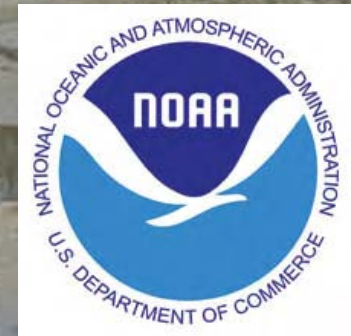


# Mississippi River Sediment Delivery System

## Bayou Dupont BA-39

### Construction Phase

- Borrow Area
- Dredging
- Slurry Pipeline
- Containment
- Fill Area

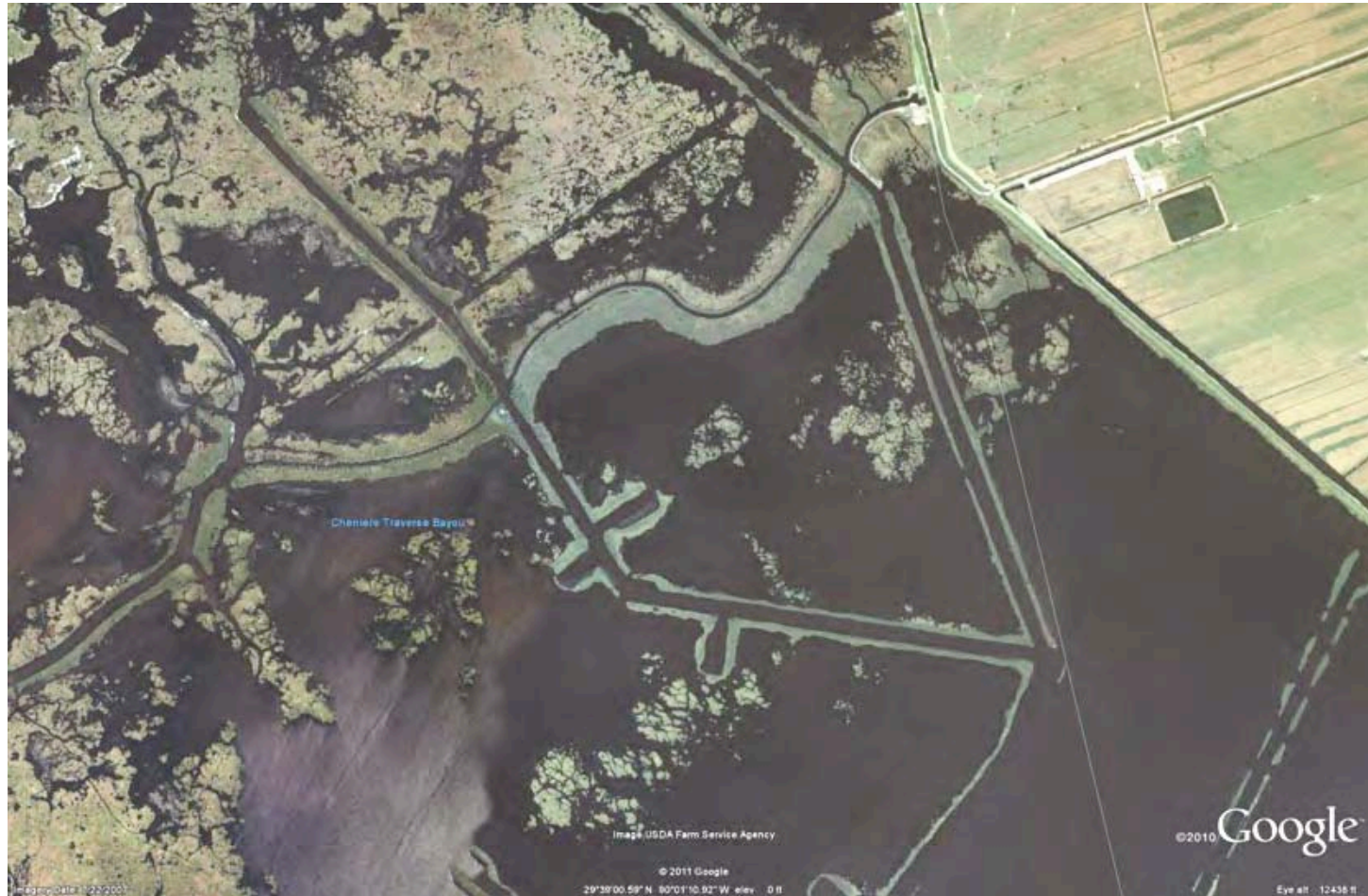




# Marsh Creation Area

## Pre-Construction

Google Earth image 7/22/2007



# **Cutterhead Dredges and their associated discharge piping must allow for other users of the river**

**Ships stay in deep channels**



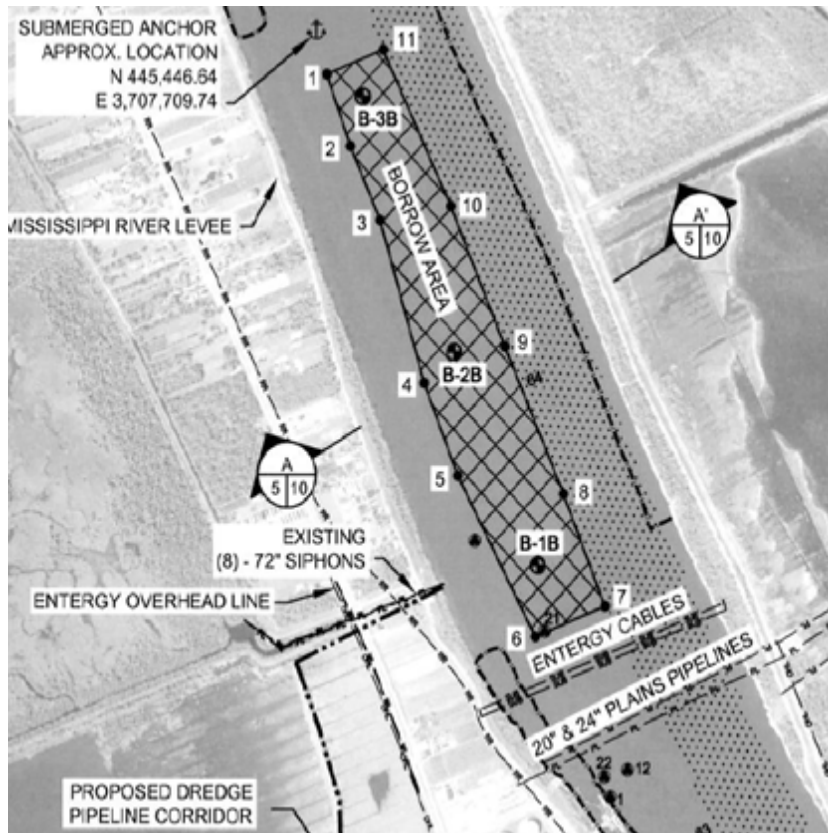
**Barge Tows can go almost anywhere**



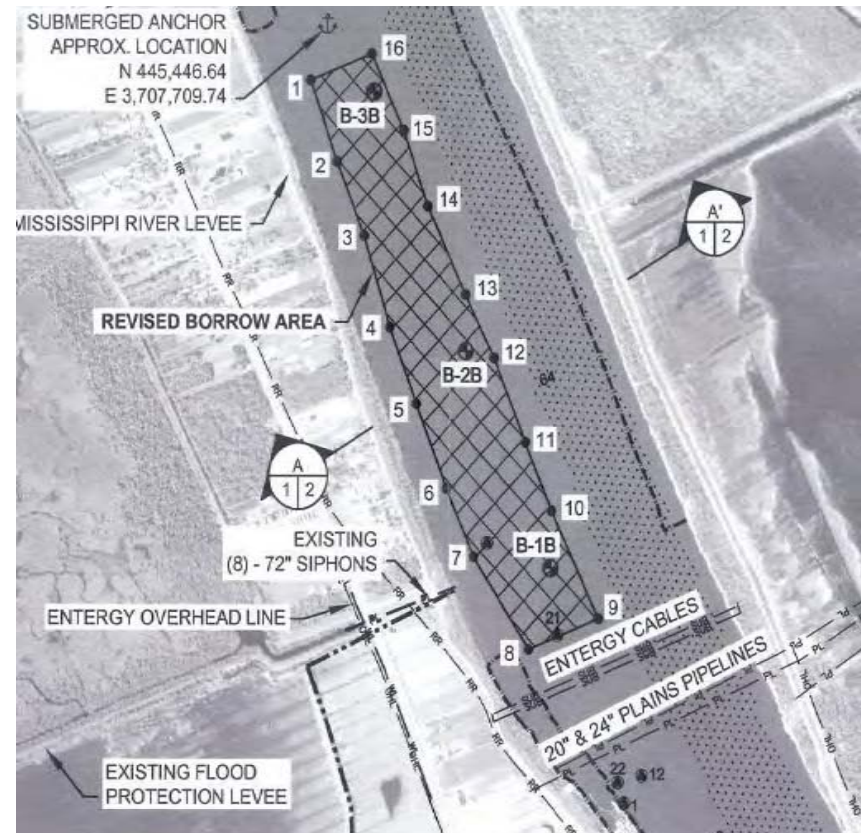


# Safety concerns of the Navigation Industry during high water prompted relocation of the borrow area

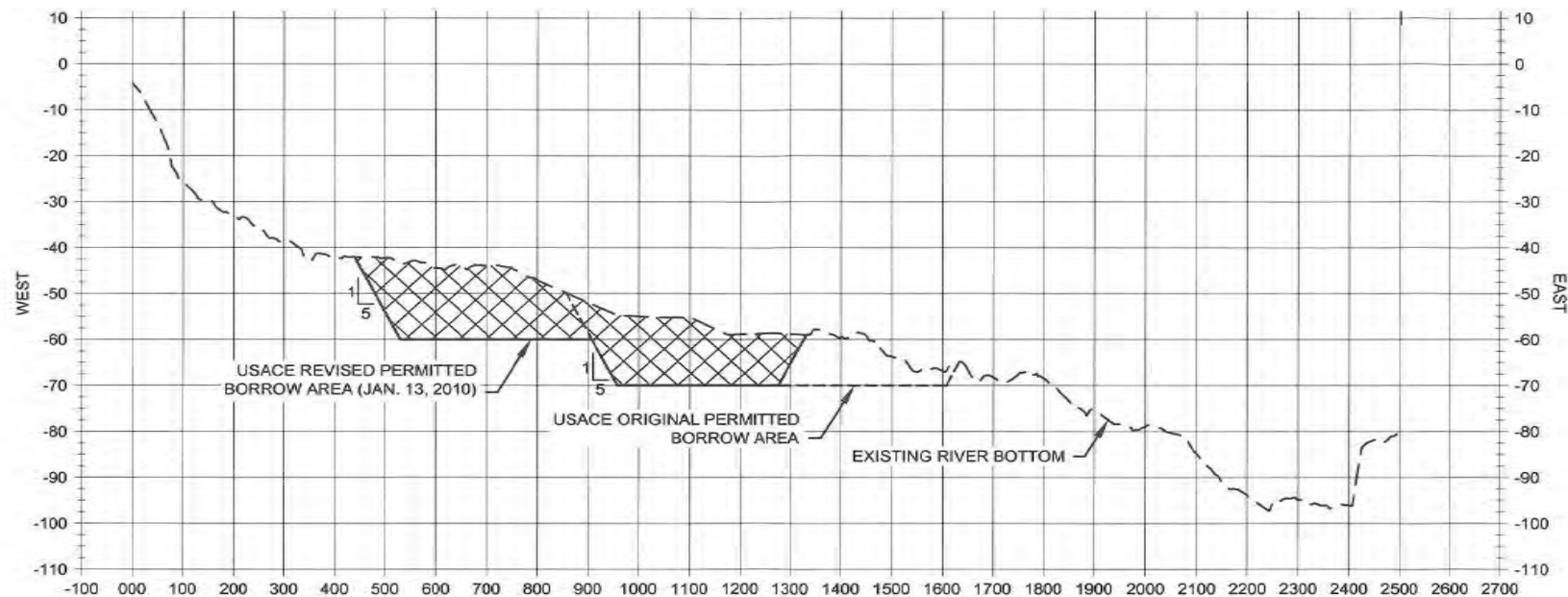
## Original Borrow Area adjacent to channel



## Borrow Area relocated 400' to west bank



# Cross Section showing original and relocated Borrow Area



## SECTION A-A'

REVISED BORROW AREA SECTION TEMPLATE

HORIZONTAL: 1" = 300'

VERTICAL: 1" = 30'

# Dredging Equipment

- Cutter-head Suction Dredge
- Power Generation Barge
- Booster Pump Barge
- Tugboat
- Supply Barge
- Spud Barge
- Survey Vessel
- Anchor Barge
- Skidder Barge
- Derrick



MRGO Closure



PO-33

# DREDGE

42" suction, 36" discharge







## **Dredge Cutterhead and Ladder**

This 100'+/- long ladder was capable of dredging in  
80' of water



# Dredge Powerplant

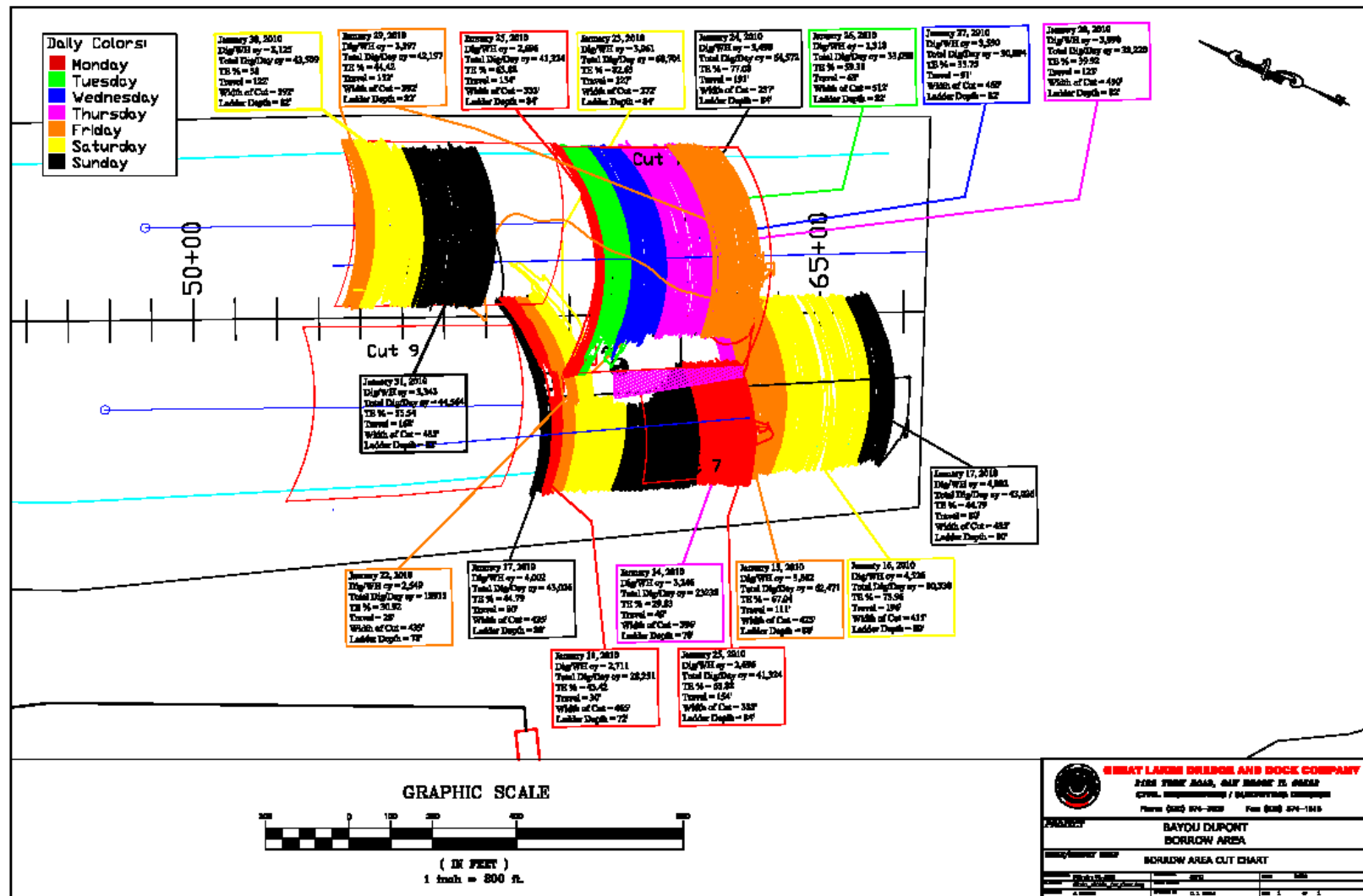
## 6 Generators total 18,000Hp



# BOOSTER PUMP 7,200Hp



# Batmap Record of Cutterhead Location





# Slurry Pipeline

## From Dredge to Fill Area

- 1,800' floating pontoon line
- 5,000' sub-line
- Booster Pump
- Railroad & Highway Crossings
- 14,000' welded joint 30" pipe
- 9,000' flanged joint 30" pipe
- Up to 11,000' stabbed 30" distribution pipe

## Dredge & Floating Pontoon Line





From Booster Pump to Levee





Crushed Stone Road Crossing, Foreground  
Railroad Jack & Bore, Background



48" dia. Casing in Cofferdam





30" dia. Slurry Pipe in 48" dia. Casing





14,000' Welded joint Pipe



9,000' Flanged Joint Pipe



Distribution into Fill Area  
up to 11,000 feet



# Containment

## Marsh Creation Areas 1 & 2

- 25,935 Linear Feet Earthen Containment of which  
3,100 Linear Feet was Open Water Containment Dike

## Increment 2

- 6,241 Linear Feet Earthen Containment of which  
5,500 Linear Feet was Open Water Containment Dike



Building Enhanced Spoil Bank



Building Earthen Containment Dike in  
Open Water





Need a Bigger Buggy



Multiple Distribution Lines Helped Speed  
Filling of Increment 2



Slurry Pipe Discharge in  
Marsh Creation Area





Spreading The Fill



Marsh Creation Area 2 being Filled  
11/16/2009



Marsh Creation Area 2 After Filling  
3/18/2010





Marsh Creation Area 2 After Filling  
6/22/2010

# Marsh Creation Area Including Increment 2

Google Earth image 5/24/10 – 3/5/10







**Marsh Creation Areas 1 & 2**

**484 Acres    \$20,000,000**

**2,237,769 Paid Cubic Yards**

**Increment 2**

**84 Acres    \$4,000,000**

**340,471 Paid Cubic Yards**

**Combined**

**568 Acres    \$24,000,000**

**2,578,240 Paid Cubic Yards**



# Dig (borrow) : Pay (fill)

Total Paid Fill – 2,578,240 Cubic Yards

Available Borrow Required ?

Loss of material over weir, settlement, excess fill elevation, etc.

Contractor estimated dig : pay ratio about 1.44 : 1 in daily reports

$1.44 \times 2,578,240 \text{ CY} = 3,712,666 \text{ CY Required}$

Not all of Borrow Area will be available

- High River
- Obstructions
- River Traffic

## PRE-CONSTRUCTION SURVEY

- Hydrographic – verify available borrow material
- Magnetometer - obstructions



## Dredging Equipment

Cutterhead Suction Dredge

Power Generation Barge

Booster Pump Barge

Tugboat

Supply Barge

Spud Barge

Survey Vessel

Anchor Barge

Skidder Barge

Derrick

## Marsh Creation Equipment

5 – D6 Dozers

2- Marsh Masters

2- Rolligons

1- 330D Excavator

2- 966 End Loader

2- Marsh Buggy Excavators

1- Airboat





??? Questions ???





## New Orleans Region projects

- Shell Island East, 2013
- Dedicated Dredging Barataria Landbridge, 2010
- Goose Point, 2011
- Miss. Riv. Sed. Del. Bayou Dupont, 2010
- Lake Hermitage, almost complete
- LDSP, Bayou Dupont Marsh and Ridge, beginning
- Grand Liard, opening bids today
- Shell Island West, design
- Bayou Dupont Sediment Delivery 3, design
- Bayou Bonfuca, design