Mississippi River Sediment Delivery System
Bayou Dupont BA-39
Construction Phase

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

Coastal Protection and Restoration Authority of Louisiana
United States Environmental Protection Agency
National Oceanic and Atmospheric Administration
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
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
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 x 2,578,240 CY = 3,712,666 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
New Orleans Region projects

– Shell Island East, 2013
– Dedicated Dredging Barataria Landbridge, 2010
– Goose Point, 2011
– 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