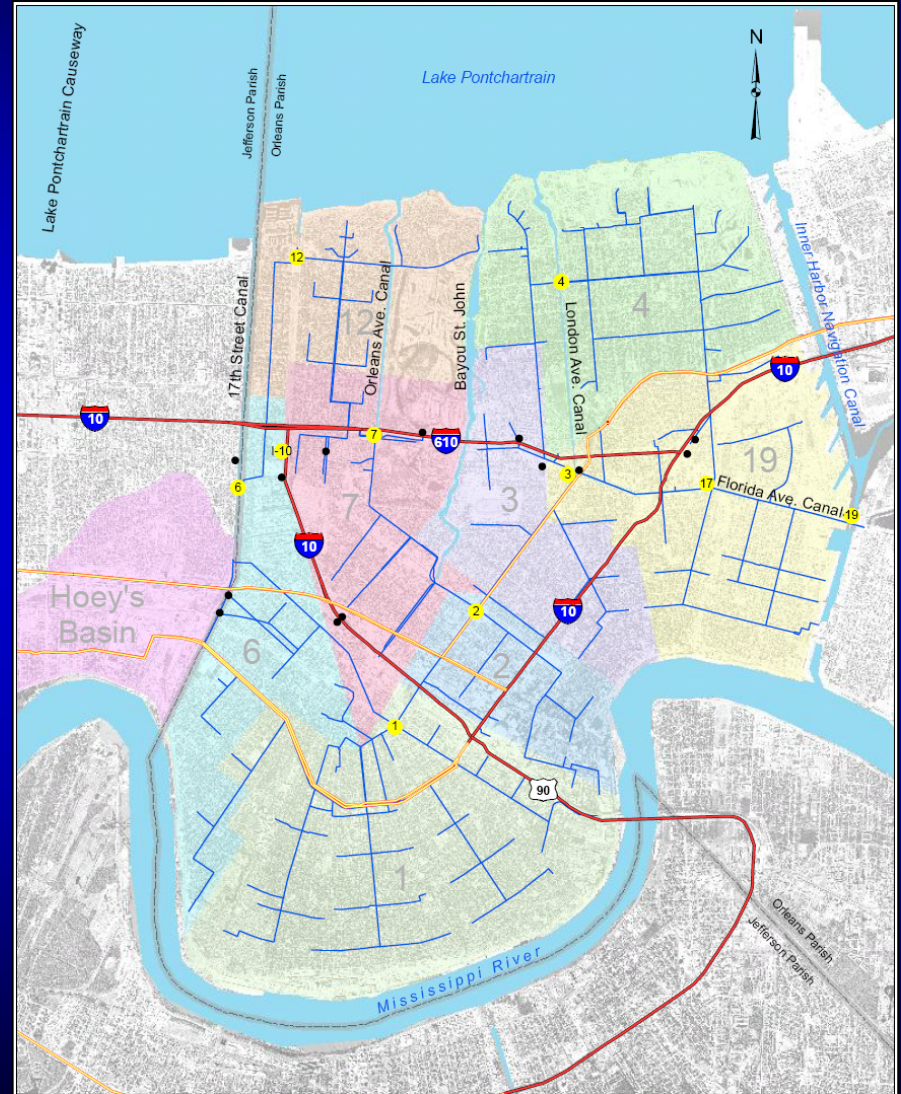


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Additional Features

- **Divert Water**
 - **London to Industrial Canal**
 - **Pump to the River**
(ex. Hoey's Basin)
 - **Additional Pump Stations**
- **City Park Detention**
- **Polders**
- **Interconnected or Consolidated Canals**

Pump Station #



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Additional Features

London to Industrial Canal

- Possible reduced demand on main system
- Possible improvement in redundancy

Pump Station #



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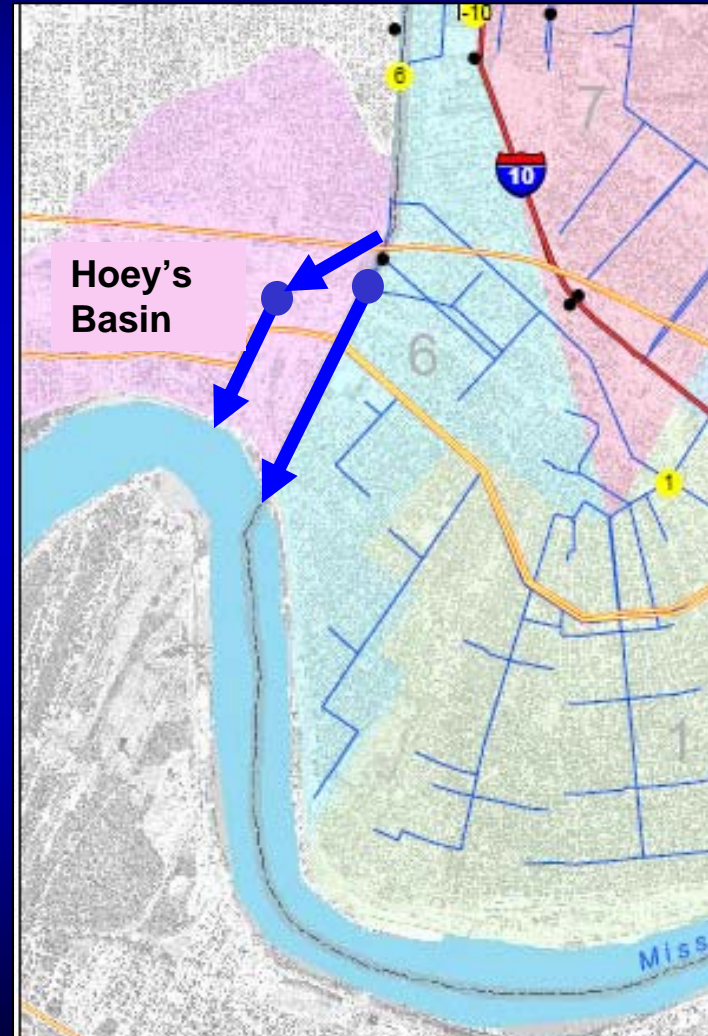
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Additional Features

Pump to the River

- Orleans Parish
- Jefferson Parish/
Hoey's Basin

Pump Station #



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Additional Features

Additional Pumps

- London Avenue Canal to Industrial Canal
- PS #2 to Orleans Avenue
- PS #2 to Bayou St. John

Pump Station #



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Additional Features

City Park Detention

- Temporarily hold water in City Park until system removes water in residential areas

Pump Station #



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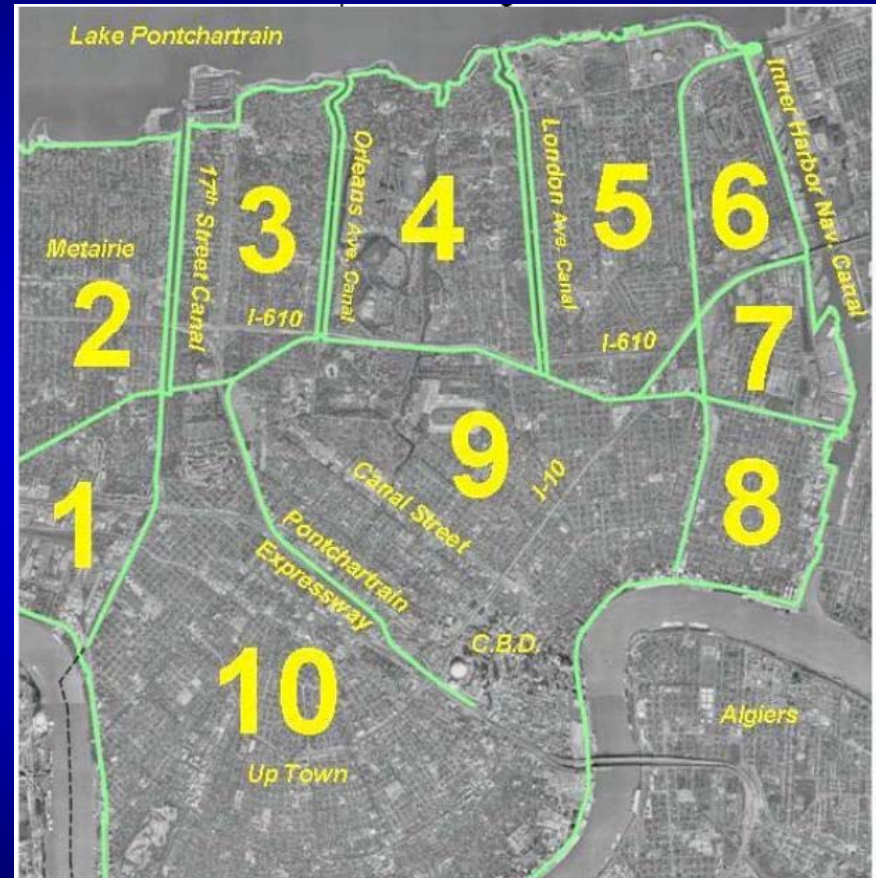


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Additional Features

Polders

- Create sub-drainage basins to restrict spread of floodwater
- Utilize natural features and existing infrastructure to maximum potential



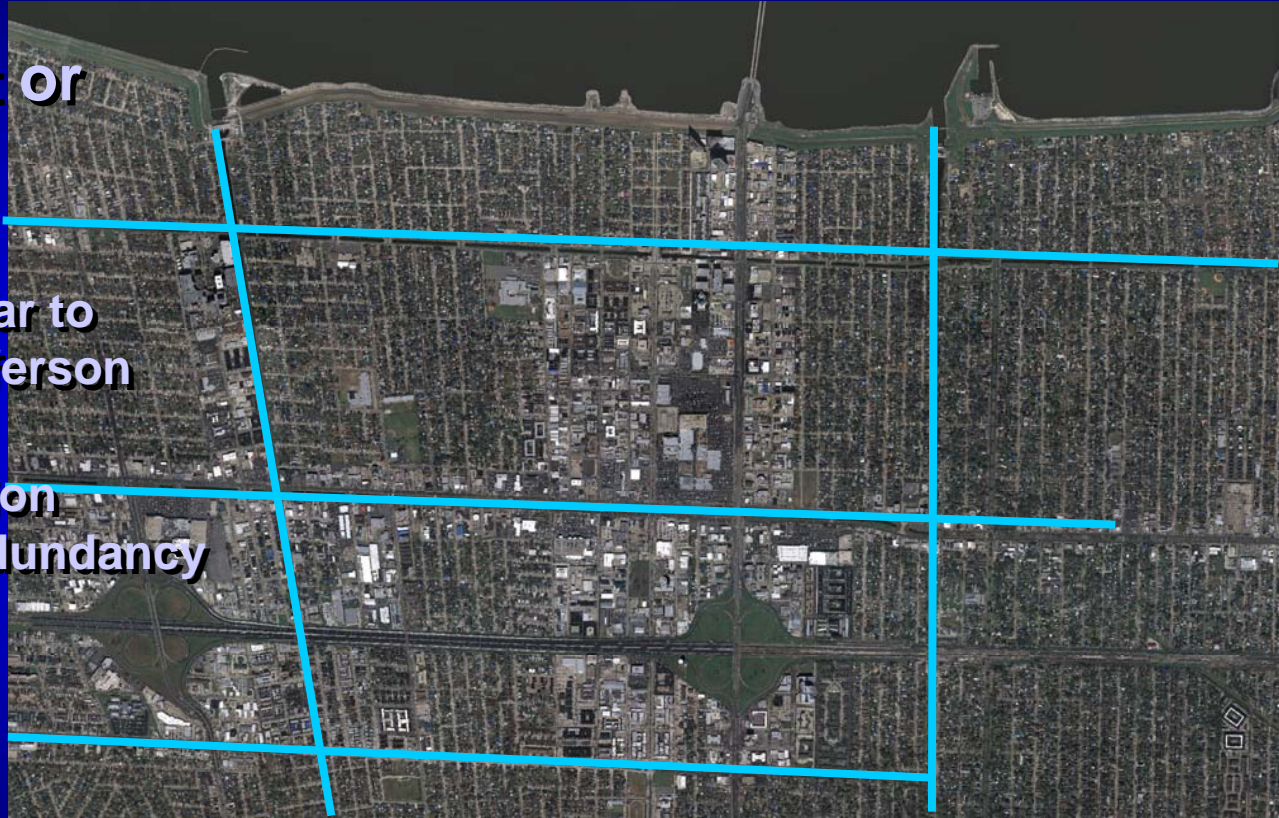


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Additional Features

Interconnect or Consolidate Canals

- System similar to canals in Jefferson Parish
- Interconnection increased redundancy





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Public Meeting Summary

IER 5 Public Meeting
Thursday, November 29, 2007

Location	St. Paul's Episcopal Church 6249 Canal Blvd New Orleans, LA
Time	6:00 p.m. Open House 7:15 p.m. Presentation
Attendees	approx 125 including 30 staff
Format	Open house Presentation Q & A
Handouts	<ul style="list-style-type: none">• PPT print out• Tree Removal Fact Sheet (11-29-07)• Borrow handout (11-29-07)
Facilitator	Welcome – Joe Hessinger, Lake Terrace HOA Presentation - Col. Jeffrey Bedey, USACE

Overview

Joe Hessinger from the Lake Terrace Homeowners Association welcomed the group.

Col Bedey:

Hello and thank you for participating in this continuing process. We hope to get input from citizens relative to the direction we are going. I'm happy to see the turnout tonight; I only caught the tail end of the previous meeting before. Thank you St. Paul's for allowing us to meet here again.

Before we get going, I want to let you know that we have 11 slides to show you tonight. I am not going to stand up for 2 hours and explain them all. This meeting is about getting input from you so we can go through them. We'll answer questions. The Corps is representative of the community too, to the same extent as you. So many corps employees are members of the community too. What makes the Corps unique is that it's a blend of those that wear uniform and those that are civil servants. Unlike me, who gets stationed and moved, the Army Corps stays in the community for their entire life. As part of the Army Corps you have a baseline of citizen soldiers who don't wear uniforms, they represent the Army Corps but are also citizens. How exciting it is in New Orleans, the city is missed by national media.

My brother was in town last week, he left yesterday but had never been here before. Went to Jacquimo's and Zotts for coffee on Tuesday. Yesterday we went driving through the community. We started on the Northshore then went to the 17th Street canal. We drove through neighborhoods where you live and went all the way to the Industrial Canal and Gentilly. I don't know the names of the sub-communities but went across Gentilly, the Lower 9th ward, Chalmette down to St. Bernard. I explained to him the MRGO. We got to see the entire community. I was so proud to take my brother through the

Bold – Indicates a question or comment by the public
All responses were answered by Col. Jeffrey Bedey unless indicated



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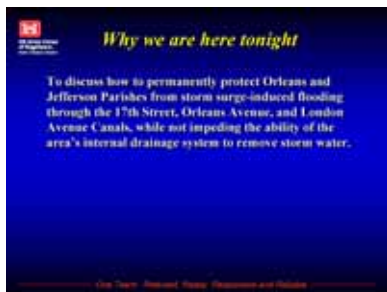
Public Meeting Summary

city because his response was that the “people are coming back.” Everywhere we went we could see that people were coming back. People are working to bring back normalcy. The amount of construction and work shows that the community is coming back in an area between here and the Industrial Canal. To have my brother see all the work, he was in awe. He never believed what he saw. He got on plane and called from Montana when he got home to say how invaluable New Orleans is. It’s so different than what he thought. I’m excited too.

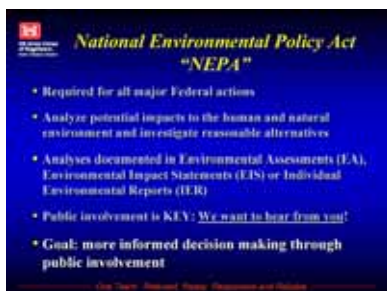
[Construction] shows resiliency and that the community is coming back to New Orleans. We hope, as US Army Corps of Engineers that we can be a part of bringing people back. I did a tour of the closure structures, to see those sites after construction, it’s not beautiful, we have cleaned up London and 17th. More work is needed at the North end. We haven’t done too badly. We’re close to getting back Hammond Bridge. I wanted to share this [story about my brother] because he’s a construction engineer. He was impressed [with the work we’ve done].

[My brother] also commented on how great people were. I say so too, but it’s true. The biggest difference between Montana and New Orleans is geography. People here are like people at home in how we deal with each other. Sometimes we agree to disagree but we all have the same interest at heart.

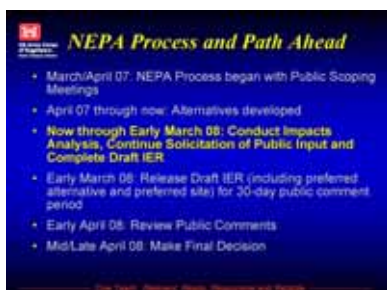
Moving on, I only have 11 slides.



Why we are here tonight: This is the essence of why we’re here. This is an ongoing process. We can talk about how to permanently protect the three outfall canals. Part of the NEPA process is that it can’t be successful without input from the public.



NEPA: NEPA is the National Environmental Policy Act. Why not just moving forward? NEPA is required. The process is really about making a more informed decision and doing that by being open and transparent through public involvement. What you say matters and counts. Not everyone will get everything they want, but it matters what you say. That’s just reality. That’s the purpose



NEPA and Path Ahead: Where we’ve been and where we’re going relative to this process. We started in March/April, went through scoping and as a result we’ve developed alternatives because we have requirements to make informed decisions. We have to look at technical solutions and impacts but also need to look at the effects on the environment. NEPA is not just about water, animals and insects, it is also considers the socio-economic impacts from any action. That’s the people impact and the economic impact. People get distracted by

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Public Meeting Summary

“environmental”. Where we are trying to go is to put out for review a draft report that will include preferred alternatives and preferred sites. We’ll prepare a draft for public comment. Before we write a draft we need a multitude of input for which public meetings are key. The goal is in mid to late April, to make a decision to say this is the alternative we’ll move forward with. This is relative to how to permanently protect the three outfall canals.

Question: Who are the parties involved in making the final decisions?

Answer: We’re all part of that. Ultimately, the decision maker is the commander of New Orleans district, Col. Lee. He’ll make that decision based on review of the draft report with all public comments incorporated.

Questions: Is there a board that makes a recommendation?

Answer: Yes, it’s called the Project Delivery Team or PDT.

Question: Who does the Project Delivery Team take input from?

Answer: All comments are taken and they are from engineers, technical people and the public. This isn’t the normal process. In the 5th emergency war supplement, in Sec 4303, the Army Corps is asked to make a technical analysis of the advantages and disadvantages of the technical courses of action regarding permanent protection. The Chief of Engineers was shown the comments and has prepared the report

Question: That was when?

Answer: The actual report was completed in August and submitted yesterday.

Question: Does that report [inaudible]

Answer: That is a technical report, it takes into account socio-economic considerations and environmental considerations. All those funnel down into a preferred alternative. Then the alternative is presented to the public again for a final 30 day review and comment period. At some point we have to decide and then report back to the public on the decision.

Question: You get input from engineers, staff, public input, etc. How is all the input weighted? I know some is considered. Now you’re listening to us, you’re doing meetings but how? What percentage of input that goes to PDT? How much input are we allocated? 5 percent, 10 percent?

Answer: I can’t put specific percentages. What you say matters. The thing is if we queried every person in the room we wouldn’t have a majority that would agree absolutely. They may agree on a basic concept but all would want a slightly different version. The community can’t speak with one absolute voice. How do you weigh strong opinion and others? It’s all a balancing act. That’s why we’re here so we can talk about it. We’re not going through slides because we’re getting to a point where we can get input and start to have an idea of where we’re going.

Question: Who do you consider impacting decisions on these projects on Canal and Marconi or Orleans canals? Those are 70120 zip codes. What would you do if you present a proposal and we get 7,000 residents saying we want number 1?

Answer: If you have 7000 that would be powerful. That’s why we’re here. We want that kind of impact. That’s more powerful. We’re all affected in varying degrees but people in that zip code are affected by Katrina and so they have a voice in what happens out here. That’s why we’re doing public meetings.

Bold – Indicates a question or comment by the public

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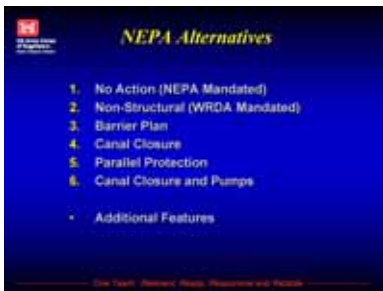


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Public Meeting Summary

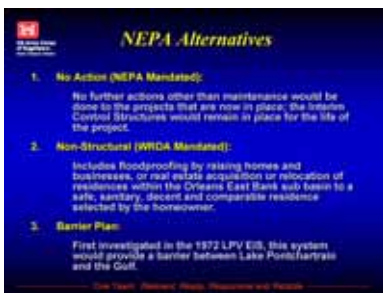
Question: The decisions of people in Uptown and in New Orleans East are deciding our fate. People in this zip should have a greater impact.

Answer: I understand.



Alternatives 1-6

You read about these alternatives in the newspaper and they are in your handouts. We've looked at six different types of alternatives.



Alternative 1. No action:

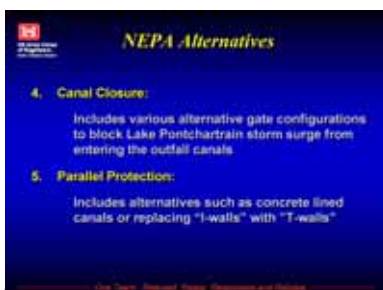
The words were in the newspaper. Where are we relative to a decision? NEPA says we have to look in to the "No action" alternative. There is a high likelihood that "No action" will be dismissed. It's not really viable. To just leave things the way they were.

Alternative 2. Non-structural:

Mandated through the Water Resources Development Act. That has been considered. Is that at this point the preferred alternatives? Nothing to canals to flood proof? From input and meetings this alternative does not appear to be a very viable solution. I'm cutting to the chase. Not that we've made a decision but where are we generally going, we're not going "No action". "Non-structural" could have impact in isolated cases. This is all relative to local government or community basis, where you make those decisions at more grassroots level. That could have merit beyond federal alternatives.

Alternative 3. Barrier Plan:

Obviously considered and investigated in 1972. Where are we? I don't know. Is there potential? Probably, if you look back at 1972. If you look at coastal restoration but then must factor environmental considerations. This plan could have socio-economic impacts too. Technically, there are a number of challenges relative to how quickly to be put in place but is being considered



Alternative 4. Canal closure

That alternative, gates in and of themselves probably won't work because of the question as to how we get water out of the city with a gate. So that alternative at this point is not real viable. I'm caveating because we haven't made a decision

Bold = indicates a question or comment by the public

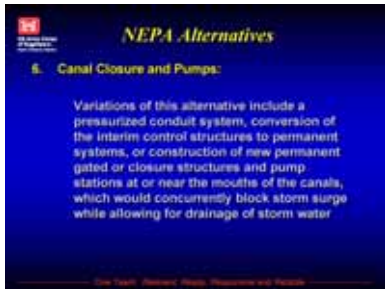
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New Orleans District

Public Meeting Summary

Alternative 5. Parallel protection. Replacing I-walls with T-walls. This idea has merit. It was how we provided protections prior to Hurricane Katrina. This didn't work during Katrina. It didn't work. As evidenced at 17th and London Avenue. While there is merit and we can flush out when looking at technical issues, there are challenges. There are socio-economic issues also. We're now talking about mounds on the east bank and west bank. There are a lot of landowners and socio-economic factors. I'm not trying to stir a hornet's nest but if you think trees are complicated, imagine if we chose parallel protection. There will be challenges there too. There are significant implications with parallel protection.

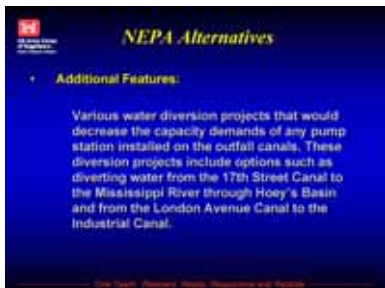


Alternative 6. Canal closures and pumps

This would provide permanent closure with extended life in the 50 year range and probably similar to a gated structure. This is different than canal closures because in conjunction there would be pumps. System would be like what we have today in that it would allow storm water to get out of city when the gates are closed. This alternative being considered under the NEPA process seems to have strong legs. This may not be it but it has strong legs. That's what we have today.

What we don't know yet is what that may look like if that's the preferred alternative

Additional features



Some potential enhancements, improvements or adaptations to potentially one or more of the 6 main alternatives. Clearly in the case of closure structures with pumps there would be the potential to add-in enhancements.

Question: When I hear alternatives, assumption keeps going through my head, assumption. Are you going to disclose to us the assumption regarding the type of storm, the type of surge? We don't have a lot of faith in the Corps because your previous assumptions were off the mark.

Answer: Relative to assumptions, yes, we will share it with you. I'm not prepared to share those assumptions today because I don't have it in front of me, how high floodgates would be. "The storm" that we've been directed to build against is the 1 in 100-year event that was modeled with a 150 storm models. The model exceeds 15000 intensities and how they hit the system. That algorithm is "the storm." Some storms were 5,000-year events, others 25-year events. Then we gave the probably of a 1 in 100-year event. That's what congress has asked for. With that is modeled an anticipated amount of rainfall. Whatever we build we'd have to be able to match the capacity of what the city is able to put into those canals. We'd build it so it would exceed current capacity.

Question: Economics is one issue. Are we looking at upfront US dollars verses long term maintenance? Further expansions could play into that too. It may be cheaper upfront but are you looking the lifetime of the system?

Answer: The design life for the system we're building is to have it in place by 2011, and then it has a 50 year design life. That's the project life.

Bold – Indicates a question or comment by the public

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Comment: That is outrageous. I just finished a 400 year project and no human life was at stake. Is there a way of increasing that [lifespan]?

Answer: The administration has appropriated dollars to provide design to 2057.

That design life, as we talk about hurricane protection system, accounts for subsidence as well as sea level rise. While 100-year level has a design life of 50 years, the administration recognizes that 100-year was not the only answer. Louisiana Coastal Restoration and Recovery program works in concert with Louisiana. The thought is that it will ultimately, the name of the game is not solely a perimeter of levees and floodwalls but in addition the need to focus on long-term coastal restoration. When you add the two together then you have greater than 100-year protection.

Comment: The current pumps work because their design life is to last for as long as possible. We are too good at engineering and cutting nickels. I don't know what'll happen but the city should do what's right and do it now. It doesn't cost that much more to build a 200-year protection.

Answer: We're not talking about equipment. We're talking about a system that exists, it includes levees and floodwalls. To have a design life of 200 years it would be high.

Comments: The Dutch are better engineers.

Comment: Can we hold questions until the end?

Col. Bedey: This is the opportunity for public input. It's important to talk about milestones. There is an end when there will be a decision but there continues to be opportunities for public input. We want to engage open discussion. Should preferred alternatives turn out to be canal closures and pump stations in some form we might talk more about location where that would be.

Question: For two of these canals you show four alternatives. You don't show structures. I find it interesting that two of those proposals are non-effective to the neighboring people. You are going to build in people's front yard. Some [design blocks] are in yards and some aren't. If all 4 are acceptable, why consider disrupting neighborhoods?

Answer: The reason you don't see structures is because we haven't designed anything. We don't know that we're building pump stations, what they will be or what they will look like. We have done some initial conceptual analysis and took guesses relative to footprints. Those boxes are footprints. They aren't absolute. We looked at where we thought was viable, we show some that are non-intrusive. Through this process we added a completely different potential siting that is South of Robert E Lee. This is where we expect to show flexibility, how we interact with the private sector and reach the engineering and scientific community. We think today that we'll procure solutions through the design-build contract. We'll ask industry to propose solutions within a defined perimeter that may include closure structures and pump stations. [The contractors] can tell us whatever team they want, and we want you to tell us how you'd do it. In addition, we want to provide a chance for public proposal in the case that they might propose something that we missed because we were too close to it. Then we'd move forward. If they come back we might have to reopen the process to say we need to look at it

Question: If you haven't considered structures, how can you do this in 4 months?

Answer: We'll determine which of the 6 alternatives by then. In the late 2008 timeline, we'll do contracts to maybe do structures.

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Question: So then in late 2008 you'll get ideas on structures?

Answer: Yes

Question: When April comes will we be closer? Once we decided which alternatives to do?

Answer: In April we'll say for example, we chose closure structures and pump stations, and here's the site selection. Not what it's going to look like, but a box of where it will be.

Comment: So you'll say what we're doing in April? Thanks for changing the meeting. Of these meetings from now through April, am I going to learn anything new?

Answer: We're here to listen to individual concerns. If there is a major cry for an alternative, we need to hear that. If the road is leading toward technical issues or if there are socio-economical reasons leading toward a preferred alternative, then we want to hear your concerns about site A, B, C, D or a variation. The more information I get the better relative to the April choice of site locations. You have potential to provide input about site locations.

Comment: We don't want a seven-story structure and we don't want to see it affect property values.

Comment: On London Avenue this first structure was put into place with pumps and structures right next to homes. On the other side of the bayou is state-owned the land and it could have been there. Why not put it away from so fewer people would be impacted?

Answer: Those are temporary structures and they weren't designed with aesthetics in mind. Concern at the time was to make sure we don't have another Katrina. Commitment of the President and Congress was to repair the system prior to the start of the 2006 hurricane season. The system was designed for people of New Orleans and the nation. That direction was manifested into 220 miles of levees and floodwalls. Those are interim gated structures. The good news is they are temporary. We're here to talk about permanent protection. We have an interim system in place and we can be a little more deliberate. We can make the selection criteria include architecture. Aesthetics can be a piece of the design and will play in to what we build.

Comment, Joe Hessinger: Do we just sit back or is there something we should be doing? Over the last 2 years, I've been to a lot of meetings. I know because I haven't been paid for any of them. Walter, Deborah [Langhoff] and I, we've been to a lot of meetings. A lot of the information is repeated and as difficult and time consuming as they have been, whether here or with the levee board, over the next few months, we need to get people to say that they want a pump south of Robert E. Lee Blvd and we need you to say that over and over again. This is frustrating, you need to write your opinions and send it to Laura Lee [Wilkinson]. We've said it and every time we see John Ashley, we say the same thing. Will it have an effect at the end of the day? If we don't ask we won't get it. All you can do is say we invested. Let's keep pushing for something. Putting on UNO side is not [inaudible].



Comment: Regarding the UNO site, I live here by choice, because I love this city. I like option 6F. I find this very innovative because of the quality of the water. This solution would work well for many people. This would be good for 70119. As 30 years as an

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engineer it's very innovative but I'm interested in the other features because the other features tie to sea level. More attention should be paid to the combination of the ocean related to SELA. I teach engineering at UNO, they work for you and are good engineers. In 1982 I worked for the Dutch. Your people, they are good. You should have meetings to publicize issues.

Answer: Thank you. UNO has provided fine engineers, some work for me. We have residents on our staff since Katrina; a number of them are Dutch engineers. We are trying to expand. We want "design-build" contracts that allow for access to international engineers. We won't dictate [requirements] to such a high degree that we can't allow for innovation. [Inaudible, Barrier Plan] We don't want to say in Orleans it'll be a pump because we have to allow for the opportunity for innovative approaches to be presented.

Question: Doesn't that contradict [inaudible]?

Answer: In April we hope to say it's going to be example 4 or 5 and some sort of pump station and closure structure and here's the site at the canals. The risk is that if someone comes in with an innovative solution we'd have to reopen NEPA to be able to use the great idea.

Question: How does the 2011 deadline prevent innovation?

Answer: What you have now is in excess of 100-year protection. As long as we protect the Inner Harbor Navigational Canal we can be at 100-year protection without a permanent station complete. That's why we have extra time.

Question: In which year will the project be completed?

Answer: The goal is to have 100-year protection in place by 2011. We'll have that.

Question: So without doing anything extra you're there?

Answer: Yes, but the temporary pumps weren't designed for permanent placement. This is complicated when you start looking at environmental, technical and socio-economic issues.

Comment: I thought structures would be finished by 2011.

Answer: The pumping station goal is 2012, to do pump stations by 2012. So it shouldn't be labeled temporary after 2012.



Question, representative from UNO: Option D is a major issue. We'll register our problems with it but option C will be objected to also. I have a question about location A, you would build a bridge? That's a major artery.



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Question: Regarding the process and deadline of April 2008. Should all solicitation be made before the [inaudible]? It seems like we might go through the NEPA process twice. Is that right?

Answer: I don't believe so.

Question: Does that mean we won't be innovative?

Answer: We can't go back to ground zero. The innovative solution will be in the realm of closure structure and pumps.

Question: [inaudible]

Answer: We've had innovative workshops around the [state] and have a pretty good idea of what we'll want to build but they aren't absolute. We have followed a similar process to how we'd protect IHNC. We've been successful so far. We have four big construction firms that are short listed for this process. All four of them may propose ideas. They are all looking at this in a manner that allows them to meet the requirements of the contract. I don't know what the solution looks like; it may not be a typical solution. We're trying to leverage depth of the private sector.

Question: Why didn't we go the route of the Dutch and solicit designs from the Dutch? Get a bunch of solicitations, and use professors to rank? They got innovative design, why didn't we go that route?

Answer: I'm familiar with the Dutch process and design competition. We looked at that. It's not that we can't do it; we're trying to figure out the alternatives.

Question: Why can't we say this is the problem, what's the solution? Our process seems backwards.

Answer: We have a PDT that brought in engineers from the Netherlands to work with this. This may seem simple but we have to comply with NEPA so we can determine a preferred alternative, then we'll move forward. We're talking past each other. The innovation that you're talking about is what we want too. I can't hire a firm without going through NEPA process because that's our law.

Comment: So we're constrained by the environmental impact process.

Question: But you could have a competition to get those ideas?

Answer: I understand what you are asking but we have to comply with NEPA. We can move forward and talk of innovation. We want to allow for innovation in the NEPA process.

Question: After Betsy, a relative of mine was hired by some people who wanted fresh water. Powers to be said no. Pre-Katrina I had a discussion with Al Naomi about the impact in Orleans and Jefferson to keep the lake level from rising. You control influx into lake. [Inaudible]

Answer: Yes, that's still a viable alternative relative to process. Does it have legs based on the technical issues? No, but none of these alternatives have been dismissed. Some, logically, have a reduced probability. No one thinks "No action" is a viable option. We're getting more fidelity to get where we're going. That's the only way to get more input. The message is don't miss the opportunity to get innovative solutions. How we get there is not as important [inaudible].

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Comment, Lee Richardson from Pump to the River: We want to advocate for the item listed in the new pumping alternative that would allow a pump from Hoey's Basin to take flow out of 17th Street canal system. Gentleman from Hollygrove, there's a voting place for every neighborhood and what we advocate for is the concept of reducing flow into 17th Street canal to take pressure off the system. That system is in light with the Lake Pontchartrain Basin Foundation.

Comment: I see that the Barrier Plan is included, I'm delighted. I don't think anyone understands that everyone is worried about their own personal plans. The barrier will take care of everything. The first speaker wanted community input put into the forefront. If it wasn't for a community decision that became political we wouldn't be here. We wouldn't have to worry about that if a barrier was in place. People don't know what happened with the salt water lake or a fresh water lake. You think environmental has to do with storm surge? You need to make up your mind what's most important. Do the Barrier Plan and be done with it.

Questions: Why doesn't the Barrier Plan have legs? Is Bayou St. John considered by the Corps as important as the other canals?

Answer: It's not relative to this project. Regarding the Barrier Plan solution, it has technical, socio-economic, and environmental considerations that are challenging. It doesn't mean those challenges can't be overcome but there are challenges. Nothing's been dismissed but we have to accept that there are advantages and disadvantages. We have not made a decision but we have information from these meetings and work from the report to congress. It would be disingenuous to not let you know where we are. The important piece is that this is not solely everybody talking about 2011 and 100-year protection, of \$14.6 billion [inaudible]. There are additional requirements requested by the administration and in August we will provide 100-year protection to GNO area [inaudible]. That's important. This project is a portion of that protection. What is sometimes lost when we talk about and focus on the outfall canals is the authority and money put towards longer term coastal restoration. That is more than floodwalls and levees. Over time it includes coastal restoration so we have a holistic hurricane protection system in the large sense. If you start looking at the Corps and State, a lot of things will be part of coastal restoration. It's a reality. The State of Louisiana, offshore oil revenue, a portion of that revenue goes into coastal restoration. That speaks volumes for what the vision was when the administration authorized 100-year protection as well as an acknowledgment. The combo will be important. All work won't be done in 2011. Barrier reefs play a part in the system.

Question: Pressurized system, would you cap canals? So could all outfall canals be underground?

Answer: That's a variation. You could have a closed canal.

Question: My engineering intuition is that the pressurized system is better aesthetically but has higher maintenance requirements and can't be expanded, right?

Answer: Yes, those are technical challenges too



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Questions: When we capped canals were the same issues in place? Does it work?

Answer: You can build a canal using forecast growth but if you don't predict right you are in a quandary. One of the challenges in this community is you have 100-year old pipes. People were good engineers but they didn't predict New Orleans would be what it is today.

Comment: Generally (covered canals) are more expensive and have a shorter life span. You'd be beating yourself later.

Question: Bayou St. John is not in the scheme of things because it is not an outfall canal. Would that include new basin canal?

Answer: This meeting is about the three outfalls canals.

Question: The outfall canals are bodies of water, do they count? They flooded because water came in through the new basin canal. That's outside of your direction but can you help those people? I took a look at new basin canal by West End Park. If you go back there, Mr. Benson has a lot of boats back there and there is 2 ½ feet of water. Would that hold back a storm surge? Do those thousands of people count? Can you help? Is this part of your plan? That's in Orleans. I keep saying this. People in Lakeview beware. There is a barrier where Fitzgerald's used to be, it used to be lovers lane, the sea wall stops there. Water keeps coming in and the big gate is on roller, there are no pilings. I keep asking and don't get evidence that the gate will hold. No one told me they were doing something but they are. It's just a band aid. Lakeview [inaudible]

Answer, provided by Brett Herr: That gate held back boat debris during Katrina.

Question: Back to barrier plan, how big was the storm surge when you ran models with 100-year surge in Lake Pontchartrain?

Question: Everyone talks about gates and floodwalls. What about rain water? There might not be a surge but we'll still flood because of high levels and streets will flood. If we don't replace I-walls with T-walls. Weak areas of the canal are vulnerable but no one pays attention to rain issues.

Answer: Yes, we did a report about this. We raised protection to 5 feet. We've done extensive monitoring and at the current safe water elevation level those walls work. Sewerage and water can't put enough water in the canal to make them unsafe. What you described used to be true but its not anymore, we tested water to elevation 7 and held it and the walls were fine at the weakest point. Your point is well taken, that scenario could have happened.

Question: You touched on Bayou St. John but the Corps has done a lousy job letting people of New Orleans know that one alternative is to build a levee in Bayou St. John and make it a lagoon. There are scientists in Bayou St. John that don't know this. Most people don't know and yet a decision is coming.

Answer: A levee is one alternative being considered under NEPA.



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Question: Most people don't know that alternative. You need to get the word out before you make those decisions.

Answer: When the alternative goes out, you'll know but if people don't spend time, they'll still have 30 days to comment.

Question: Why do you have a gate, why not build one like on Canal blvd. You could build a levee and allow the road to go over the top. Why do you have it there why not just make a levee?

Answer, provided by Kevin Wagner: That's one thing we've looked at. The area is next to a marina. There's a row gate that closes the gate. We have businesses that operate back there and they want access. We talked about a ramp and another option is to replace the gate. We are considering those options.

Question: Come April, are all other options off table or could there be more than one?

Answer: In April we'll issue a draft to identify preferred alternatives, then invite public comment. When that period closes Col. Lee will make a decision. Then that'll be the alternative and we'll close the book on the NEPA process and we'll move forward. And then we'll know if we will either do the "Barrier Plan" or not, or "Canal Closures" or not or "No Action" or not.



Question: Regarding Orleans closure options. [Inaudible] What are disadvantages of D verses advantages of location A or B when station will be at levee?

Answer: We'll find out during the process. In April we'll see advantages from socio-economic and technical issues. We have to identify those advantages and disadvantages, technical issues, and environmental considerations that come into play with a solution.



Comment: If you have a pump on the lake side, I'm in a stronger position to support that than on the other side.

Answer: Yes, but you have to do something with walls on Robert E Lee.

Question: So if we go with Robert E. Lee site, what would happen to lake side of levee?

Answer: I can't answer. It'd have to satisfy 100-year surge protection.

Bold – Indicates a question or comment by the public

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Question: Are pumps going to be placed above flood walls?

Answer: Yes, they'll be storm proofed. Their power source will be high.

Question: Is there someone responsible for maintenance of the grounds?

Answer: Yes, it's canal [inaudible] and Murray Starkel can answer. We have taken an operator [inaudible] to maintain those, we want to be good partners and we appreciate patience. Those weren't built with aesthetics in mind, they were built to fix the levees.

Additional comment by Stephen Finnegan: We're going to look at aesthetics. We're trying to be good partners.

Question: What about putting the fence further? Where at the city is it decided where projects start and stop. Does the city have control over that?

Answer provided by Ltc. Vic Zillmer: We met with the Levee Board and City Park, to discuss maintenance, fuel and steps to get the land back to city. We need to be able to mow the lawns too. We reduced the footprint to maintain the facility.

Question: In the locations that are further from the mouth of canal, does that imply that you'll be doing more work from the levee than from that mouth? Will there be more t-walls?

Answer: Yes

Closing

Thank you for being a part of the process. We want to continue to engage you. I'm proud of the team US ACE in New Orleans and outside and all of us together. If it were easy we wouldn't be sitting here. Power is through the team working together. I'll be here if you have additional questions.

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