

BOH BROS.



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- Since 1909



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I-10 Twin Spans over Lake Pontchartrain

Emergency Repairs



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- Contract overview
 - Lump sum bid with bonus / penalty clause
 - Pre-bid held on September 7, 2005
 - Bid opening September 9, 2005 (51 hours later)
 - Notice to Proceed issued for September 12, 2005



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- Phase I
 - Eastbound bridge
 - 45 calendar days
 - \$10,512,201
- Phase II
 - Westbound bridge
 - 120 calendar days
 - \$18,945,054
- Phase III
 - Maintenance of Acrow bridge
 - 1 year (renewable up to three years)
 - \$1,507,000



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- Existing Site Conditions



- No power, water, food
- Limited access due to debris
- Temporary bunkhouses, onsite trailers
- Hauling in of food and water daily



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- Project overview
 - Phase I
 - Notice to Proceed - September 12, 2005
 - Scheduled Completion - October 27, 2005
 - Bonus / penalty of \$75,000 per day
 - Maximum bonus of \$1.125 million (15 days)



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- Damage to Eastbound bridge
 - 38 spans missing or partially submerged
 - Pilings damaged by falling spans
 - 172 spans out of alignment
 - Ranging from 2'' to 20'
 - Numerous concrete spalls
 - Deck, curb, and pile caps



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- Phase I Repair Procedures
 - Realignment
 - Removal
 - Replacement
 - Screw Jacks and Cap Saddles
 - Helper Bents



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- Phase I Repair Procedures
 - Realignment
 - Jack and Slide
 - Goldhofer trailers
 - Removal
 - Replacement
 - Screw Jacks and Cap Saddles
 - Helper Bents



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- Phase I Repair Procedures
 - Realignment
 - Jack and Slide
 - Used for realignments equal to or less than 5'
 - Jacks placed under the span
 - Teflon slide plates
 - Hydraulic rams on deck to position



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- Phase I Repair Procedures
 - Realignment
 - Goldhofer trailers
 - Used for realignments of all magnitude
 - Multi-directional hydraulic trailers on barge
 - Barge placed under span
 - Span lifted and positioned by trailers



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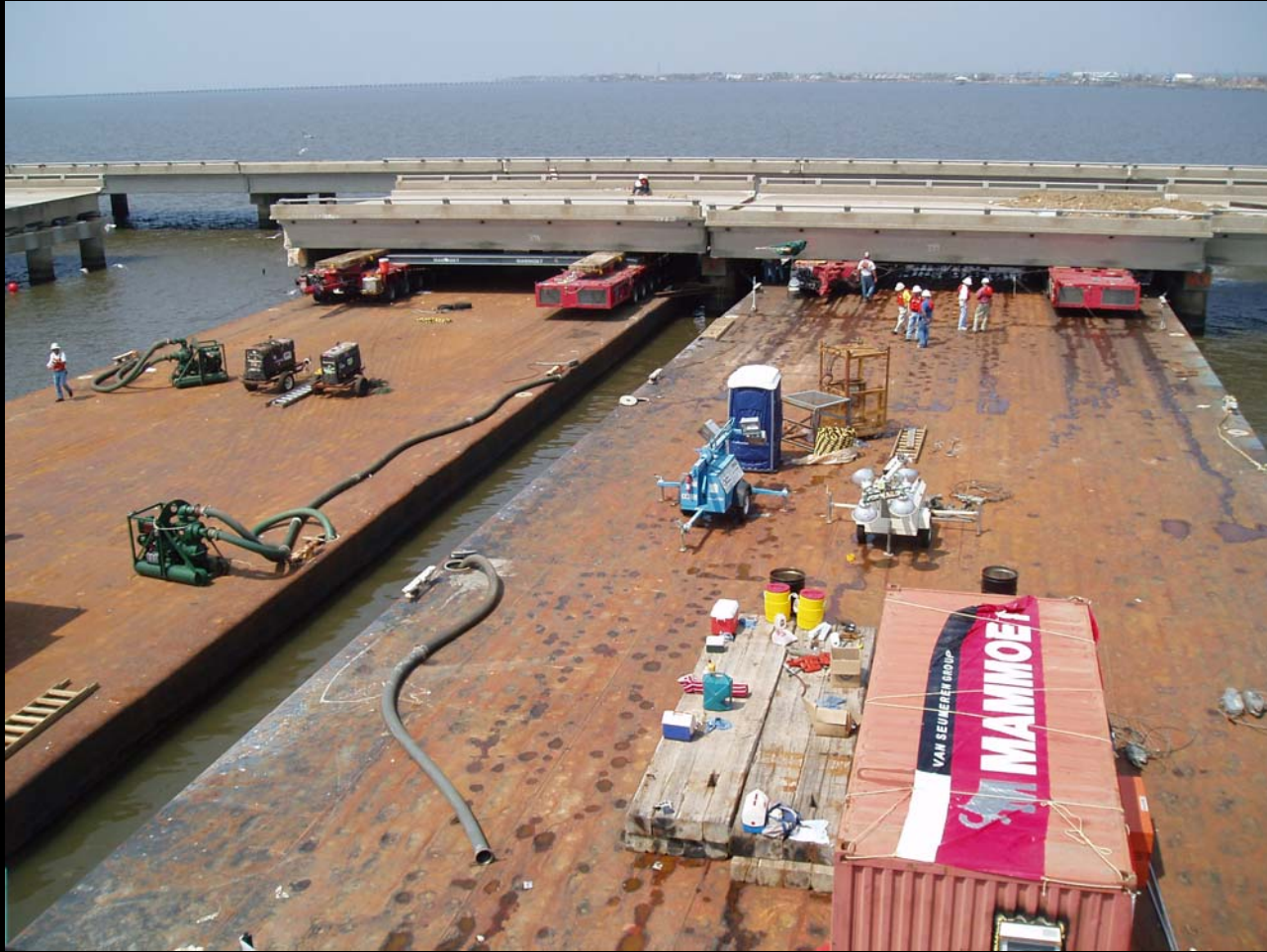
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- Phase I Repair Procedures
 - Realignment
 - Removal
 - 285-ton span units
 - 4600 ringer crane
 - 3.5'' cables
 - Underwater rigging
 - Remove & dispose offsite
 - Replacement
 - Screw Jacks and Cap Saddles
 - Helper Bents



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- Phase I Repair Procedures
 - Realignment
 - Removal
 - Replacement
 - Goldhofer trailers mounted on barges
 - Spans taken from westbound bridge
 - Transported to and placed on eastbound bridge
 - Screw Jacks and Cap Saddles
 - Helper Bents



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- Phase I Repair Procedures
 - Realignment
 - Removal
 - Replacement
 - Screw Jacks and Cap Saddles
 - Used to transfer load away from damaged girder ends
 - Screw jacks transfer vertical load to diaphragms
 - Cap Saddles transfer load into the girder
 - Helper Bents



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- Phase I Repair Procedures
 - Realignment
 - Removal
 - Replacement
 - Screw Jacks and Cap Saddles
 - Helper Bents
 - Used where girder ends were severely damaged
 - Transfer point of bearing into girder
 - Steel piles driven to support helper beam under girders



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- Project overview
 - Phase II
 - Notice to Proceed - September 12, 2005
 - Scheduled completion - January 14, 2005
 - Actual completion - January 6, 2005



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- Damage to Westbound bridge
 - 20 spans missing or partially submerged
 - Pilings damaged by falling spans
 - Replacement of two bents
 - 265 spans out of alignment
 - Ranging from 2'' to 20'
 - Numerous concrete spalls
 - Deck, curb, and pile caps



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- Phase II Repair Procedures
 - Realignment
 - Removal
 - Replacement
 - Screw Jacks and Cap Saddles
 - Helper Bents
 - Replacement Bents
 - Acrow Bridge



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- Phase II Repair Procedures
 - Realignment
 - Removal
 - Replacement
 - Screw Jacks and Cap Saddles
 - Helper Bents
 - Replacement Bents
 - Used where bent was destroyed or missing
 - Steel piles and beams placed to support deck
 - Acrow Bridge



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- Phase II Repair Procedures
 - Realignment
 - Removal
 - Replacement
 - Screw Jacks and Cap Saddles
 - Helper Bents
 - Replacement Bents
 - Acrow Bridge
 - Temporary metal truss bridge
 - Used to fill voids where spans were removed
 - Two Acrow spans - 780' and 3320'



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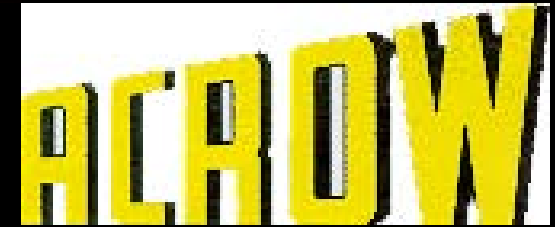
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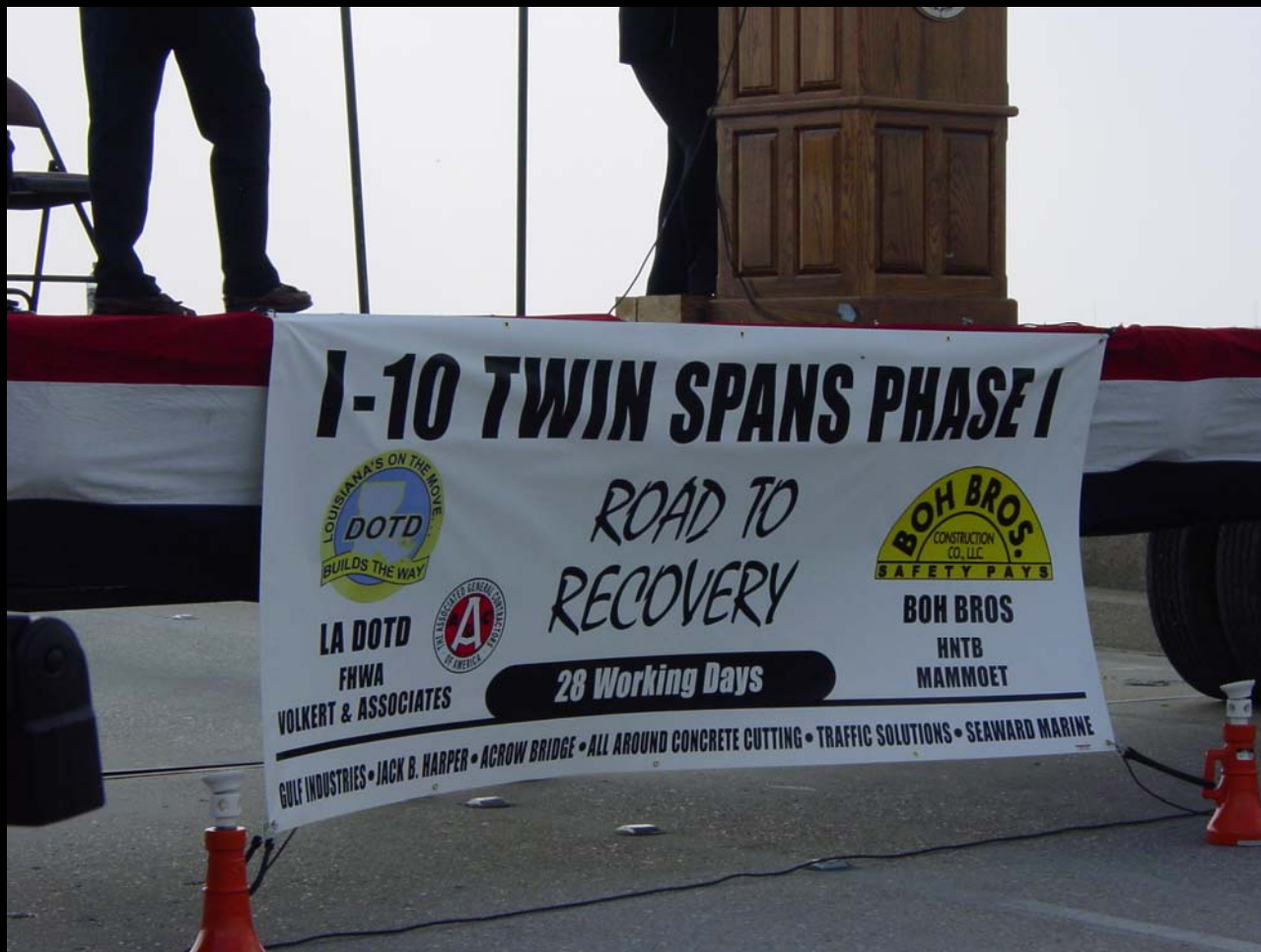
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- Project overview
 - Phase III
 - Maintenance of Acrow Bridge
 - Daily inspections
 - Maximum of three years





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