

Testing flood defences, and patience, in

New Orleans

—by Peter Whoriskey

Commentary by Ilse Genovese

Two years after Hurricane Katrina

slammed into the Gold Coast, killing two thousand and turning residents into homeless refugees, New Orleans remains a shadow of its former exotic glory. Yes, there is music again, and tourists, in the French quarter—out of defiance! There is talk of the “tale of two Gold Coasts”—perhaps to obfuscate the fact of lingering inertia at some levels of government. And there are studies of the levees and forecasts of “bad hurricane seasons.”

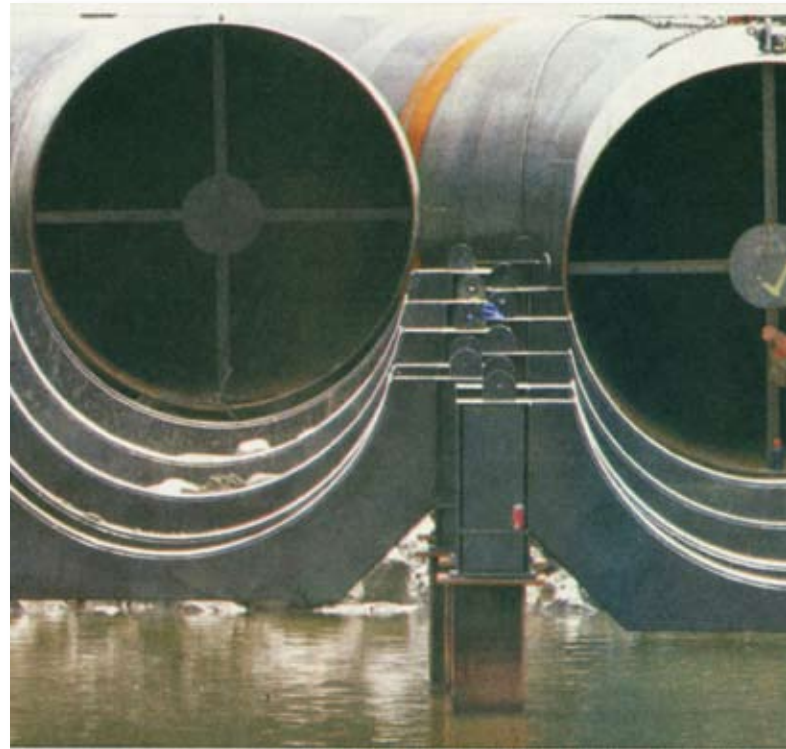
A lot of talk, but nobody seems ready to walk to talk. Not the outpouring of national generosity—\$114 billion in reconstruction money for the Gold Coast—, nor the fortification of the New Orleans’ canals and levees, and not even a successful reclamation of the city’s natural defenses, the marshlands in the Mississippi delta, will protect Ward 9 from another killer hurricane.

The real question, which somehow gets buried in the flurry of finger-pointing and pontificating, is not whether we have collectively and any level of government done enough to deal with Katrina’s aftermath; it’s whether we should continue building and rebuilding in disaster-prone areas, wherever they may be.

Two years ago, on this day, nature dealt a heavy hand to people least prepared to pick up their lives after a major natural disaster. They fled seeking safety in the Saints’ Superdome, and from there went into communities that welcomed them with open hearts—but could never replace “home.” Without savings and flood insurance, many continue to live in temporary accommodations, in FEMA’s trailer parks or camps, trying to make the best of the situation—and they dream, of one day, going home!

Is the plight of any disaster worth the price? That’s the question New Orleans, and each and every one of us with a vision of owning that “beautiful house” on the beach or high up in the mountains, has to answer.

Few can do so dispassionately. It’s much easier to look for answers in the world of uncompromising data. And that’s what the U.S. Army Corps of Engineers did earlier this August with a \$3 million experiment designed to simulate



the conditions that caused the critical levee failures during Hurricane Katrina and disastrous flooding.

In the test, engineers gradually pumped water into a section of the London Avenue Canal, one of the two canals whose walls toppled in the storm two years ago, leading to most of the inundation in the main part of the city.

As the canal waters rose, engineers monitored the amount of seepage beneath the flood wall and how much the structure has tilted—while promising nervous neighbors that the test will not cause another breach. The measurements are expected to tell us how much rising water the canal wall can withstand.

“Some previous computations show the wall will fail at certain water levels; some show it won’t,” said Ray Martin, a geotechnical engineer consulting the the Corps on the project.

The project conducted in August was supposed to let them know which of the computations were right.

The fact that such an experiment is necessary two years after the storm reflects the continuing uncertainty as to exactly what caused the city's flood defenses to fail.

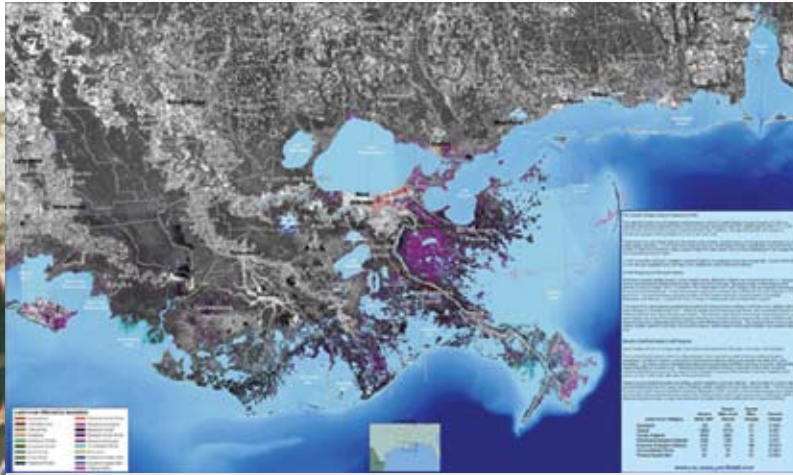
Despite three investigations, disputes continue over a host of key questions. What exactly was the primary cause behind the toppling of the canal walls? Would deeper wall supports—

There have been three major engineering investigations into the disaster. The most ambitious, a \$25 million effort, was sponsored by the U.S. Army Corps of Engineers and reviewed by the American Society of Civil Engineers. Another study was commissioned by the State of Louisiana. Still another was conducted by a team from the University of California at Berkeley and partially sponsored by the National Science Foundation. The reports generally agree that the catastrophe was, at least in part, an engineering failure, as well as a natural disaster that overwhelmed the city.

But there are differences on significant issues and, as a national Research Council panel noted, those differences could affect how the city's new flood defenses are designed.

In its most recent review of the U.S. Army Corps' Katrina report, the Research Council panel noted the differing views of the "primary failure mechanism[s]" in the canal walls and warned that "the proposal of a single failure mechanism could lead future designers to focus on narrowly drawn conclusions, leading to neglect of other, equally plausible failure modes."

Robert G. Bea, one of the leaders of the Berkeley team of investigators, has called for an 8/29 commission "to truly understand why these failures developed" because "the Corps is still not designing things safely enough."



which, to save money, were built shorter than originally proposed—have held the walls upright? Did earthen levees fail mainly because surging waters overtopped them, or did they crumble first because of flimsy materials? Did a major man-made shipping channel known as the Mississippi River Gulf Outlet allow the storm surge to slam the city?

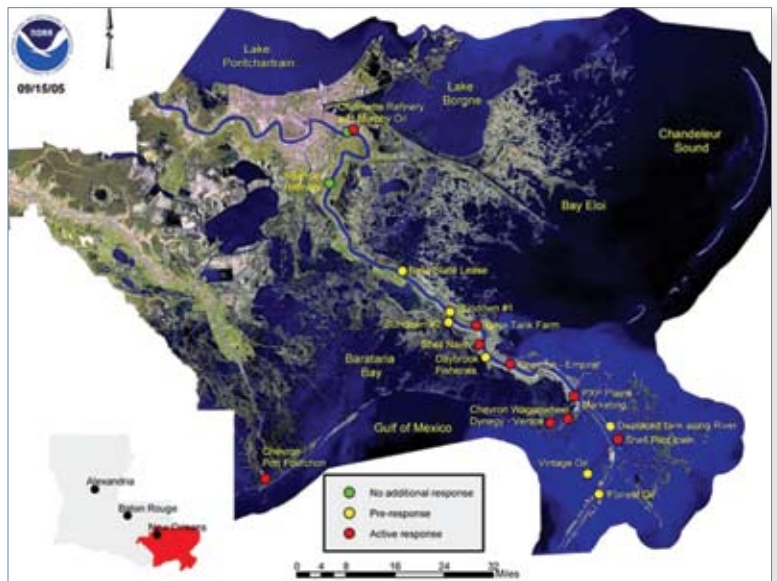
Such questions must be resolved to ensure that the next set of flood defenses works as hoped, some experts say.

Equally as important—and, perhaps more important to the thousands who are suing the Corps—is the question of whether government agencies and contractors who built the levees and flood walls are guilty of negligence or wrongdoing.

"The bottom line is that this city was destroyed, and the public doesn't yet have an undisputed explanation," said Sandy Rosenthal, director of Levees.org, a local advocacy group.

Levees.org has been calling for improved flood defenses and urging politicians to establish an "8/29 commission," a congressional body modeled after the September 11 commission.

"There have been numerous studies about Katrina, without any clear direction of how to prevent a flood-control-system failure in the future," said Sen. Mary Landrieu (D-La.), who has embraced the proposal and sought to introduce it into legislation.



But Ed Link of the University of Maryland, who directed the Corps-sponsored report, said that although "there's lots more to learn and lots more analysis to be done, I don't see a lot of

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Conflicting interests between developers and communities can turn urban development sites into local battlegrounds. Design charrettes (pronounced [shuh-ret]), have become widely used as a means of bringing together architects, urban designers, planners and developers, municipal officials, and local residents to establish agreement and promote joint ownership of solutions.

Despite their increasing use in modern urban planning, charrettes are widely misunderstood and can be misapplied. *Designing Community*, published by Architectural Press, provides detailed guidance on the proper and most effective ways to use this consensus-building tool. It combines charrette master-planning with the creation of “design-based” codes (also known as “form-based” codes) to control the development’s implementation in line with the design and planning principles established during the charrette process.

What is a Charrette? Derived from the French word, “charrette” meaning “cart” or “chariot”, the term has been used to describe the intense period of work preceding art and architecture students’ final project deadlines. It is believed to have originated from the École des Beaux Arts in Paris during the 19th century, where proctors wheeled a cart or a “charrette”, through the streets of the city collecting final drawings as students furiously applied last-minute flourishes on their designs and illustrations.

Modern design charrettes are now integral to post-modern planning and community development. An invaluable guide to the process, *Designing Community* blends history, theory and practice to paint the full picture of the past, present and possible future of community planning and shows how to manage the conflict between development, design and planning professionals and community interests inherent in current design and planning practice.

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WorldView-1 launch

The final preparations for the launch of DigitalGlobe’s next-generation high-resolution commercial imaging satellite completed. WorldView-1 has been delivered to Vandenberg Air Force Base and the launch date has been set for Tuesday, September 18. WorldView-1 will be DigitalGlobe’s second satellite in orbit. It precedes the launch of WorldView-2 next year, which will complete DigitalGlobe’s constellation of three high-resolution imaging satellites.