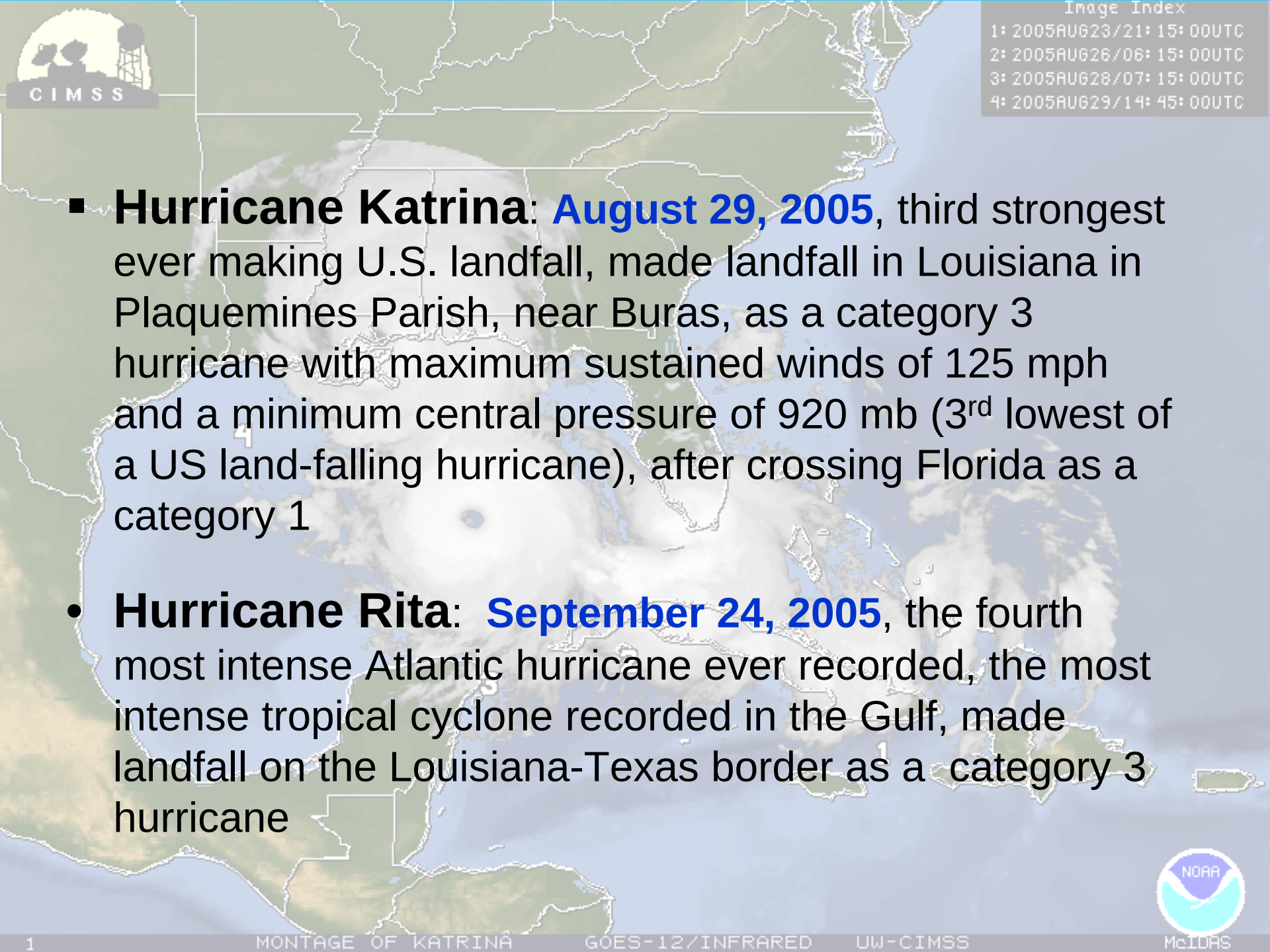
I-10 TWIN SPANS REPAIR

GILL GAUTREAU
DOTD BRIDGE MAINTENANCE ENGINEER



- **Hurricane Katrina**: **August 29, 2005**, third strongest ever making U.S. landfall, made landfall in Louisiana in Plaquemines Parish, near Buras, as a category 3 hurricane with maximum sustained winds of 125 mph and a minimum central pressure of 920 mb (3rd lowest of a US land-falling hurricane), after crossing Florida as a category 1

- **Hurricane Rita**: **September 24, 2005**, the fourth most intense Atlantic hurricane ever recorded, the most intense tropical cyclone recorded in the Gulf, made landfall on the Louisiana-Texas border as a category 3 hurricane

Hurricane Katrina

- **“*the most destructive hurricane to ever strike the U.S.*”**

NOAA

- Much work is being done to provide safety from hurricanes to south Louisiana.
- A question often asked is why do so many people live here?

Why do we live where we do?

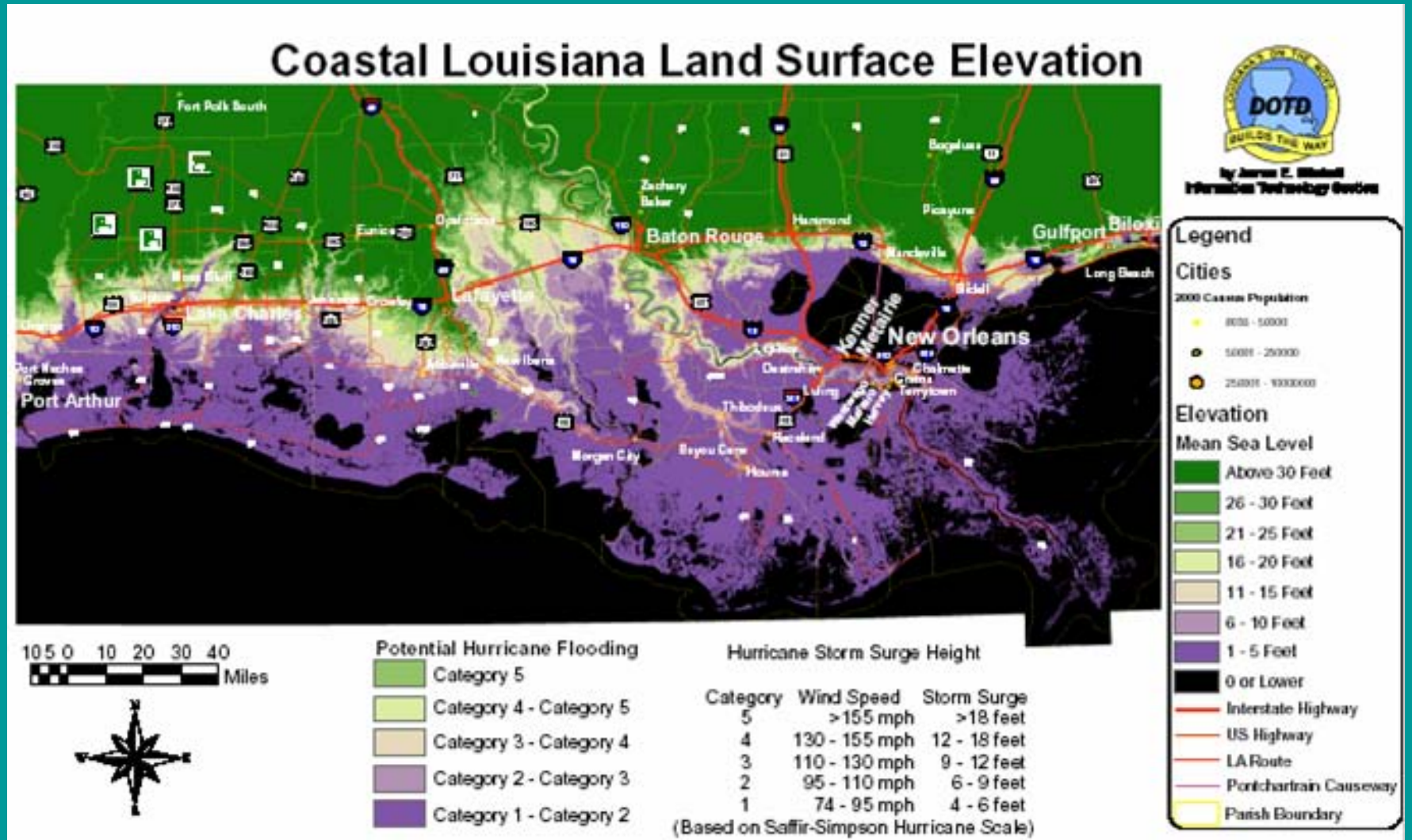
Louisiana's Economy is Concentrated in the Southern Region of the State

- 73.5 % of state employment
- Almost 60% of oil and gas employment
- 77% of construction employment
- 67% of all manufacturing employment in the state.

Every major river must have a port city near where it meets the sea.

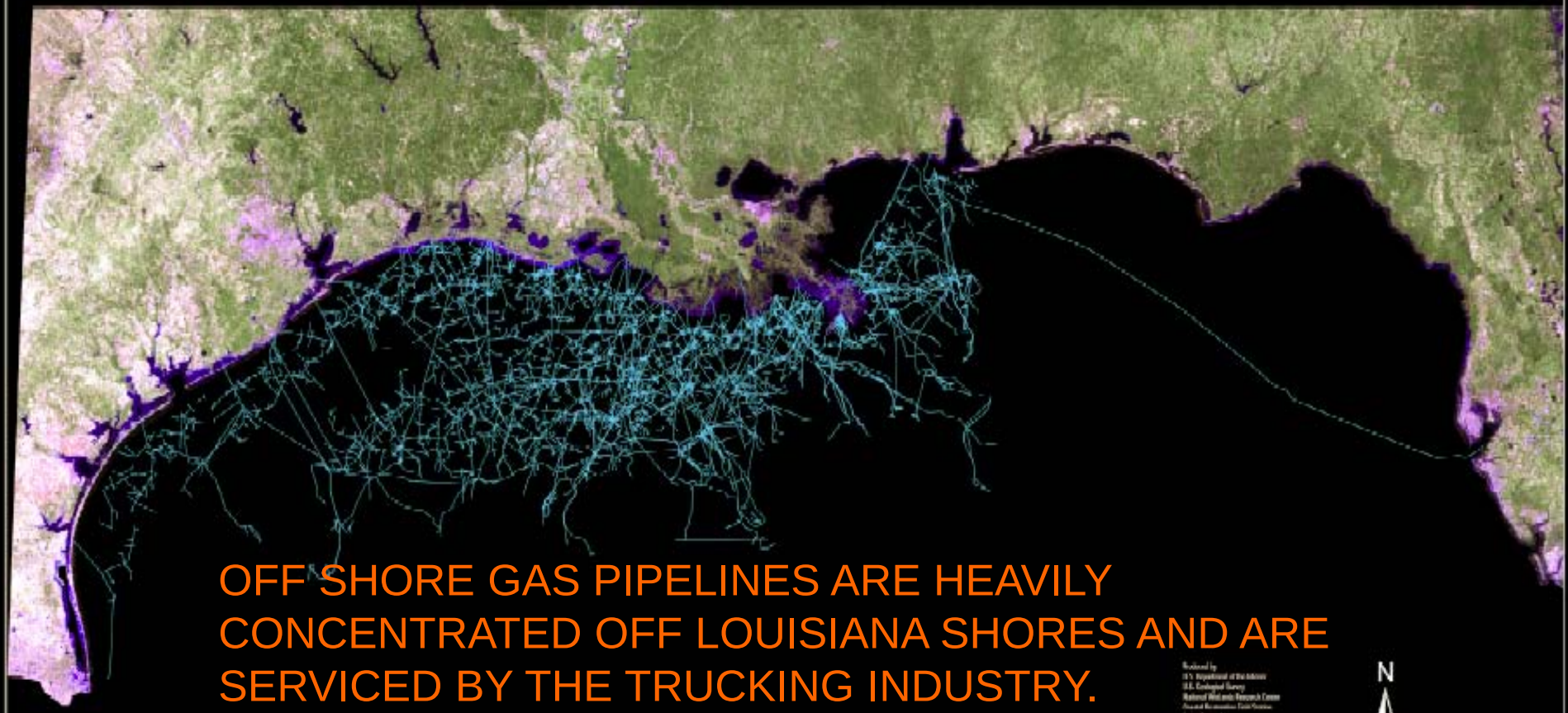
POPULATED AREA?

- Over 65% of the population of Louisiana lives within 50 miles of the coast (over 2 million according to 2000 census)



USGS
science for a changing world
National Wetlands Research Center

Offshore Oil and Gas Pipelines in the Gulf of Mexico



OFF SHORE GAS PIPELINES ARE HEAVILY CONCENTRATED OFF LOUISIANA SHORES AND ARE SERVICED BY THE TRUCKING INDUSTRY.

Pipelines and Flowlines

N

Commerce and Trade

"The hurricane also disrupted operations at the Port of South Louisiana and the Port of New Orleans…….

Together, these ports account for $150 billion and 20 percent of U.S. import/export cargo traffic annually"

Department of Commerce Service Assessment, NOAA, *Hurricane Katrina August 23-31, 2005*

photo LA DOTD

Commerce and Trade

Tonnage for Selected U.S. Ports in 2004

Sorted by Port Tons

Rank	Port Name	Total	Domestic	Foreign	Imports	Exports
1	South Louisiana, LA, Port of	224,187,322	119,416,519	104,770,803	40,087,413	64,683,390
2	Houston, TX	202,047,327	64,510,816	137,536,511	97,713,314	39,823,197
3	New York, NY and NJ	152,377,503	70,177,949	82,199,554	70,748,666	11,450,888
4	Beaumont, TX	91,697,948	20,823,732	70,874,216	65,315,960	5,558,256
5	Long Beach, CA	80,066,130	17,550,722	62,515,408	44,619,556	17,895,852
6	Corpus Christi, TX	78,924,757	25,129,700	53,795,057	44,989,804	8,805,253
7	New Orleans, LA	78,086,209	37,662,499	40,422,710	24,134,664	16,288,046
8	Huntington - Tristate	77,307,514	77,307,514	0	0	0
9	Texas City, TX	68,282,902	17,477,116	50,805,786	46,384,689	4,421,097
10	Baton Rouge, LA	57,082,823	35,143,834	21,938,989	18,156,227	3,782,762
11	Mobile, AL	56,211,796	26,893,791	29,318,005	19,916,120	9,401,885
12	Lake Charles, LA	54,768,322	23,075,344	31,692,978	27,036,374	4,656,604
13	Plaquemines, LA, Port of	54,404,720	36,710,431	17,694,289	9,307,882	8,386,407
14	Los Angeles, CA	51,931,730	8,059,878	43,871,852	32,420,155	11,451,697
15	Tampa, FL	48,289,134	29,684,171	18,604,963	9,550,970	9,053,993

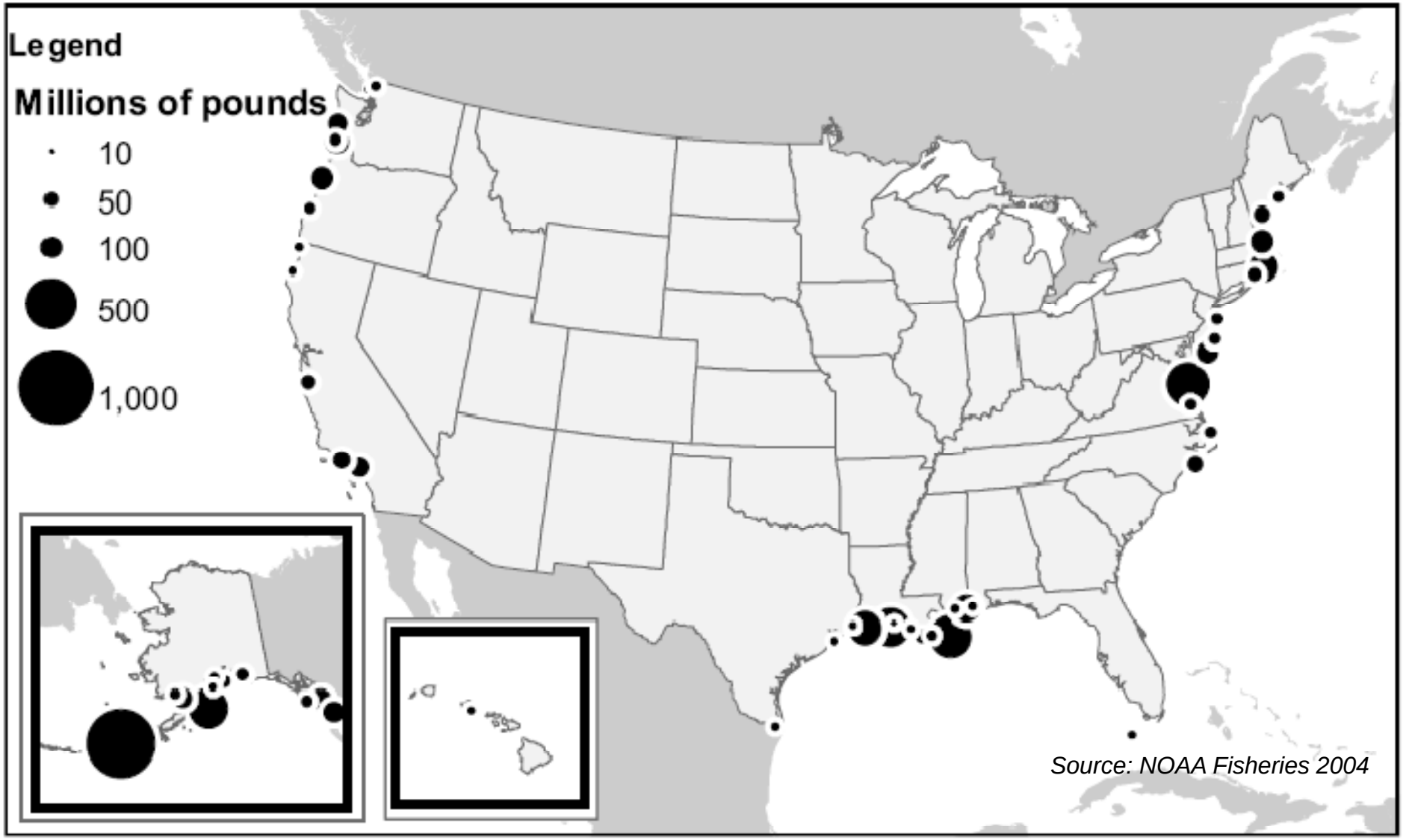
US Army Corps of Engineers Navigation Data Center

Louisiana's Coastal Harvest is More than Oil, Gas and Seafood

- Sugar Cane
- Rice
- Soybeans
- Cotton
- Cattle
- Citrus
- Timber
- Crawfish
- Alligator

photo courtesy La Dept. Agriculture & Forestry and others

Commercial Fishery Landings at Major U.S. Ports 2004



LOUISIANA RANKS VERY HIGH IN COMMERCIAL FISHERY LANDINGS IN THE UNITED STATES

Louisiana cattle ranching has a $1/2 billion annual value

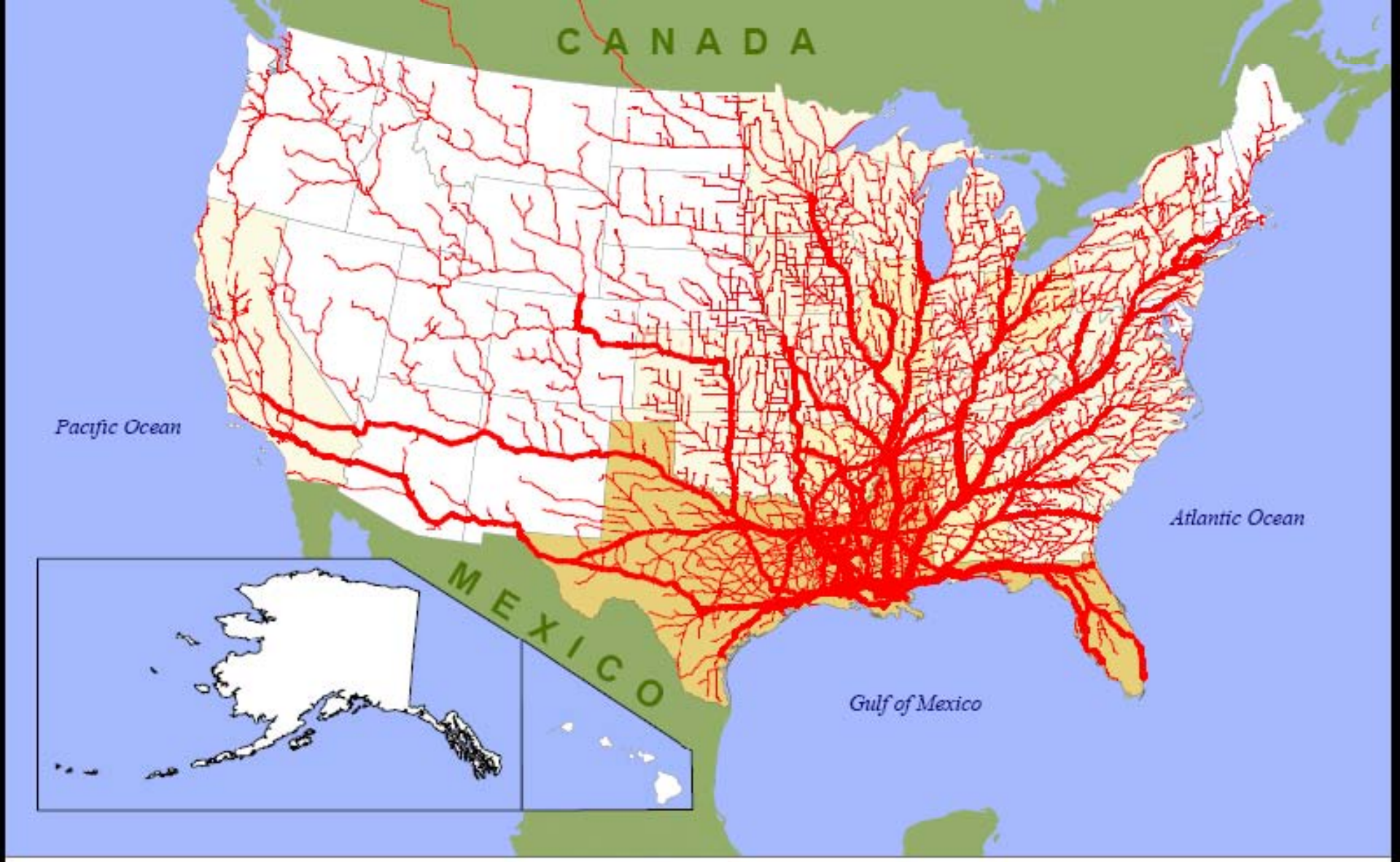
"*Modern scholarship places the birth of the Texas ranching industry in the southeast Texas-southwestern Louisiana area, from where cattle raisers drove herds to market in New Orleans*."

Texas State Historical Association

photos courtesy La Dept. Agriculture & Forestry and others

LOUISIANA HIGHWAYS CARRY A LARGE VOLUME OF TRUCKS

photo LA DOTD



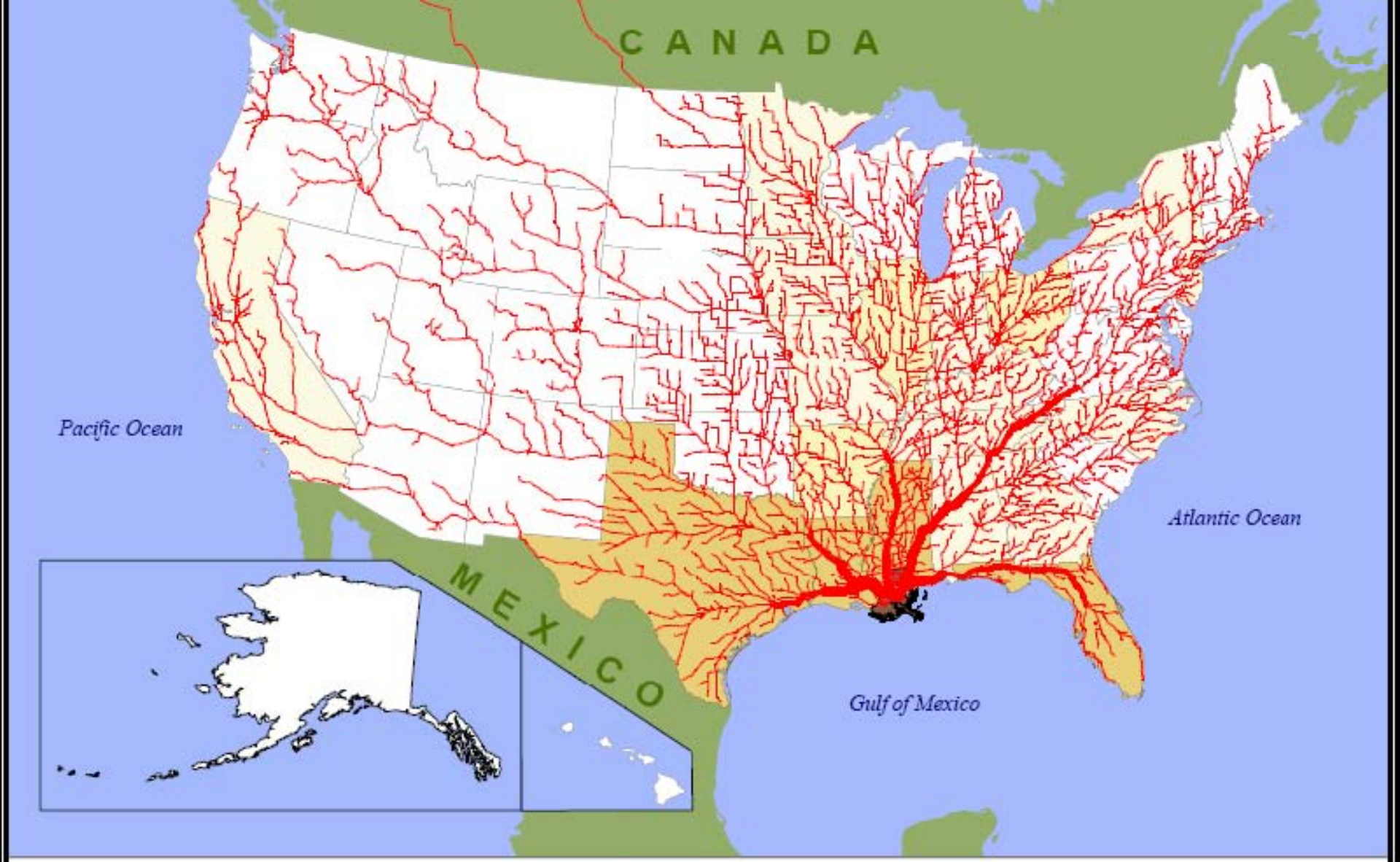
U.S. Department of Transportation
Federal Highway Administration
Office of Freight Managemen: and Operations
Freight Analysis Framework

Total Combined Truck Flows
(1998)

LOUISIANA

Network Flows
(Tons)
- 0 - 500,000
- 500,000 - 1,000,000
- 1,000,000 - 10,000,000
- 10,000,000 - 50,000,000
- More Than 50,000,000

State to State Flows
(Tons)
- 0 - 1,000,000
- 1,000,000 - 5,000,000
- 5,000,000 - 10,000,000
- More Than 10,000,000



U.S. Department of Transportation
Federal Highway Administration
Office of Freight Management and Operations
Freight Analysis Framework

Total Combined Truck Flows
(1998)

NEW ORLEANS

Network Flows
(Tons)
- 0 - 2,000,000
- 2,000,000 - 5,000,000
- 5,000,000 - 10,000,000
- 10,000,000 - 25,000,000
- More Than 25,000,000

BEA to State Flows
(Tons)
- 0 - 1,000,000
- 1,000,000 - 3,000,000
- 3,000,000 - 9,000,000
- More Than 9,000,000

U.S. Department of Transportation
Federal Highway Administration
Office of Freight Management and Operations
Freight Analysis Framework

Total Combined Truck Flows
(1998)

NEW YORK

Network Flows
(Tons)
- 0 - 2,000,000
- 2,000,000 - 5,000,000
- 5,000,000 - 10,000,000
- 10,000,000 - 25,000,000
- More Than 25,000,000

BEA to State Flows
(Tons)
- 0 - 1,000,000
- 1,000,000 - 3,000,000
- 3,000,000 - 9,000,000
- More Than 9,000,000

U.S. Department of Transportation
Federal Highway Administration
Office of Freight Management and Operations
Freight Analysis Framework

Total Combined Truck Flows
(1998)

HOUSTON

Network Flows
(Tons)
- 0 - 2,000,000
- 2,000,000 - 5,000,000
- 5,000,000 - 10,000,000
- 10,000,000 - 25,000,000
- More Than 25,000,000

BEA to State Flows
(Tons)
- 0 - 1,000,000
- 1,000,000 - 3,000,000
- 3,000,000 - 9,000,000
- More Than 9,000,000

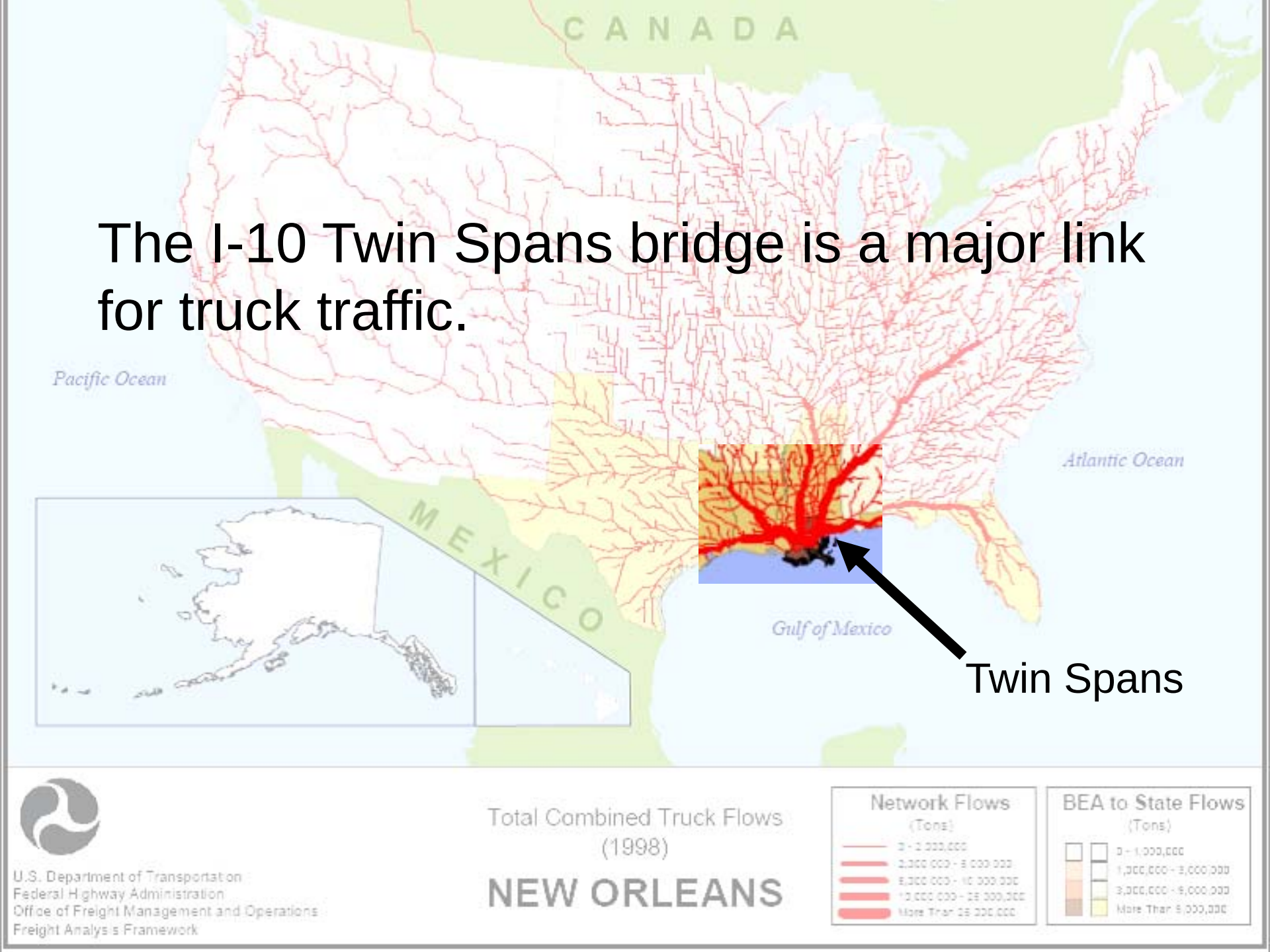
U.S. Department of Transportation
Federal Highway Administration
Office of Freight Management and Operations
Freight Analysis Framework

Total Combined Truck Flows
(1998)

LOS ANGELES

Network Flows
(Tons)
- 0 - 2,000,000
- 2,000,000 - 5,000,000
- 5,000,000 - 10,000,000
- 10,000,000 - 25,000,000
- More Than 25,000,000

BEA to State Flows
(Tons)
- 0 - 1,000,000
- 1,000,000 - 3,000,000
- 3,000,000 - 9,000,000
- More Than 9,000,000


The I-10 Twin Spans bridge is a major link for truck traffic.
CANADA
Pacific Ocean
Atlantic Ocean
MEXICO
Gulf of Mexico
Twin Spans
U.S. Department of Transportation
Federal Highway Administration
Office of Freight Management and Operations
Freight Analysis Framework
Total Combined Truck Flows
(1998)
NEW ORLEANS
Network Flows
(Tons)
BEA to State Flows
(Tons)

I-10 TWIN SPANS REPAIR

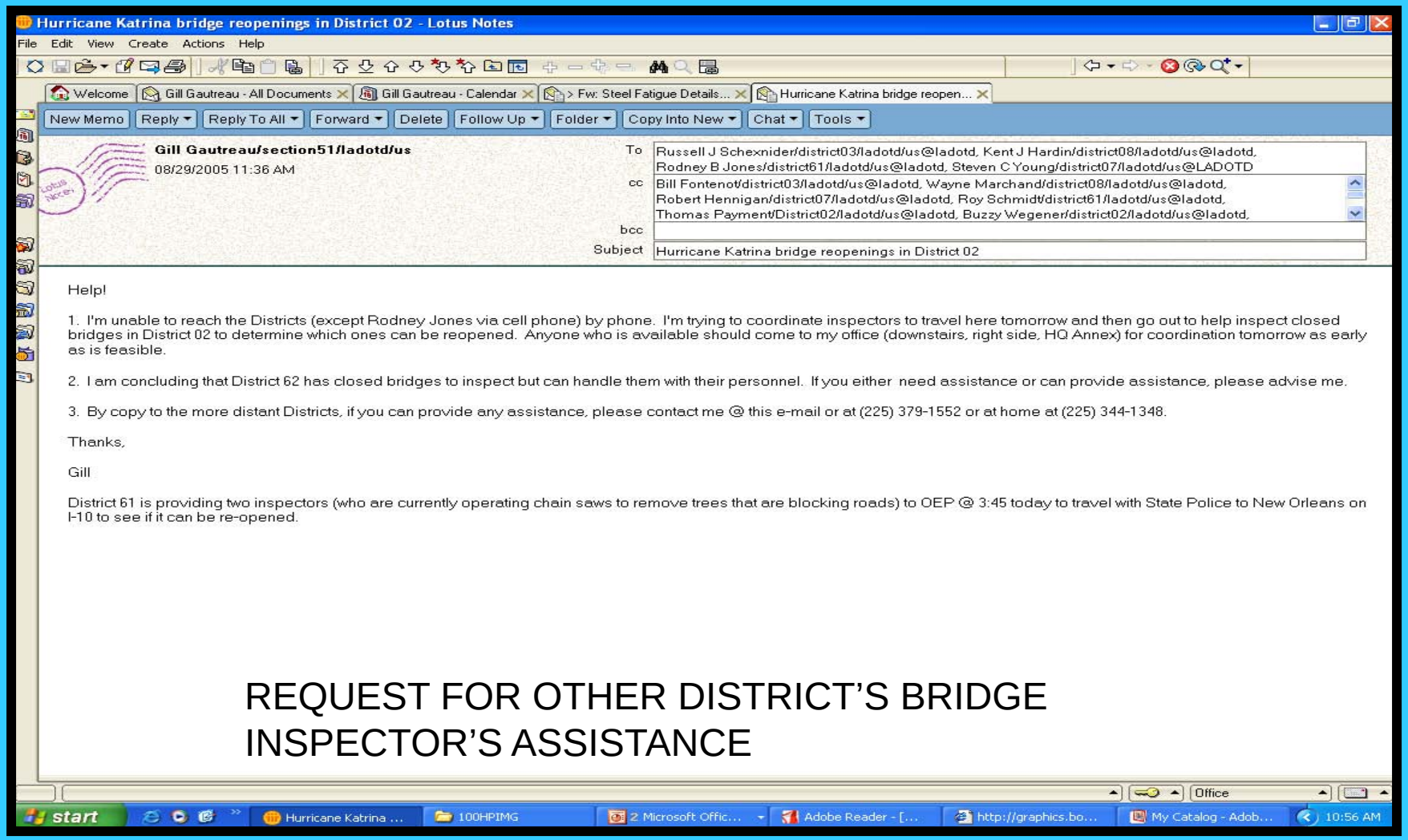
- BEFORE THE STORM
  - PREPARATIONS FOR INSPECTIONS
    - FLYOVERS
      - » HEADQUARTERS & DISTIRCT MAINTENANCE ENGINEERS

I-10 TWIN SPANS REPAIR

- PRE-STORM PREPARATIONS
  - ARRANGE FLYOVERS
    - » HQ & DISTIRCT MAINTENANCE ENGINEERS
    - » HQ DESIGN AND MAINTENANCE ENGINEERS AND FHWA ENGINEERS

I-10 TWIN SPANS REPAIR

PRE-STORM PREPARATIONS



REQUEST FOR OTHER DISTRICT'S BRIDGE INSPECTOR'S ASSISTANCE

I-10 TWIN SPANS REPAIR

- THE DAY AFTER THE STORM
  - HELICOPTER OVERVIEW OF THE DAMAGE
    - FLEW FROM THE HAMMOND AIRPORT EARLY a.m.
    - SURVEYED
      - THE NORTH SHORE TO MISSISSIPPI
      - US 11 BRIDGE
      - I-10 TWIN SPANS
      - RIGOLETES BRIDGE
      - CHEF MENTEUR PASS BRIDGE
      - NEW ORLEANS EAST
      - SOUTH SHORE
      - METAIRE
      - DOWNTOWN
      - ST BERNARD
      - LULING
      - I-55

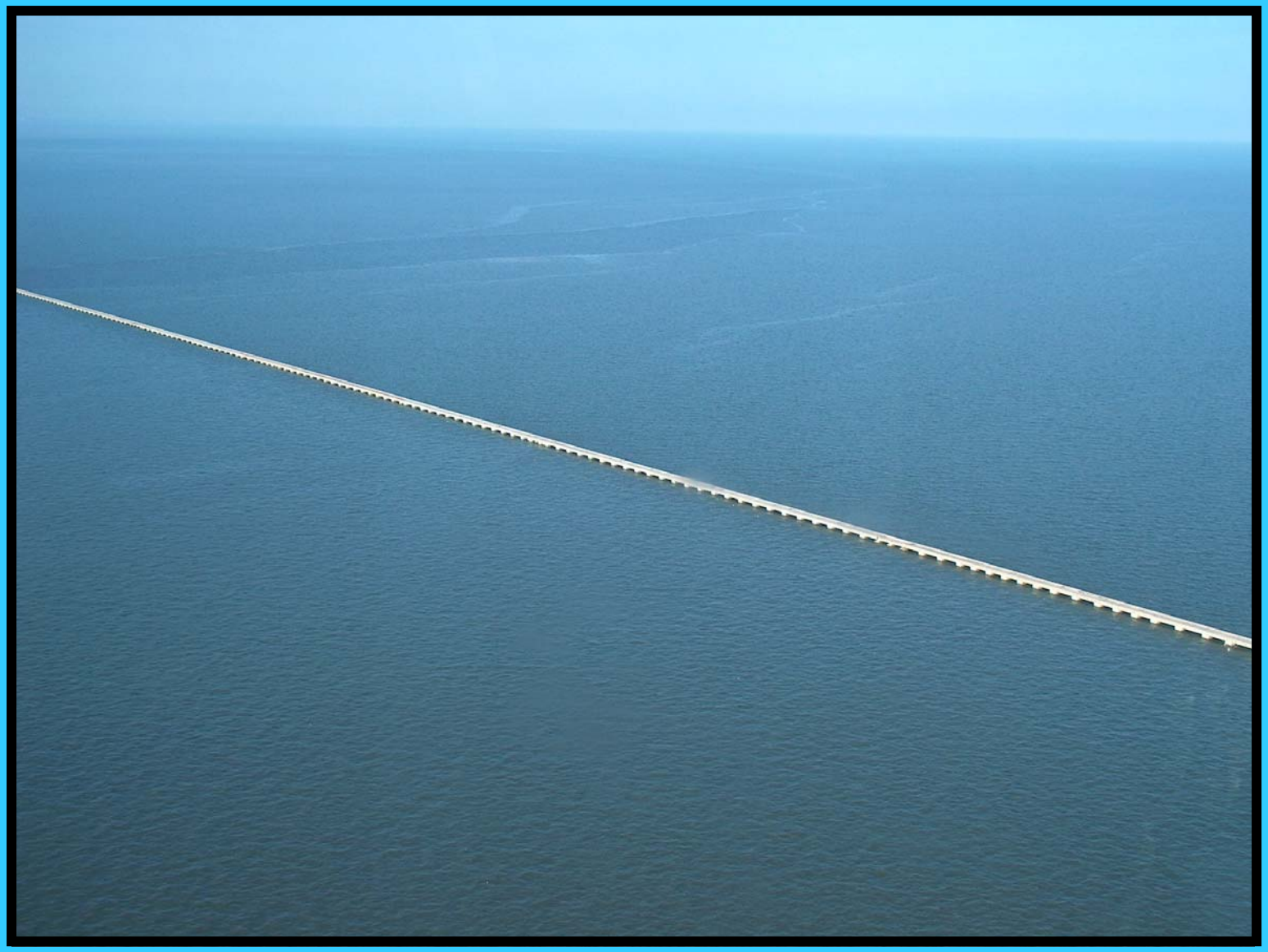
I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE

THE NORTH SHORE US 11 BRIDGE

I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE



THE NORTH SHORE R.R. BRIDGE

I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE

THE NORTH SHORE. TWIN SPAN BRIDGE IN BACKGROUND

I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE

THE NORTH SHORE. TWIN SPAN, US 11 & RR BRIDGES IN BACKGROUND

I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE

THE NORTH SHORE. APPLIANCES & RESIDENCES DEBRIS

I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE

US 90 PEARL RIVER BRIDGE

I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE

THE NORTH SHORE. RIGOLETES BRIDGE

I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE

THE NORTH SHORE. RIGOLETES BRIDGE

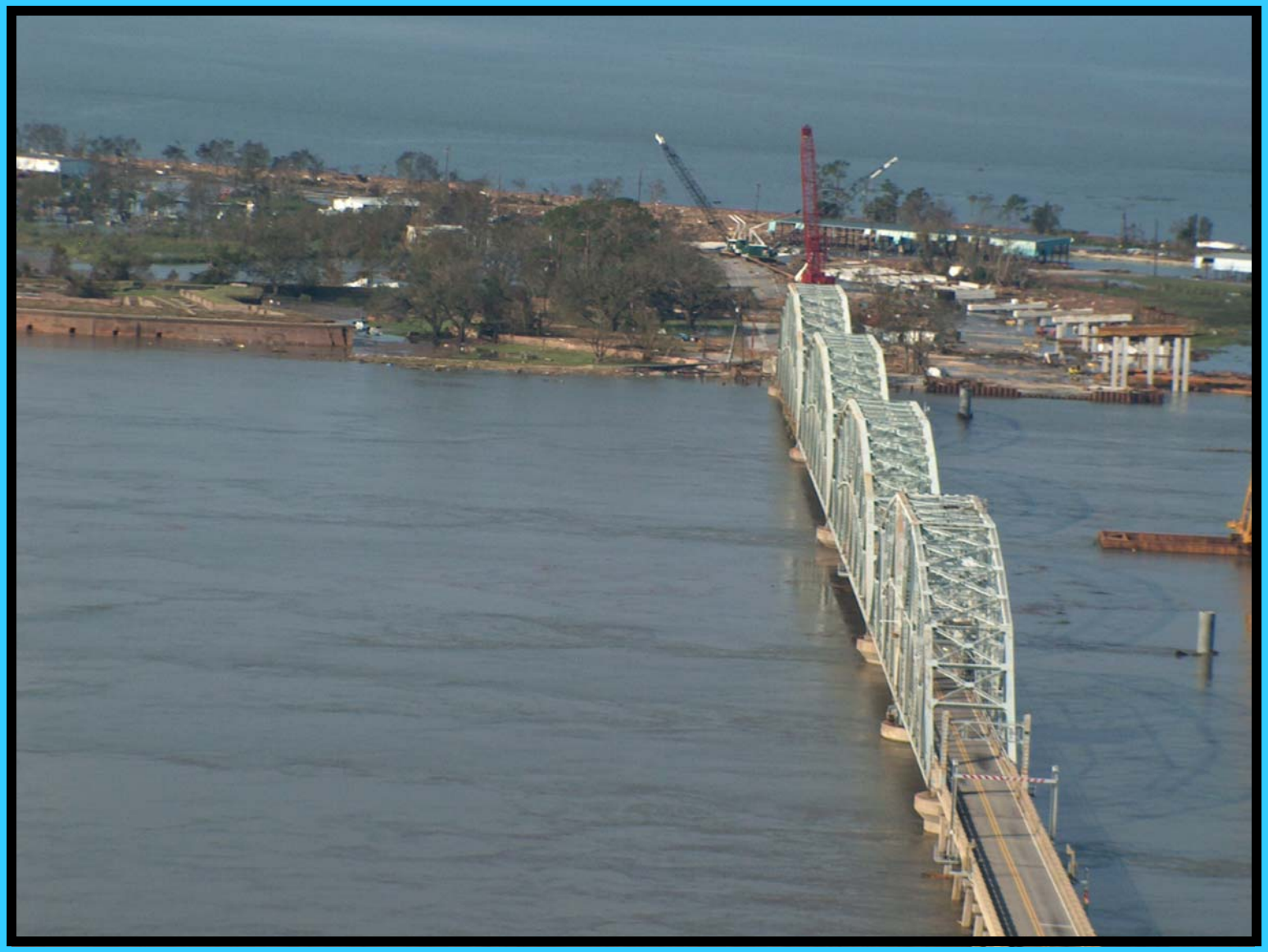
I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE

THE NORTH SHORE. RIGOLETES BRIDGE

I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE



THE NORTH SHORE. RIGOLETES BRIDGE

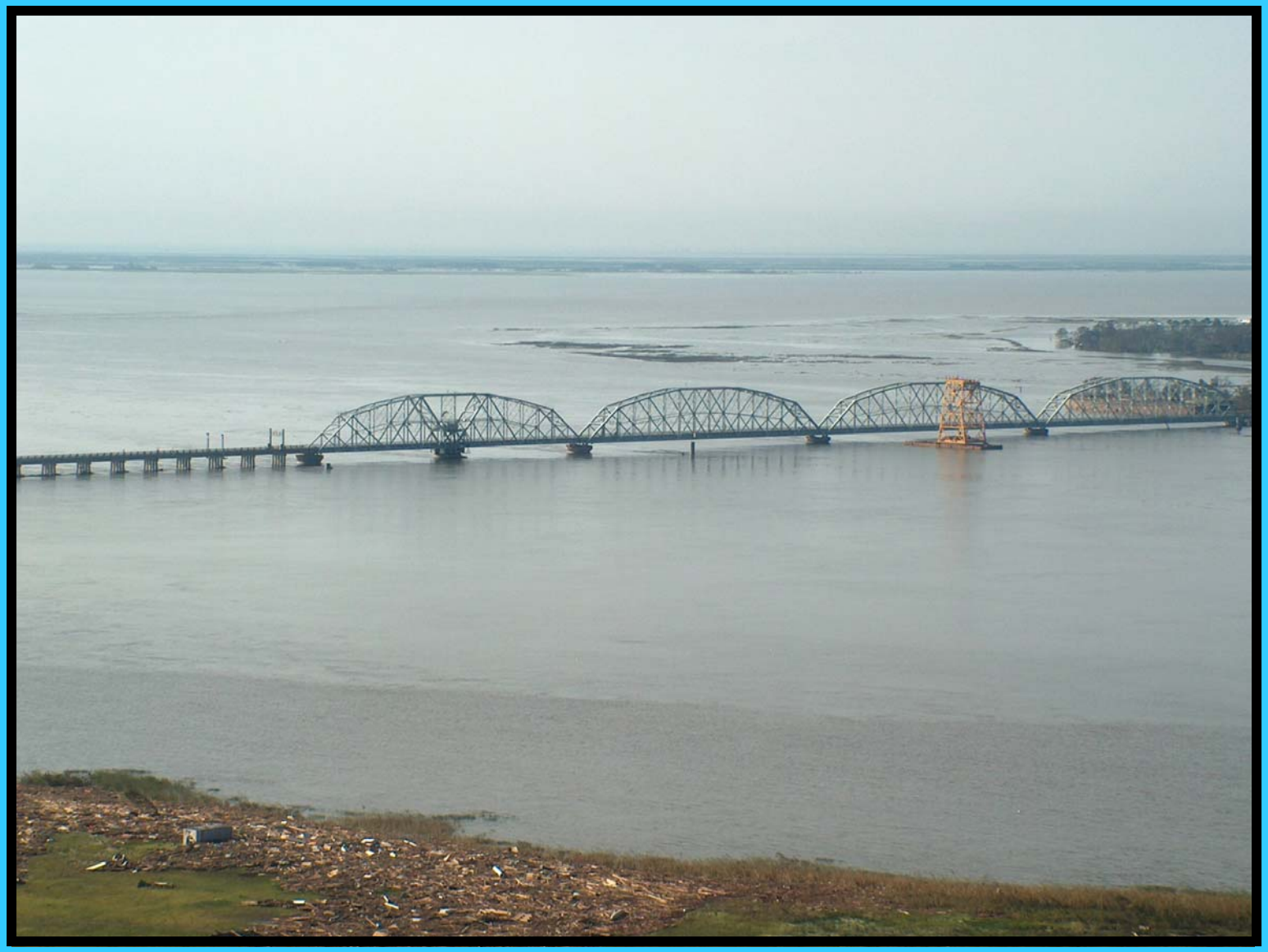
I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE

THE NORTH SHORE. RIGOLETES BRIDGE

I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE



THE NORTH SHORE. RIGOLETES BRIDGE

I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE

THE NORTH SHORE. BETWEEN RIGOLETES & CHEF BRIDGES

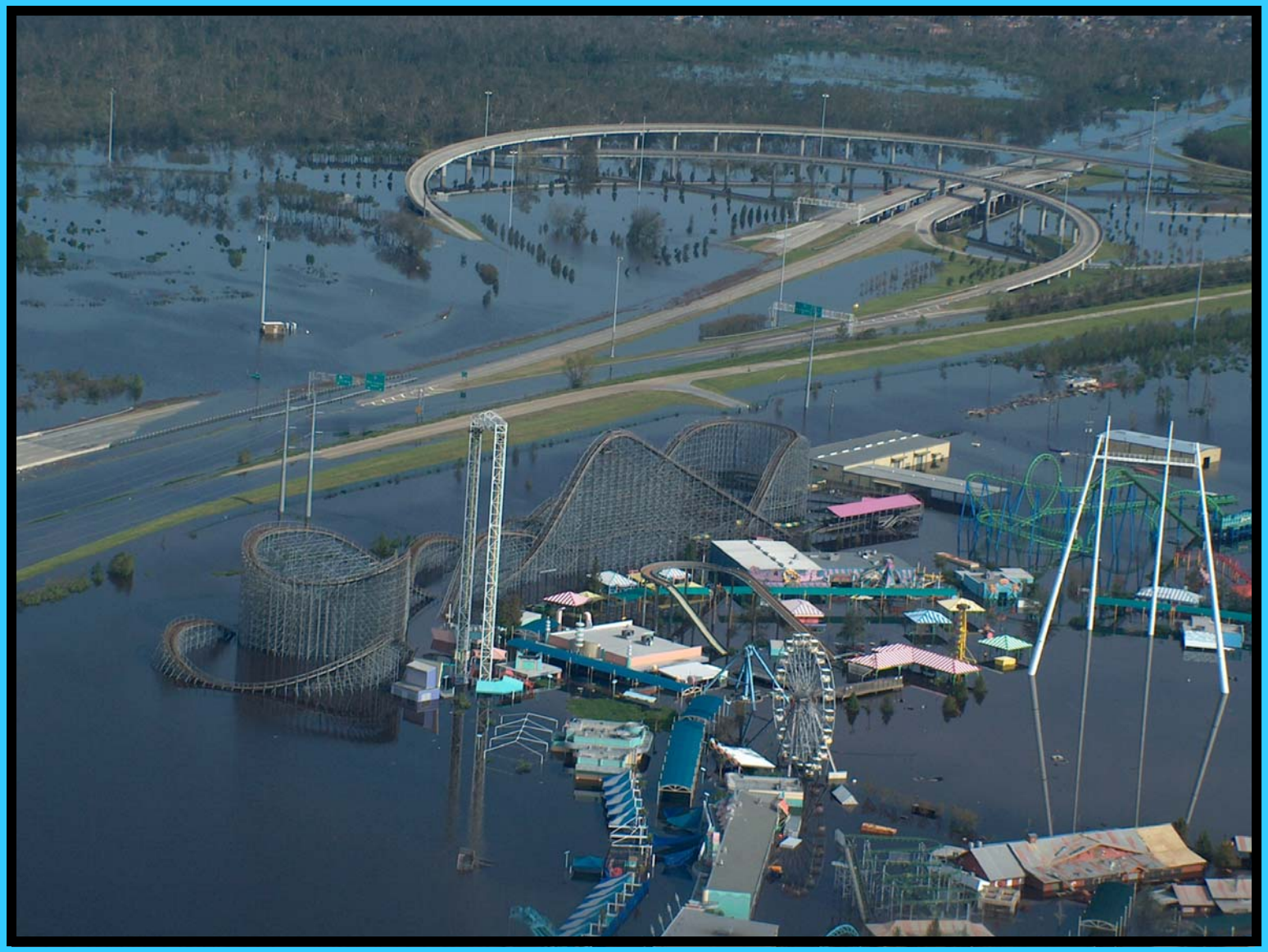
I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE

THE NORTH SHORE. CHEF BRIDGE

I-10 TWIN SPANS REPAIR

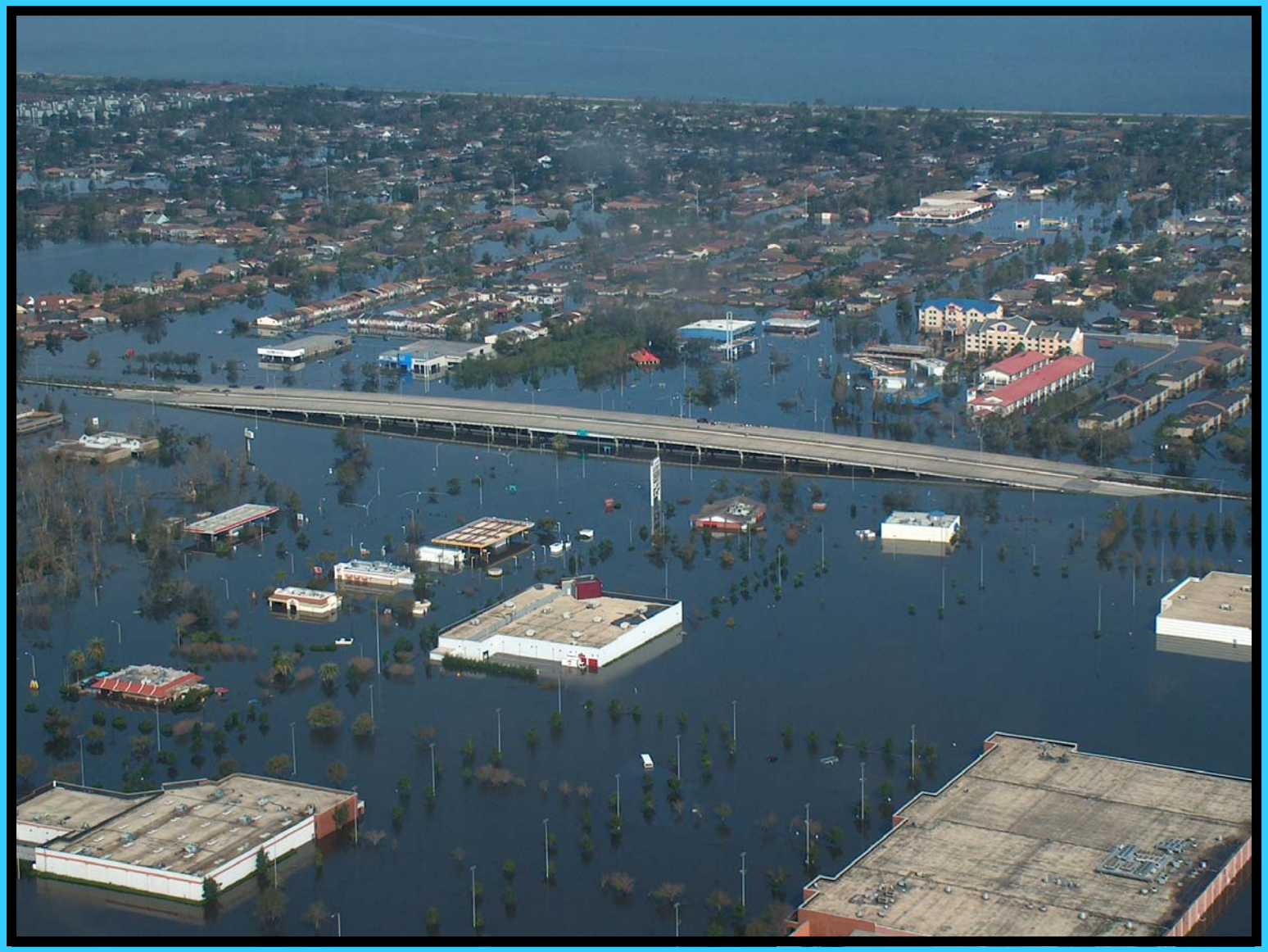
THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE



NEW ORLEANS EAST - JAZZLAND

I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE



NEW ORLEANS EAST

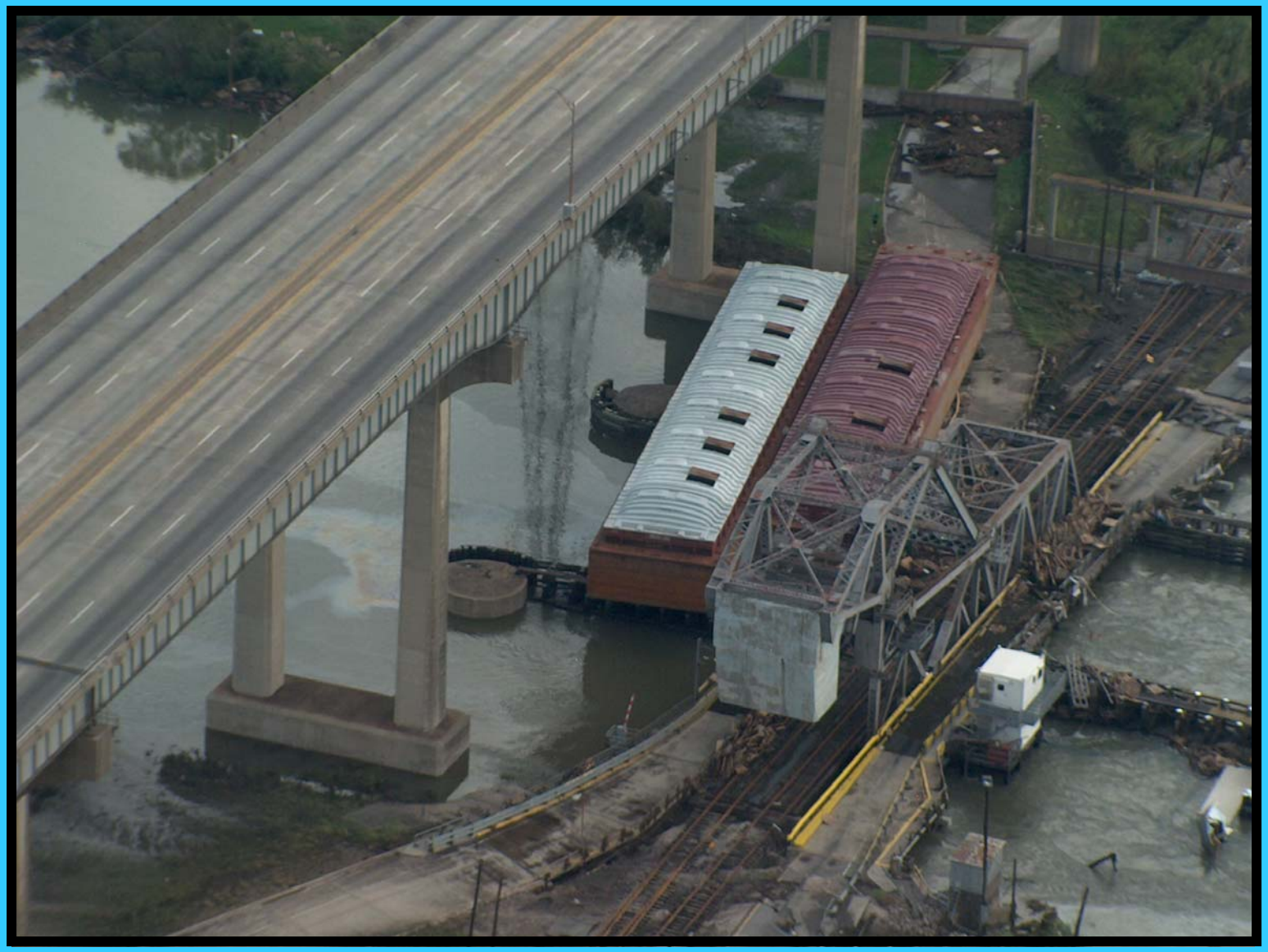
I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE

NEW ORLEANS LAKEFRONT AIRPORT

I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE



I-10 ‘HIGHRISE’ & L&N RAILROAD

I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE

RESIDENTIAL FLOODING

I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE

CANAL & PUMPING STATION

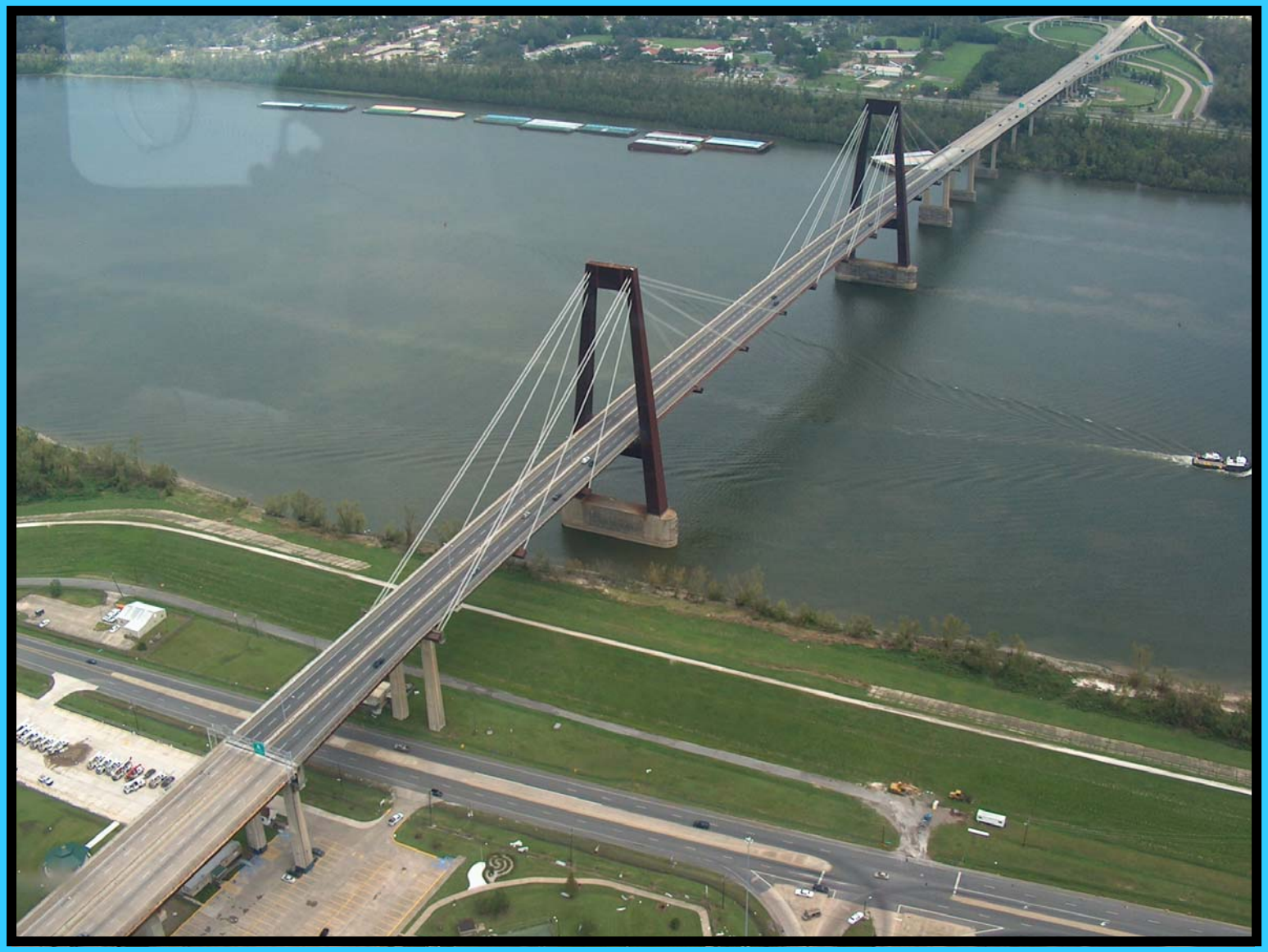
I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE

I-10 AND I-310 INTERCHANGE

I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE



LULING BRIDGE

I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE

RAILROAD ALONG I-10 TOWARDS LAPLACE

I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE

US 90 MISSISSIPPI RIVER BRIDGES

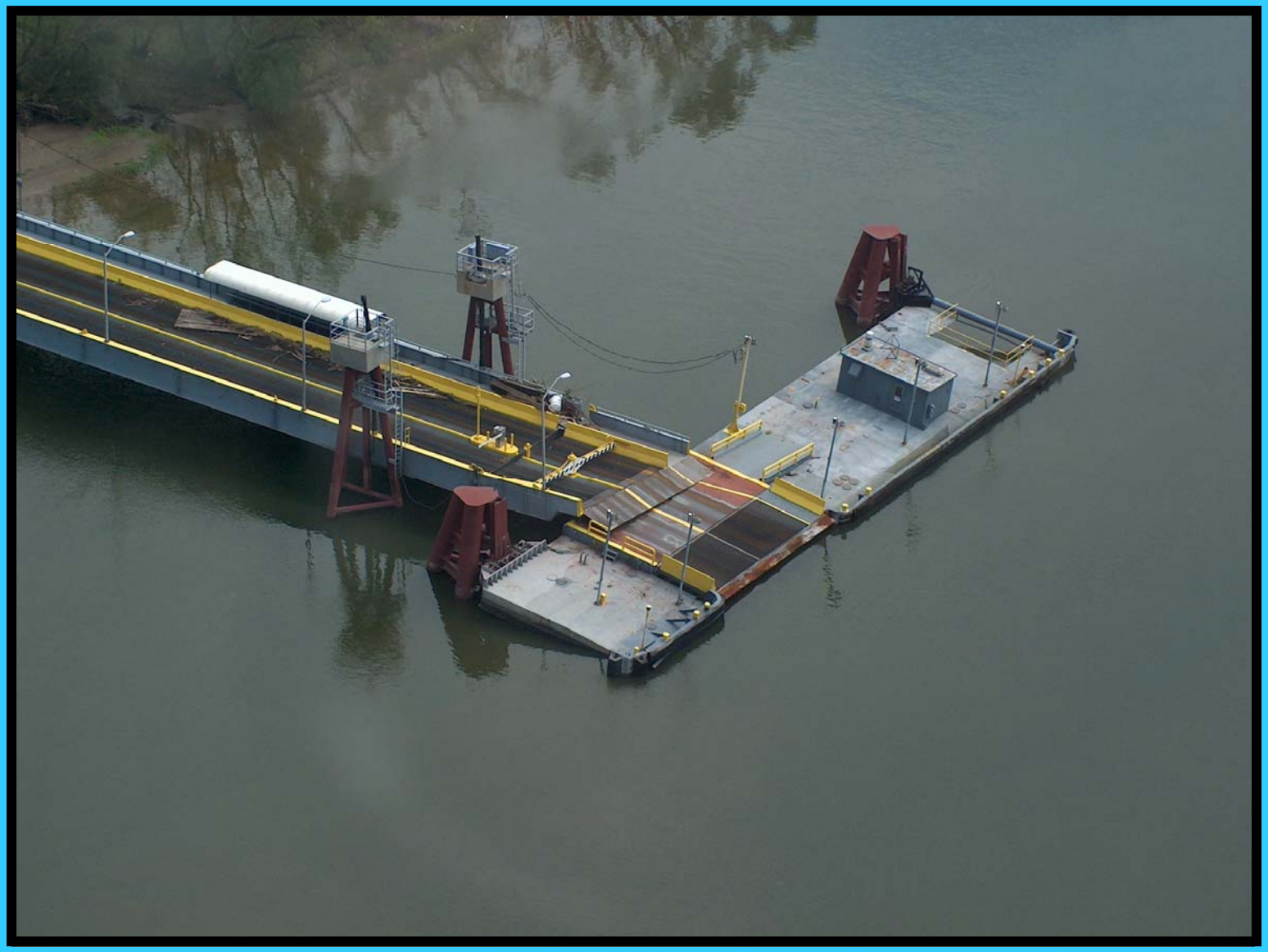
I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE

SHIP PARTLY ON MISSISSIPPI RIVER LEVEE

I-10 TWIN SPANS REPAIR

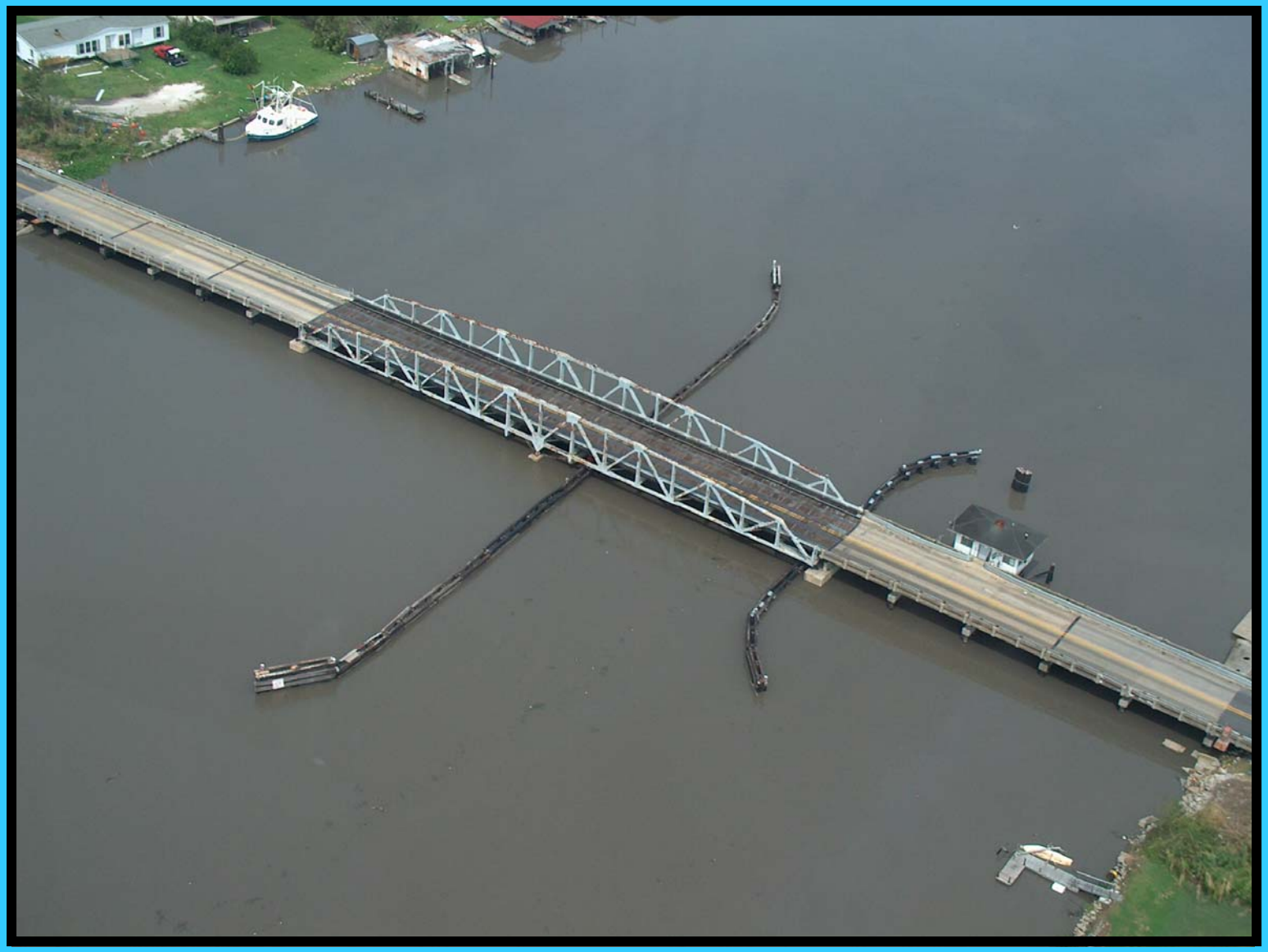
THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE



DAMAGED CRESCENT CITY CONNECTION FERRY LANDING

I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE



BAYOU BARATARIA BRIDGE AT JEAN LAFITE

I-10 TWIN SPANS REPAIR

THE DAY AFTER THE STORM - HELICOPTER OVERVIEW OF DAMAGE

I-55

August 2005 Calendar of Events

Sun	Mon	Tue	Wed	Thu	Fri	Sat
28	29	30	31	1	2	3
	Katrina Strikes	Helicopter fly-over	Strategy meetings @ DOTD HQ			
				Thu 1	Fri	Sat
September 2005				Meeting with Florida DOT	Scope Of Work and Bid Documents prepared working 16 -18 hr/day	Scope Of Work and Bid Documents prepared working 16 -18 hr/day
4	Labor Day 5	6	7	8	9	10
Scope Of Work and Bid Documents prepared working 16 -18 hr/day	Scope Of Work and Bid Documents prepared working 16 -18 hr/day	Scope Of Work and Bid Documents prepared working 16 -18 hr/day	Completed Documents, Held Pre-bid Meeting	Bidders prepared proposals	Bids Received, Contract Signed	
11	12	13	14	15	16	17
	Official Start					
18	19	20	21	22	23	24
				Rita demobiliza tion	Rita	Rita
25	26	27	28	29	30	
Rita						

Calendar of Events

Sun	Mon	Tue	Wed	Thu	Fri	Sat
October 2005						1
2	3	4	5	6	7	8
Day 21						
9	10	11	12	13	14	15
Day 28	Columbus Day				Eastbound Bridge Opened – Phase 1 Complete.	
16	17	18	19	20	21	22
Day 35						
23	24	25	26	27	28	29
Day 42			Day 45 – Completion Deadline pre- Rita			

THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

ACQUISITION OF

ENGINEERING & CONSTRUCTION SERVICES

EMERGENCY

REQUEST FOR PROPOSAL

For

INTERSTATE 10 TWIN SPANS OVER LAKE PONTCHARTRAIN
ORLEANS AND ST. TAMMANY PARISHES

STATE PROJECT NUMBERS
Phase 1, 450-17-0022, 450-18-0097 AND 450-90-0195
Phase 2, 450-17-0023
Phase 3, 450-17-0024
FEDERAL AID PROJECT NUMBER ER-3605(513)

I-10 TWIN SPANS REPAIR

THE FOLLOWING ARE SOME OF THE SLIDES THAT WERE PRESENTED TO THE PROSPECTIVE PROPOSERS DURING THE PRE-BID CONFERENCE

INTERSTATE 10 TWIN SPANS OVER LAKE PONTCHARTRAIN

- ACQUISITION OF ENGINEERING & CONSTRUCTION SERVICES
- EMERGENCY REQUEST FOR PROPOSAL
- STATE PROJECT NUMBERS
- Phase 1, 450-17-0022, 450-18-0097 AND 450-90-0195
- Phase 2, 450-17-0023
- Phase 3, 450-17-0024
- FEDERAL AID PROJECT NUMBER ER-3605(513)


Project Location
11
10
State Hwy 433
90
N
W
E
S
© 2005 TeleAtlas
Image © 2005 DigitalGlobe
Google

I-10 Twin Spans

View from the South end of the bridge, the direction from which plans and project information are numbered.

I-10 Twin Spans

Note missing bent in center of photo.

I-10 Twin Spans

Two spans missing, 12 clearly misaligned, 4 rails missing.

I-10 Twin Spans

Four spans misaligned, one of them very severely. One rail missing.

I-10 Twin Spans

Looking towards the North shore.

I-10 Twin Spans

Note that the seven spans at the top are all uniformly misaligned, as indicated by the cap end being obscured.

I-10 Twin Spans

12 spans misaligned, 7 rails missing.

I-10 Twin Spans

View looking towards North end.

I-10 Twin Spans

North end of bridge. Note span off to side.

I-10 Twin Spans

Looking Southwest from North end.

I-10 Twin Spans

Spans missing, bearing base plates in place.

I-10 Twin Spans

I-10 Twin Spans

View looking to South end of bridge. Spans on the left are off at least one cap. Spans on the right are shifted.

I-10 Twin Spans

Two spans wedged against one cap.

I-10 Twin Spans

Spalling at girder ends of two spans.

I-10 Twin Spans

I-10 Twin Spans

Damaged railing and misalignment at North end crossover spans.

I-10 Twin Spans

Displacements (by one riser spacing) and debris at north shore. Note uniformly exposed portion of caps.

I-10 Twin Spans Detailed Damage Report

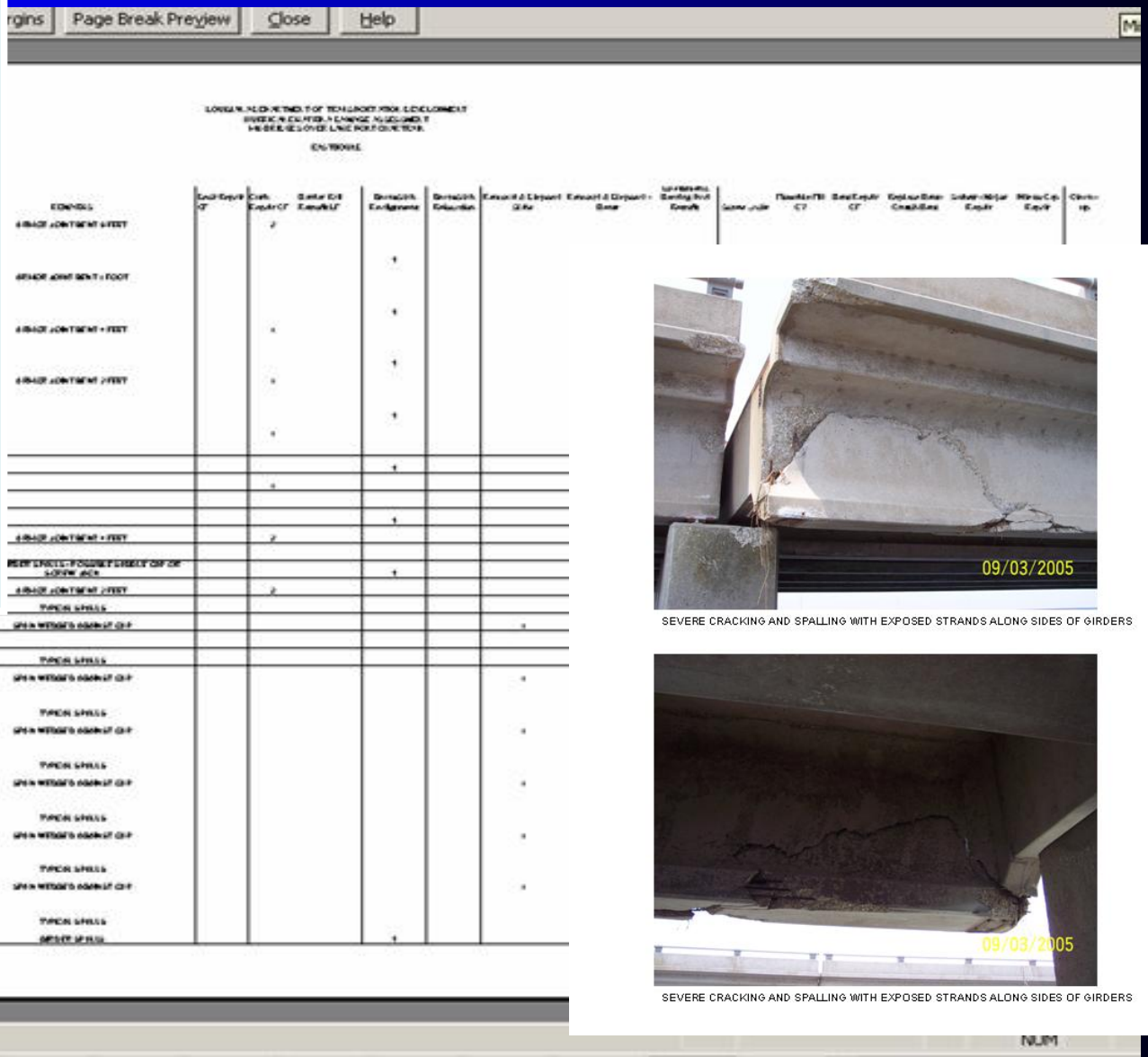
Hurricane Katrina Damage Assessment

I-10 Bridges over Lake Pontchartrain
Bridge Nos. 4501700001 & 4501700002

By

VOLKERT & ASSOCIATES, INC.

September 2-4, 2005



SEVERE CRACKING AND SPALLING WITH EXPOSED STRANDS ALONG SIDES OF GIRDERS

SEVERE CRACKING AND SPALLING WITH EXPOSED STRANDS ALONG SIDES OF GIRDERS

VOLKERT-MOBILE
SEP 13 2005

BOH BROS. CONSTRUCTION CO., LLC

Transmittal

Project [7032] - I-10 Twin Spans over Lake Pontchartrain
View Date 9/13/2005
SP# 450-17-0022
FAP# ER-3605(513)

Boh Bros. Construction Co., LLC
P.O. Box 53266
730 South Tonti Street
New Orleans, LA 70153
Phone: (504) 821-2400
Fax: (504) 821-0714

Transmittal No. 7032-00008

To Clay Hare Volkert 1113 West I-65 Service Rd. N Mobile, AL 36618 Phone: (251) 342-1070 Fax: (251) 342-7962	**Date** 9/13/2005 **Items listed are being sent** ☑ Enclosed ☐ Under Separate Cover **Via** Fax
From Mr. G.J. Schexnayder (BOH BROS. CONSTRUCTION CO., L.L.C.)	
Subject Saddle Beam Submittal Rev1	

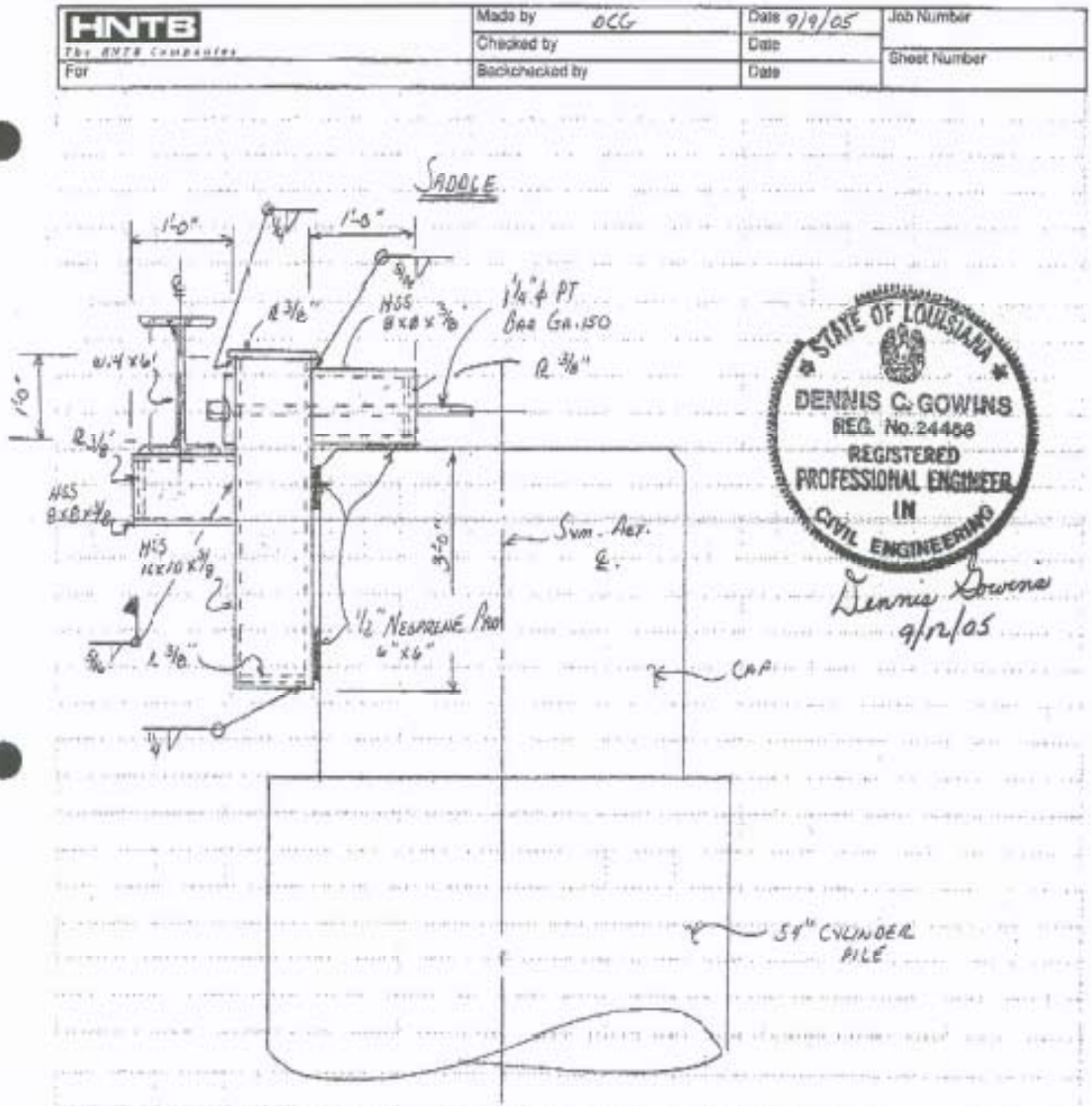
We are transmitting the following to you:

☐ Product Data	☐ Samples	☐ Shop Drawings	☐ O&M Manuals	☐ Plans
☐ Architectural Drawings	☐ Letters	☐ Specifications	☐ Prints	☐ Addenda
☐ Engineering Drawings	☐ Change Orders	☐ Submittal		

Remarks ACCEPTABLE PENDING SUCCESSFULL FIELD PERFORMANCE

Clay Hare — Received By
Clay Hare — Printed Name
9/13/05 — Date
19:09 hrs.

DESIGN APPROVAL PROCESS



DESIGN APPROVAL PROCESS

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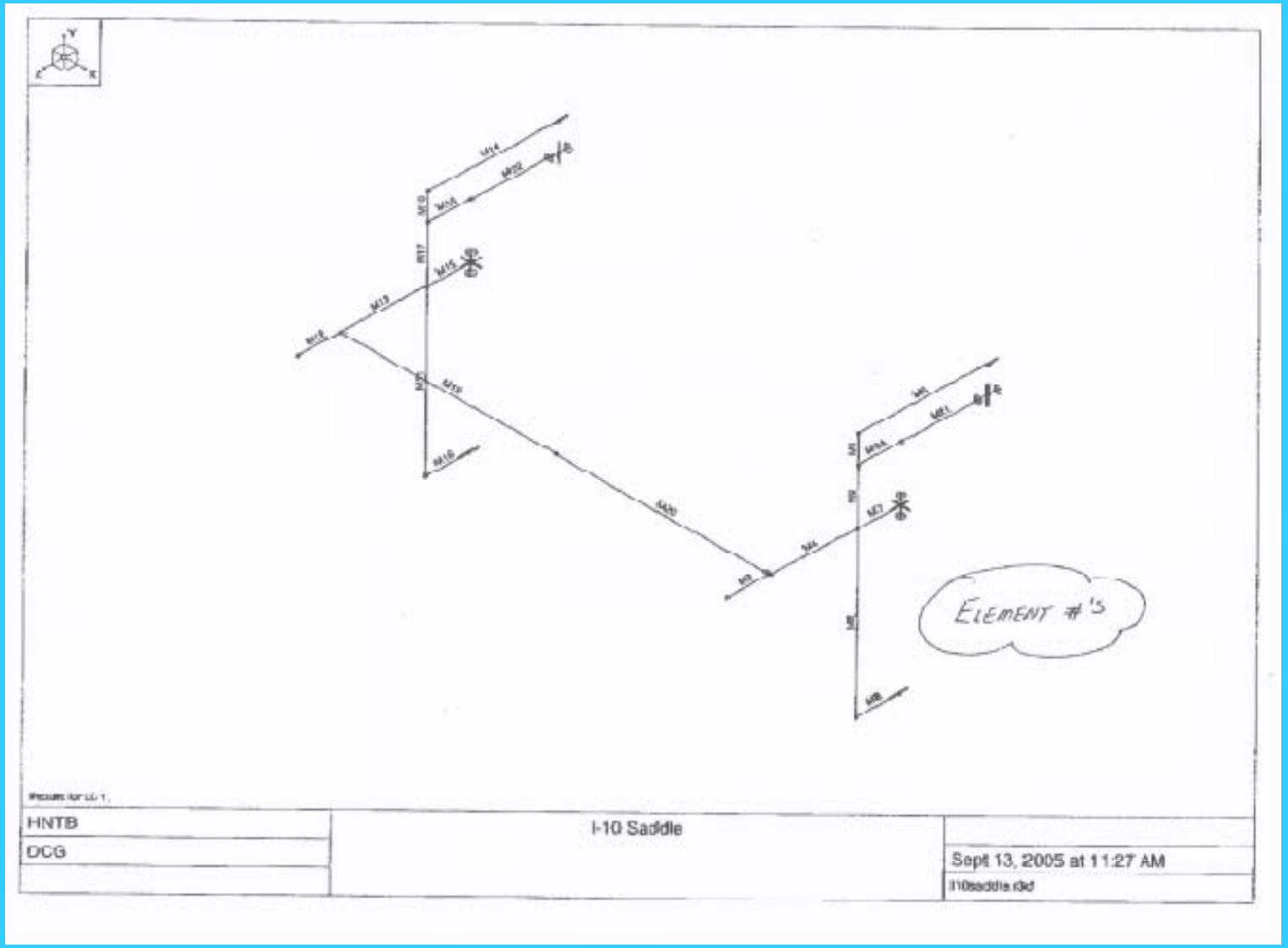


DESIGN APPROVAL PROCESS

Company : HNTB
Designer : DCG
Job Number :

I-10 Saddle

Sept 13, 2005
11:30 AM
Checked By:_____

Global

Display Sections for Member Calcs	2
Max Internal Sections for Member Calcs	300
Include Shear Deformation	Yes
Include Warping	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Vertical Axis	Y

Hot Rolled Steel Code	AISC: ASD 9th
Cold Formed Steel Code	AISI 99: ASD
Wood Code	NDS 91/97: ASD
Wood Temperature	< 100F
Concrete Code	ACI 2002

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	PCA Load Contour
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections	Yes
Bad Framing Warnings	No
Unused Force Warnings	Yes

General Material Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (1E5 F)	Dens [k/ft^3]
1	gen_Conc3NW	3155	1372	.15	.6	.145
2	gen_Conc4NW	3644	1584	.15	.6	.145
3	gen_Conc3LW	2085	906	.15	.6	.11
4	gen_Conc4LW	2409	1047	.15	.6	.11
5	gen_Alum	10500	4077	.3	1.29	.173
6	gen_Steel	29000	11154	.3	.65	.49
7	RIGID	1e+7		0	0	0

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (1E5 F)	Dens [k/ft^3]	Yield [ksi]
1	A36 Gr.36	29000	11154	.3	.65	.49	36
2	A572 Gr.50	29000	11154	.3	.65	.49	50

I-10 TWIN SPANS REPAIR

Broken girder end with exposed strands (bearing on left)

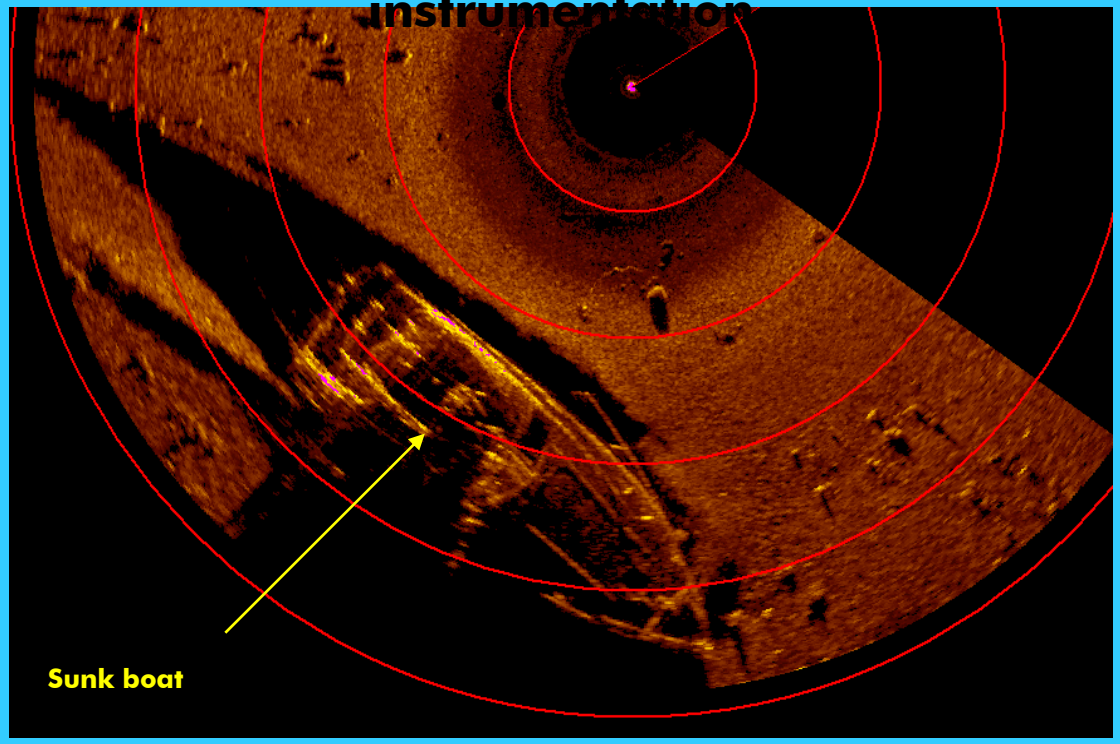
I-10 TWIN SPANS REPAIR

Broken girder end with exposed strands

I-10 TWIN SPANS REPAIR

Underwater Acoustic Services

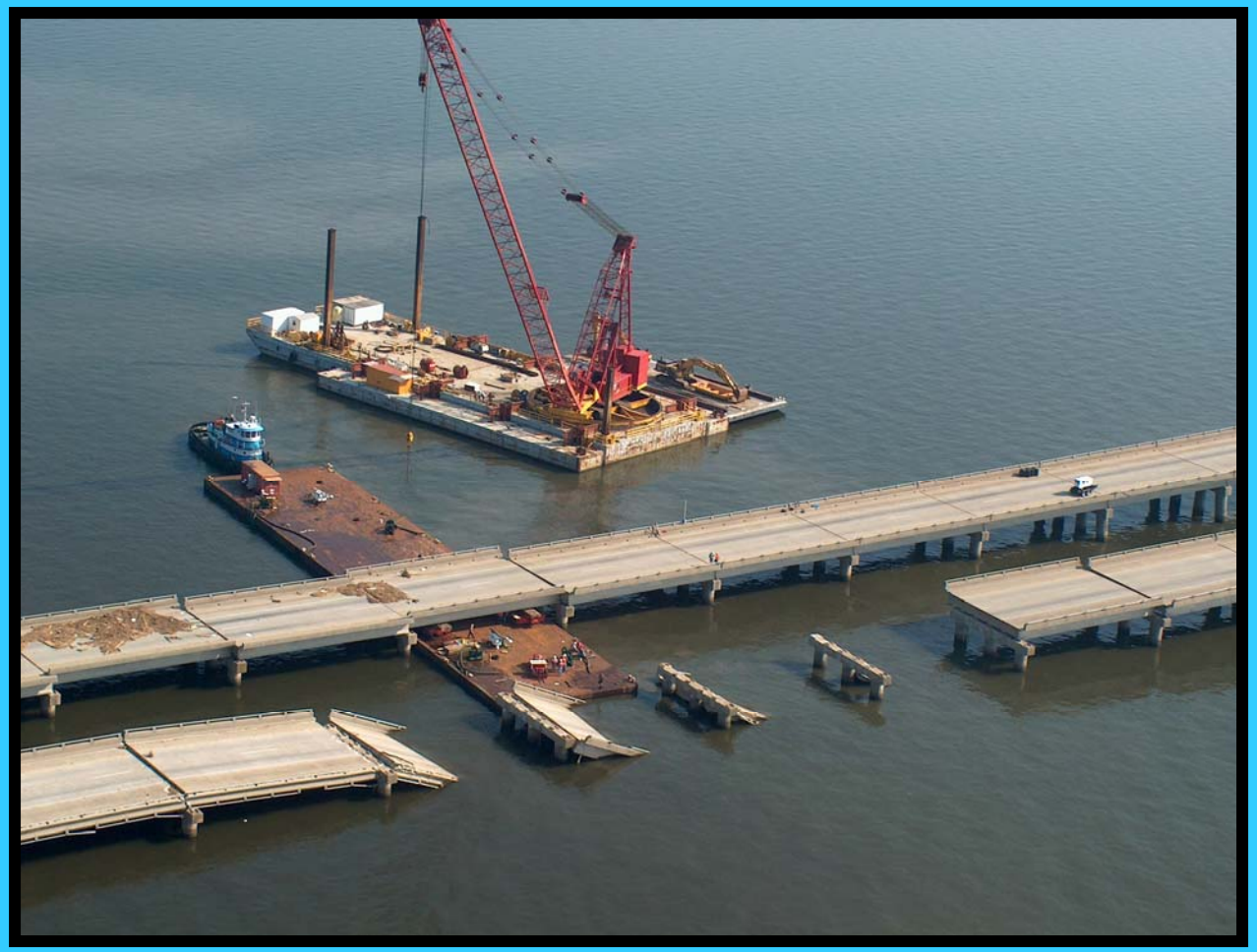
Scanning sonar image of a sunken vessel showing the detail resolution capabilities of the instrumentation



C. H. FENSTERMAKER & ASSOCIATES, INC.

I-10 TWIN SPANS RECONSTRUCTION

- REPAIR PROCESS
  - SPAN REMOVAL AND DEMOLITION



I-10 TWIN SPANS RECONSTRUCTION

- REPAIR PROCESS
  - SPAN REMOVAL AND DEMOLITION

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- REPAIR PROCESS
  - SPAN REMOVAL AND DEMOLITION

I-10 TWIN SPANS RECONSTRUCTION

- REPAIR PROCESS
  - SUBSTRUCTURE REPAIRS

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- REPAIR PROCESS
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I-10 TWIN SPANS RECONSTRUCTION

- REPAIR PROCESS
  - SPAN REALIGNMENT

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- REPAIR PROCESS
  - SPAN REALIGNMENT

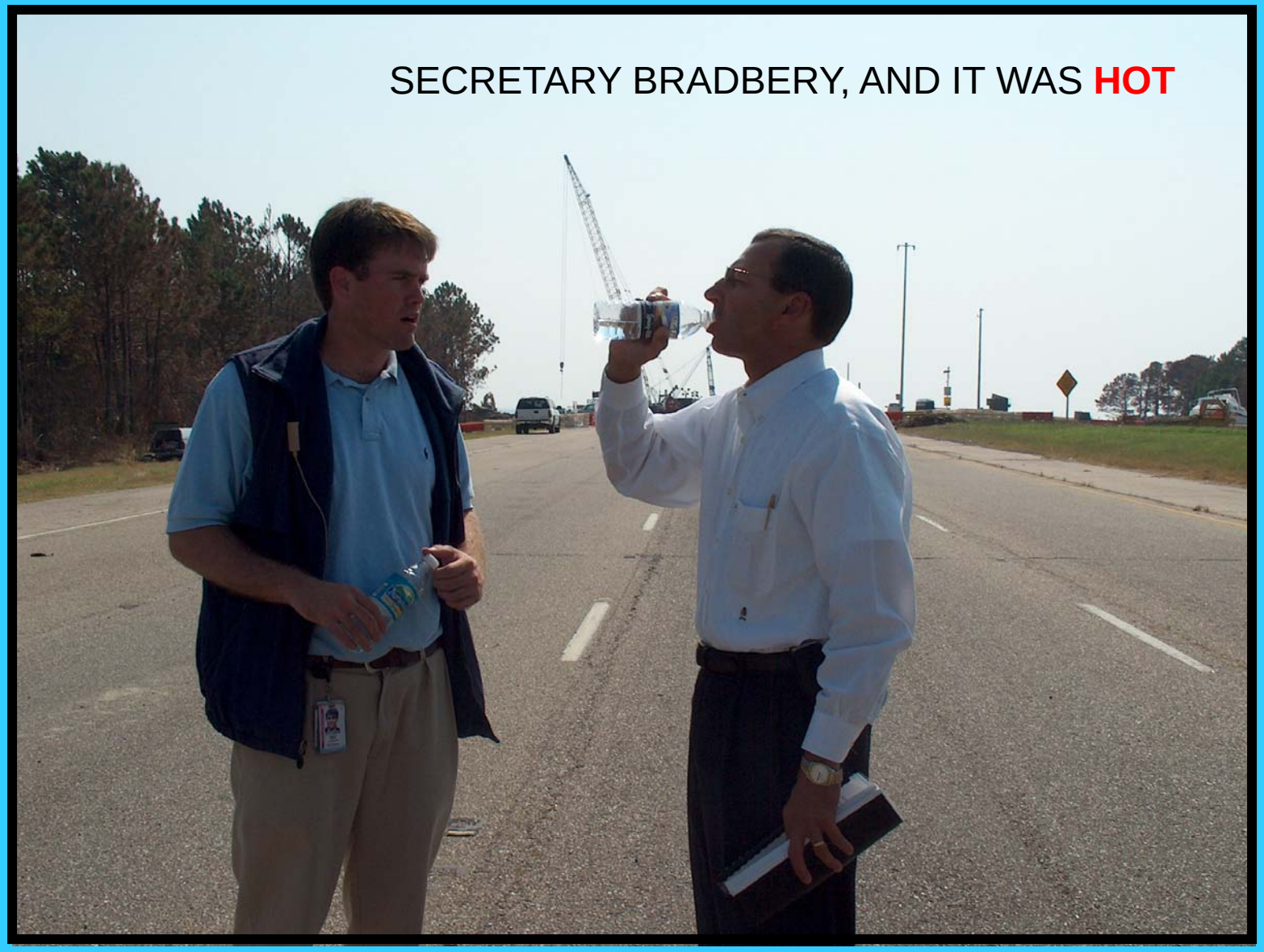
I-10 TWIN SPANS RECONSTRUCTION

GOVERNOR BLANCO AND SECRETARY BRADBERY,
WITH PROJECT ENGINEER JOHN HORN

I-10 TWIN SPANS RECONSTRUCTION

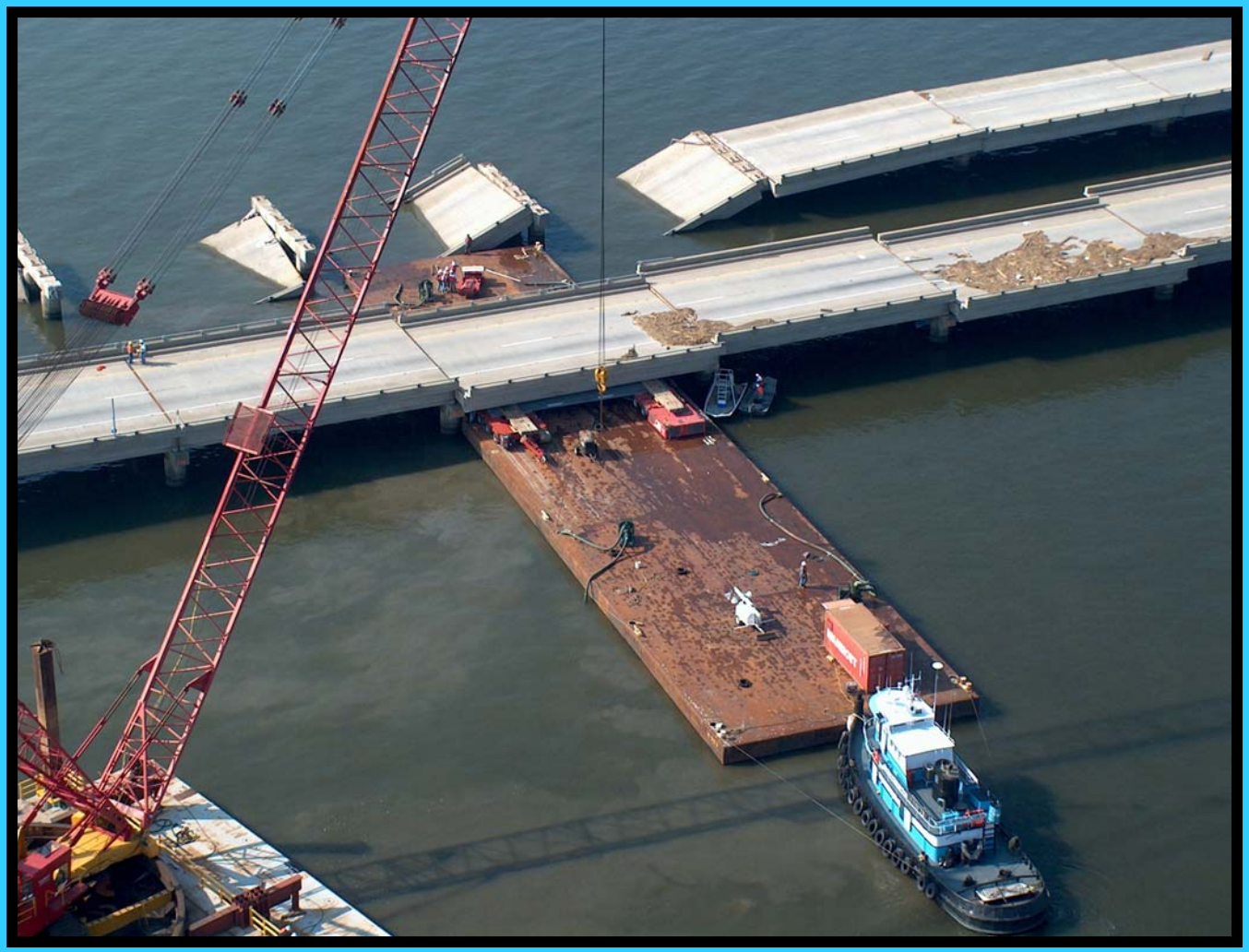
SECRETARIES CAPKA, BRADBERY, AND MINETA WITH PROJECT ENGINEER JOHN HORN

I-10 TWIN SPANS RECONSTRUCTION



I-10 TWIN SPANS RECONSTRUCTION

- REPAIR PROCESS
  - SPAN REALIGNMENT

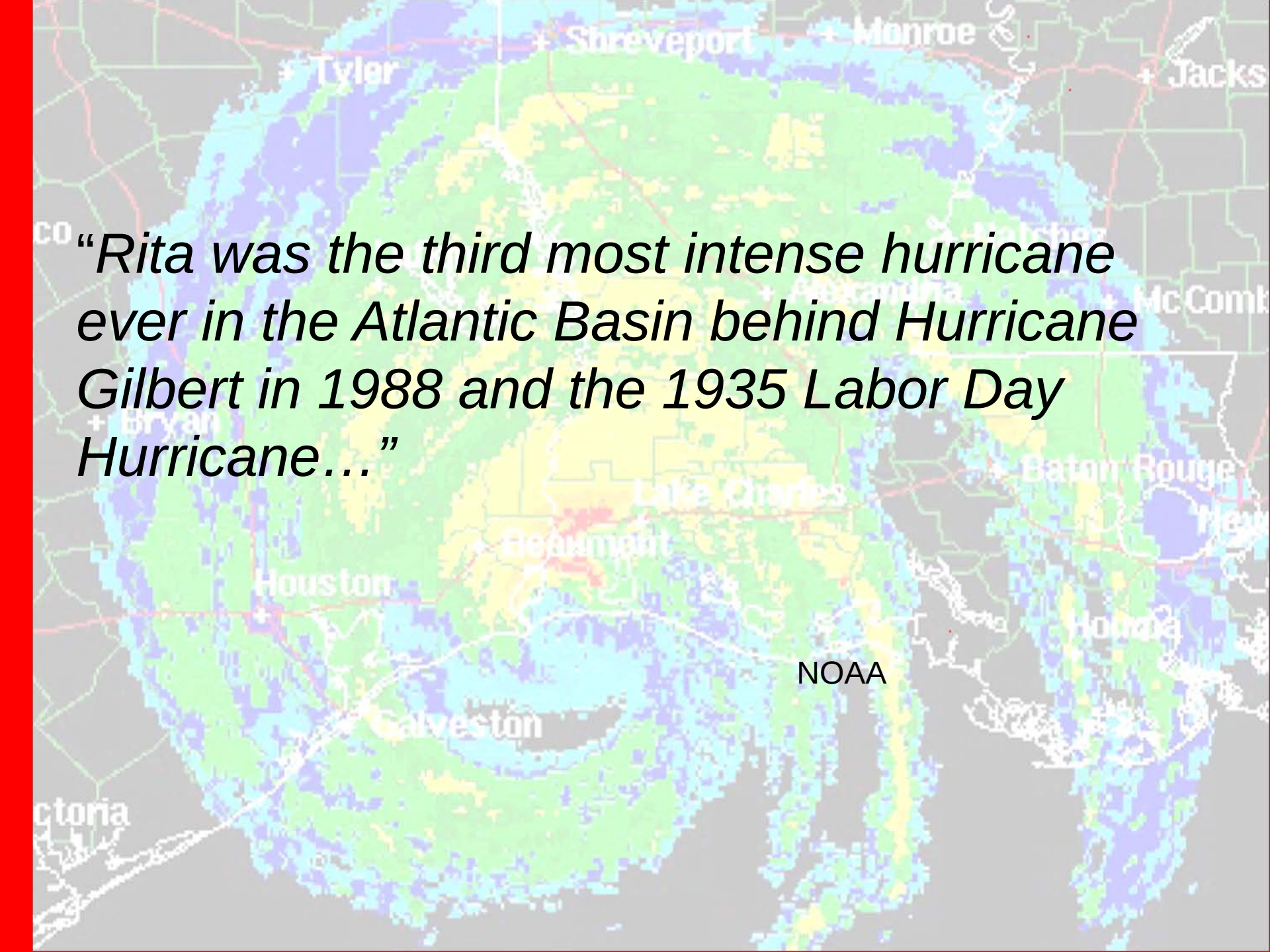


I-10 TWIN SPANS RECONSTRUCTION

- REPAIR PROCESS
  - SPAN RELOCATION

Hurricane Rita

NOAA



"*Rita was the third most intense hurricane ever in the Atlantic Basin behind Hurricane Gilbert in 1988 and the 1935 Labor Day Hurricane…*"

NOAA

Hurricane Rita
Southwest Louisiana

photos LA DOTD

Hurricane Rita

photo courtesy La Dept. Agriculture & Forestry

photos LA DOTD

Hurricane Rita

photos LA DOTD

Hurricane Rita

photos LA DOTD

I-10 TWIN SPANS RECONSTRUCTION

- REPAIR PROCESS
  - SPAN RELOCATION

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- REPAIR PROCESS
  - SPAN RELOCATION

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- REPAIR PROCESS
  - RAILING AND CONCRETE REPAIR

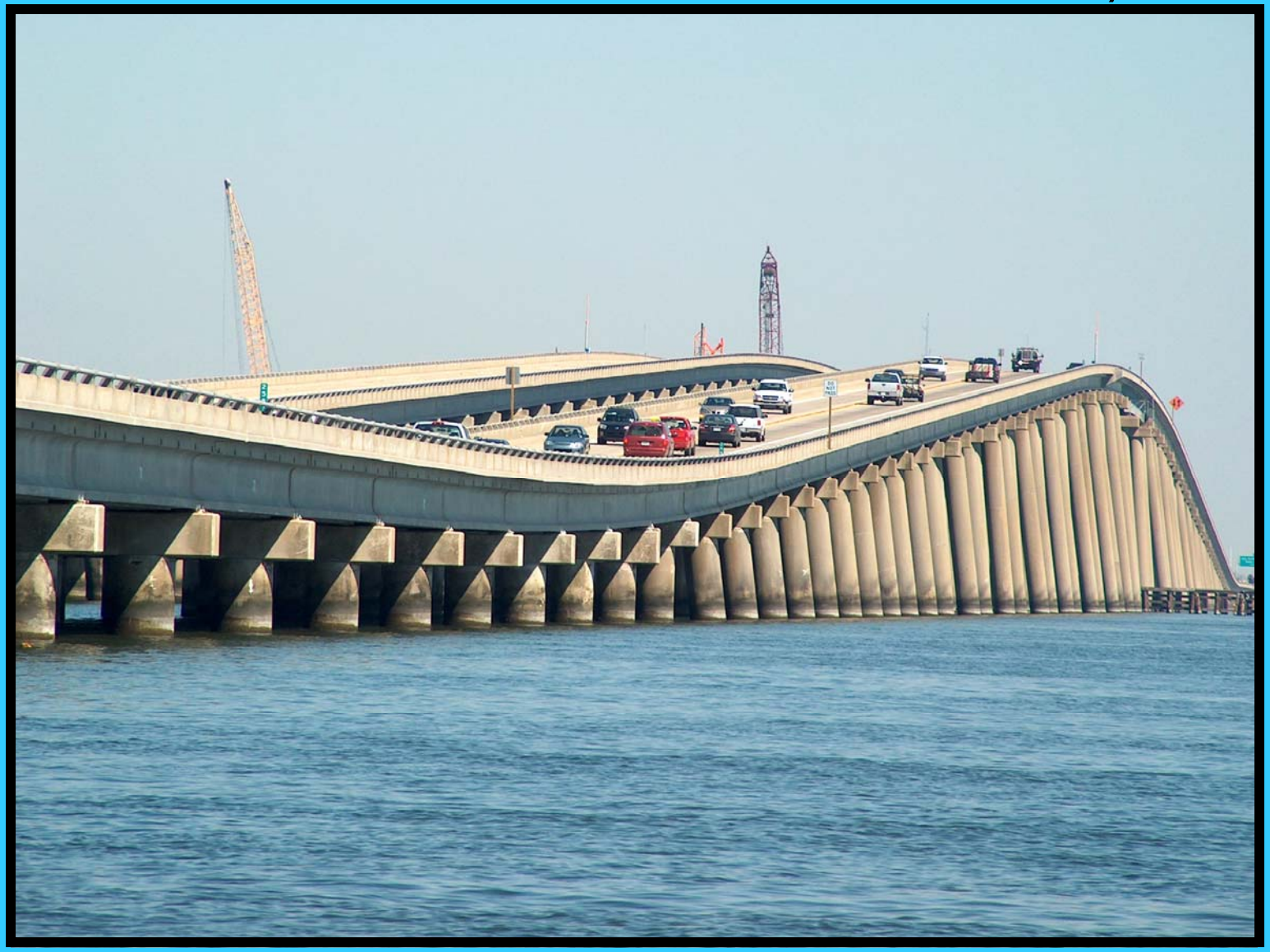
I-10 TWIN SPANS RECONSTRUCTION

- REPAIR PROCESS
  - RAILING AND CONCRETE REPAIR

I-10 TWIN SPANS RECONSTRUCTION

- REPAIR PROCESS
  - RAILING AND CONCRETE REPAIR

I-10 TWIN SPANS RECONSTRUCTION
PHASE ONE OPENS – OCTOBER 14, 2006



I-10 TWIN SPANS RECONSTRUCTION

- REPAIR PROCESS
  - RAILING AND CONCRETE REPAIR

I-10 TWIN SPANS RECONSTRUCTION

- REPAIR PROCESS
  - ACROW TEMPORARY BRIDGING

I-10 TWIN SPANS RECONSTRUCTION

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  - ACROW TEMPORARY BRIDGING

I-10 TWIN SPANS RECONSTRUCTION

- REPAIR PROCESS
  - ACROW TEMPORARY BRIDGING

PROGRESS REPORT

PHASE I WORK

Number of Work Days Allowed	**45**	**100% completed in 64% of time**
Number of Work Days Used	**29**	
Number of Spans to Be Realigned	**170**	**101.1%**
Number of Spans Realigned	**172**	
Number of Spans to Be Removed and Disposed	**38**	**103%**
Number of Spans Removed and Disposed	**39**	
Number of Spans to Be Relocated	**38**	**105%**
Number of Spans Relocated	**40**	

Phase 1 opened to traffic on Friday, October 14, 2005 – 16 days early.

PROGRESS REPORT

PHASE II WORK

Number of Work Days Allowed	120	92%
Number of Work Days Used	110	
Number of Spans to Be Realigned	265	100%
Number of Spans Realigned	265	
Number of Spans to Be Removed	26 (revised to 22)	100%
Number of Spans Removed and	22	
No. of Spans to Be Relocated West to West	21	100%
No. of Spans Relocated West to West	21	
Linear feet of Acrow Panel Bridge to be installed	4,160	100% .
Linear feet of Acrow Panel Bridge installed*	4,160	

*Installation began Nov 05, 2005. The North portion was completed on Nov 18, 2005 The South portion was completed on January 4, well ahead of the January 14, 2006

OPENING CEREMONY
JANUARY 5,2006

OPENING CEREMONY
JANUARY 5,2006
BRAND NEW ACROW BRIDGE

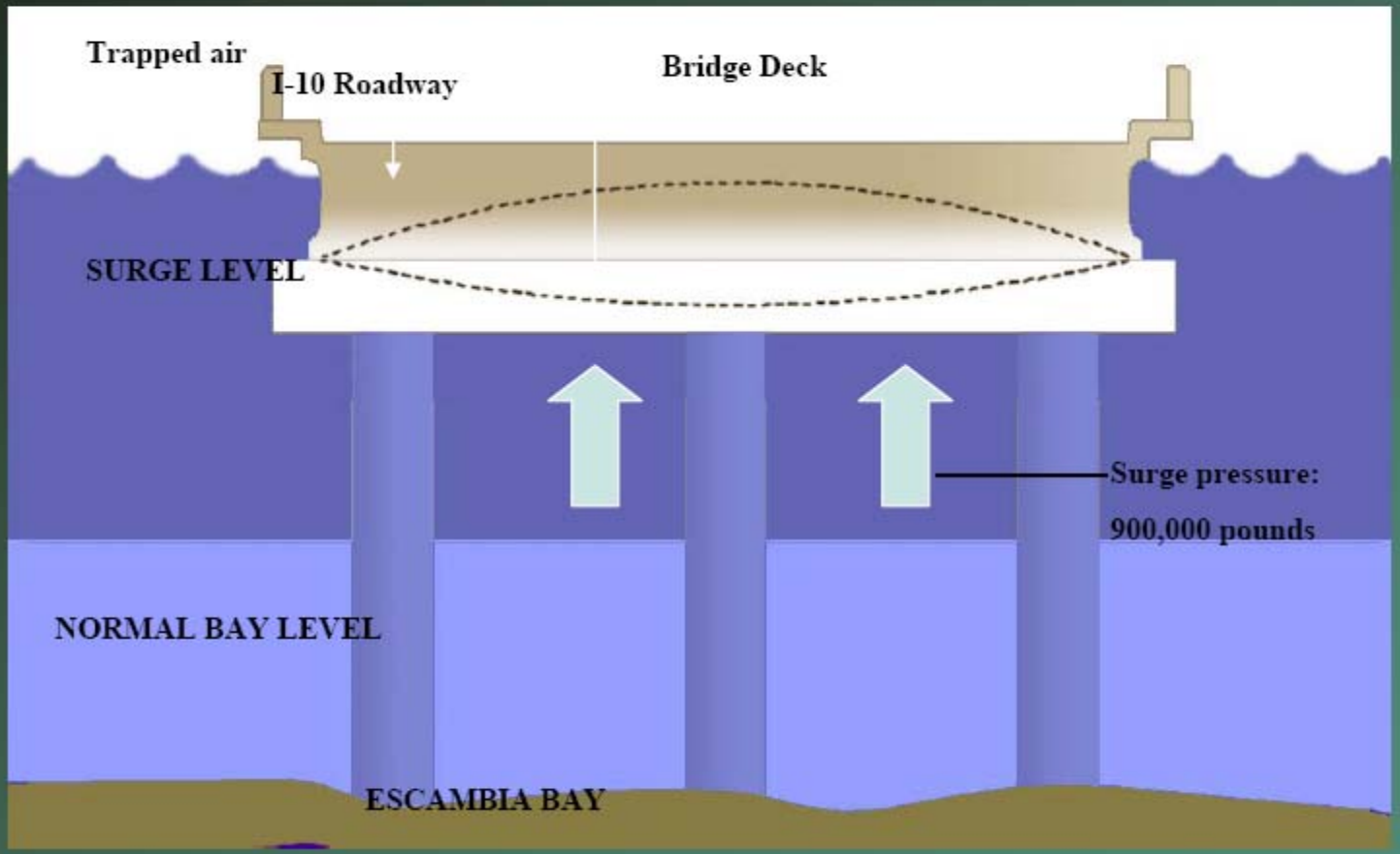
OPENING CEREMONY

JANUARY 5,2006

OPENING CEREMONY
JANUARY 5,2006
BRAND NEW ACROW BRIDGE

- WHAT HAPPENED?
  - The following illustration is from DesRoches and Rix at Georgia Tech
  - A detailed report was prepared for design of the replacement bridge by Moffatt & Nichol along with TRC Engineers.

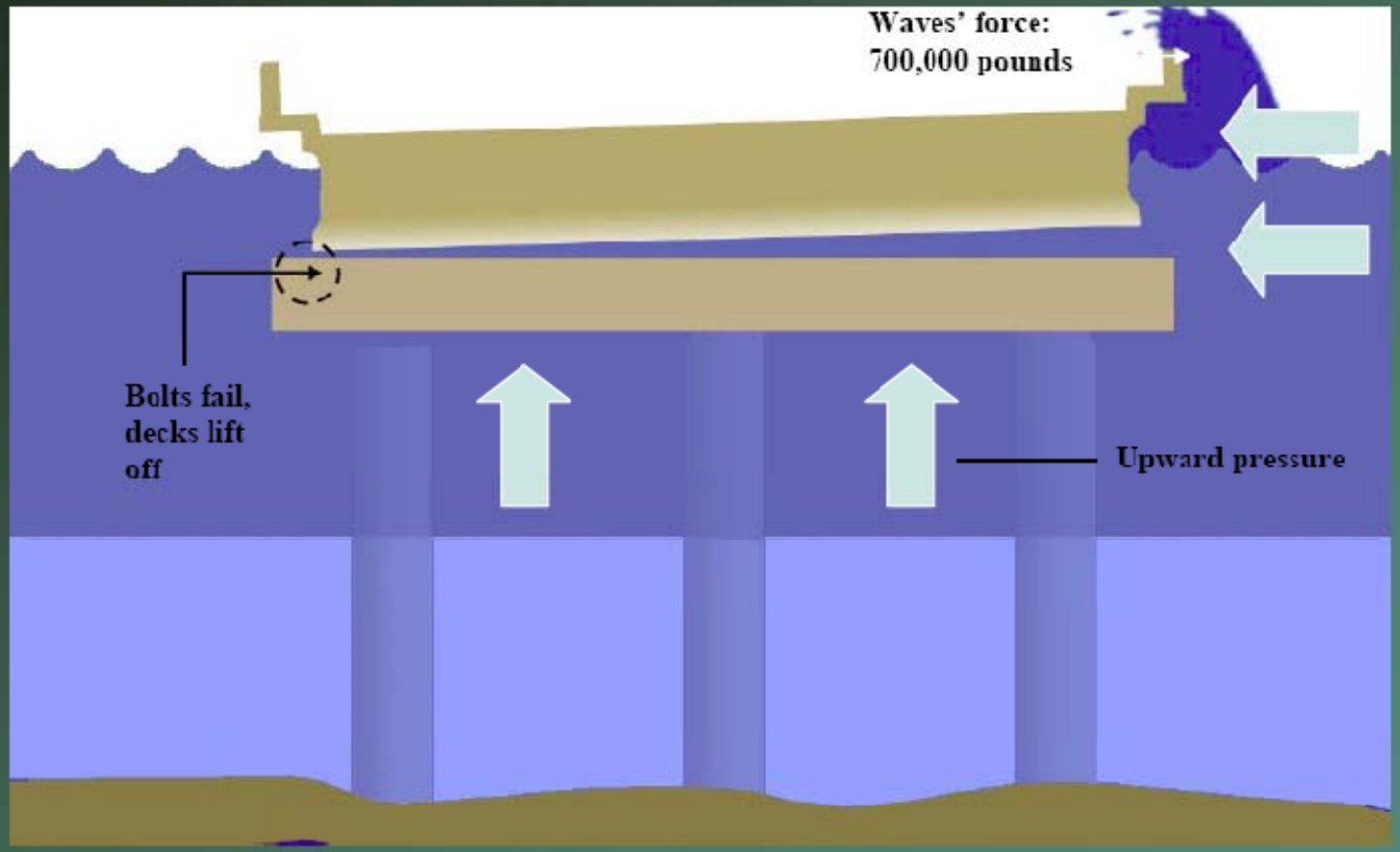
Water Hammer



1. The Lifting

   Storm surge rose to 14 to 16 feet above sea level beneath the bridge decks, where beams captured air beneath them, increasing the upward force to 900,000 pounds.

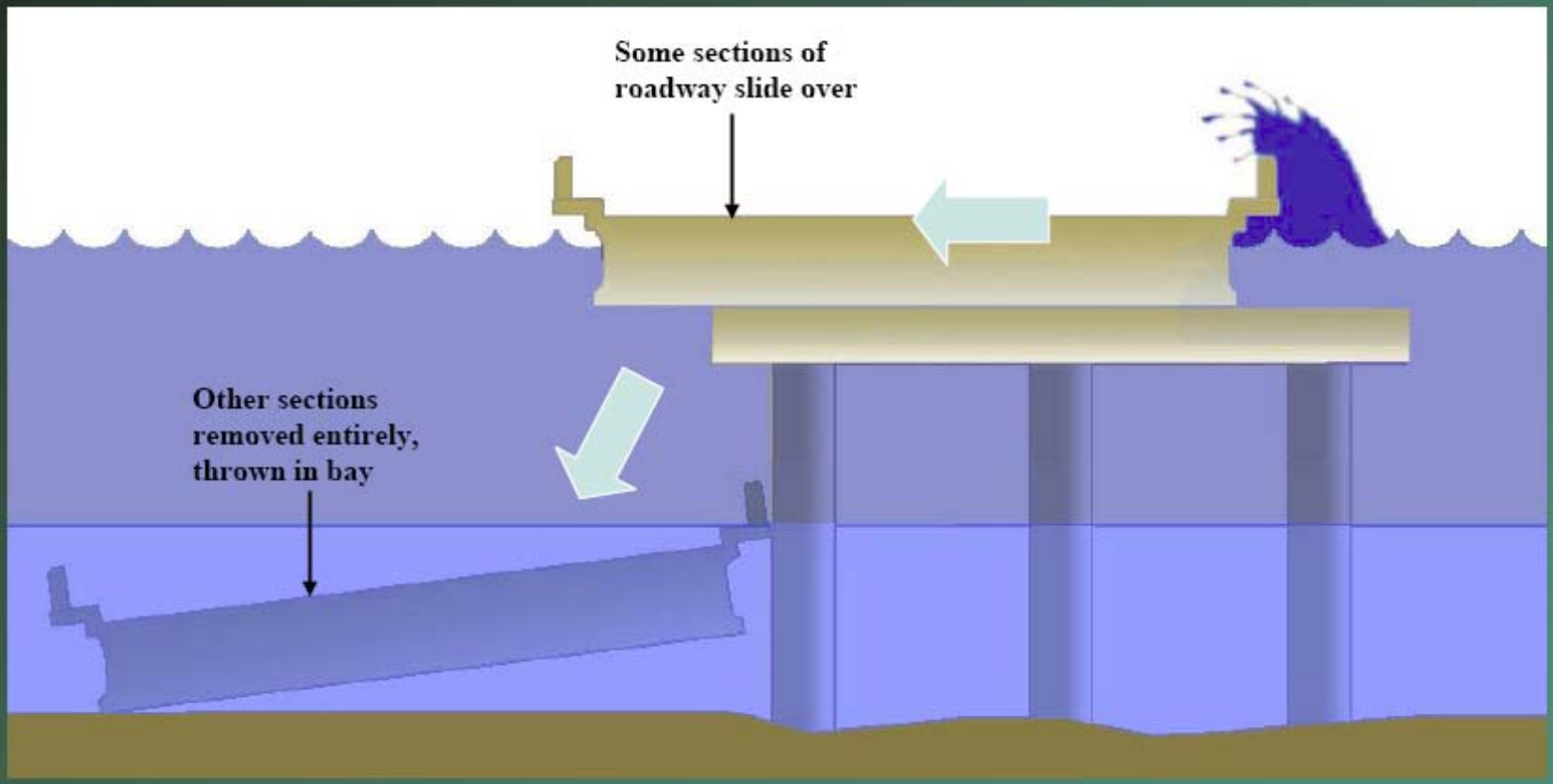
Water Hammer



2. The Pounding

At the same time, waves of 13 feet atop the surge hit the sides of the bridge decks with 700,000 pounds of force every 6.5 seconds at the height of the storm.

Water Hammer



3. The Breaking

The water's lifting and pounding broke the connections between 150-foot-deep pilings and piers supporting the bridge decks, allowing the decks to slide sideways or fall into the water.

HOPEFULL PREVENTATIVE

HOPEFULL PREVENTATIVE

HOPEFULL PREVENTATIVE

THE FUTURE

Construction is Underway for a New Interstate 10 Twin Span Bridge

Now, through the dedicated efforts of its citizens and with the cooperation of state and federal governments, construction of a new Twin Span Bridge is underway. The approximately $800 million project is a testament to the strength, hope and resiliency of a grand state and strong nation.

http://www.twinspanbridge.com/

This website will feature the latest information about the Twin Span Bridge replacement project. If you have questions or comments please visit the "Contact Us" section and e-mail them to the construction team.

THE FUTURE

http://www.twinspanbridge.com

Twin Span Bridge News

DOTD breaks ground for new Twin Span Bridge

Largest public works project in Louisiana history

Louisiana Department of Transportation & Development

TWIN SPAN BRIDGE

Vol. 1, No. 3 | TWIN SPAN BRIDGE E-NEWSLETTER | September 18, 2006

Preliminary construction activities continue

An expert team of civil and geotechnical engineers and scientists continue to investigate subsurface conditions on Lake Pontchartrain. The team is working with the Louisiana Department of Transportation and Development and the Federal Highway Administration to construct the new $800 million Twin Span Bridge.

Last week tests were conducted on the piles using a combination static and dynamic testing process known as statnamic testing. In statnamic testing a device similar to a small rocket is ignited within a pressure chamber atop the test pile. As the pressure increases, an upward force is exerted on a set of weights while an equal and opposite force pushes downward on the test pile. The weight increases to a maximum before being released by venting the pressure. Built-in instrumentation provides engineers and scientists with information on the test piles' capacity to withstand the loads required for major bridge structures.

A member of the construction team inspects the pressure chamber during statnamic testing.

Statnamic testing is regarded to be an accurate and cost effective method for determining load-bearing capacity. It is also safe because the fuel-cell ignition that triggers the process is contained within the pressure chamber.

Thus far four test piles have been driven to depths ranging from 103 to 119 feet. A total of 13 test piles will be driven before this phase of construction concludes in the fall.

Bridge maintenance

The existing Twin Span Bridge suffered major damage last year from Hurricane Katrina. The westbound bridge was repaired using prefabricated metal panels that require continuous monitoring and maintenance to ensure safety. Much of the repair work is accomplished without impacting the 55,000 drivers who travel the bridge each day, but sometimes daytime lane closures and full overnight closures are needed.

"Looking for damaged bolts and deck panels is best done during daylight hours and we try to close only one lane at a time for that work," said Steve Heraty, P.E. of Volkert Construction Services. "Certain repairs, like welding or removing and replacing deck panels, require closing the bridge and we try and do that at night when traffic demand is lower."

When the westbound bridge is closed for maintenance, drivers are advised to use the Causeway or Interstate 55 for access to New Orleans. Motorists can do their part to minimize damage to the bridge by obeying speed limits and weight restrictions. Both spans are closed to oversize and overweight permit loads. The westbound span has a 70,000-pound weight limit for tractor-trailer combinations and a single vehicle weight limit of 40,000-pounds. The speed limit on the westbound span is 45 mph, while the eastbound span has a 60 mph speed limit.

Maintenance schedule

DATE	TIMES	CLOSURE
Tues., Sept. 19	9:00 a.m.-1:00 p.m.	Westbound bridge, alternating lanes
Sun., Sept. 24	8:30 p.m.-4:30 a.m.	Westbound bridge, total closure*
Tues., Sept. 26	9:00 a.m.-1:00 p.m.	Westbound bridge, alternating lanes
Wed., Sept. 27	9:00 a.m.-1:00 p.m.	Westbound bridge, alternating lanes
Thurs., Sept 28	9:00 a.m.-1:00 p.m.	Westbound bridge, alternating lanes

*The Causeway and Interstate 55 are available as detour routes.

This electronic newsletter is published periodically by Volkert Construction Services, Inc. in coordination with the Louisiana Department of Transportation and Development. If you have questions or comments please send them to TwinSpanBridge@volkert.com. To be removed from the distribution list reply to this e-mail with the word "CANCEL."

I-10 Twin Spans Replacement

I-10 Twin Spans Replacement

I-10 TWIN SPANS CONSTRUCTION WEEKLY SUMMARY

State Project Nos. 450-17-0025 & 450-17-0028 **Week Ending: February 17, 2008**

ENGINEER'S WEEKLY SUMMARY OF EVENTS, OBSERVATIONS AND REMARKS

STATE PROJECT 450-17-0025

The following weekly summary of the construction of the I-10 Twin Spans for the
week of February 11, 2008 thru February 17, 2008:
WORK COMPLETED DURING WEEK ENDING February 17, 2008:
Contractor drove 27 piles for 5 Bents, S-77 EB (5 Piles), S-81 EB (7 Piles), S-85 EB (5 Piles), S-92 WB (5 Piles), S-103 WB (5 Piles).
Contractor continued concrete pouring operations which included Pile Fill, Risers, Diaphragms, and Precast Cap Closures.
Set 2 Precast Caps at Bent S-30 EB and S-31 WB
WORK COMPLETED DURING WEEK ENDING February 17, 2008
27 – Piles driven for 5 Bents
2 – Precast Caps Set
SUMMARY OF WORK COMPLETED TO DATE:
1442 of 2240 Piles driven for 241 of 430 Bents
13 – Deck units poured
117 – Caps in place (Cast-in-place and precast caps)
Percent Time Used: 29.89%
Percent Project Complete: 34.67% *(Through Estimate No. 37, February 15, 2008)*

I-10 TWIN SPANS CONSTRUCTION WEEKLY SUMMARY

State Project Nos. 450-17-0025 & 450-17-0028 **Week Ending: February 17, 2008**

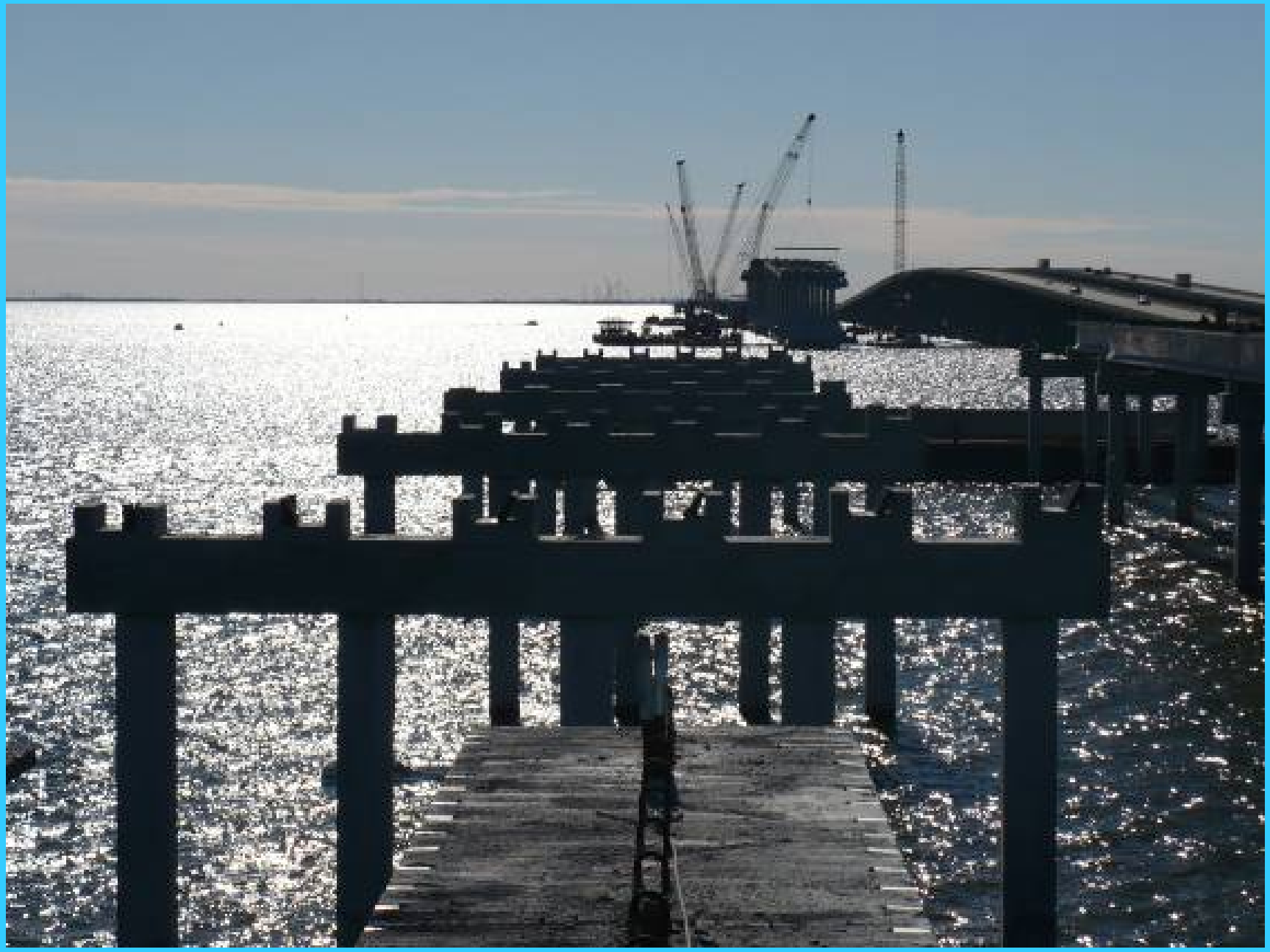
ENGINEER'S WEEKLY SUMMARY OF EVENTS, OBSERVATIONS AND REMARKS

STATE PROJECT 450-17-0028

The following weekly summary of the construction of the I-10 Twin Spans for the
week of February 11, 2008 thru February 17, 2008:
WORK COMPLETED DURING WEEK ENDING February 17, 2008:
Contractor placed concrete for the Cap at M-16 WB
Contractor placed concrete for the Footing at M-13 WB.
Contractor placed concrete for the Risers at M-16 WB.
Contractor placed concrete for the Intermediate Diaphragms at M-24 WB
Contractor drove 7 Pile for Bent M-12 WB.
SUMMARY OF WORK COMPLETED TO DATE:
380 of 1016 Piles driven
16 – Footings poured
14 – Columns poured
13 – Pier caps poured
Percent Time Used: ***29.92%***
Percent Project Complete: ***34.03%*** *(Through Estimate No. 20, February 15, 2008)*

Driving 36” Pile at Bent S-81 Eastbound.

Crossover Bents N-10C thru N-13C.



Span N-6 Eastbound looking towards Bent N-1 Eastbound.

Driving 36” Pile at Bent M-12 Westbound.

Placing Concrete for the Footing at M-13 Westbound.

Placing Concrete for the Pier Cap at M-16 Westbound.


YOUR REPORTER