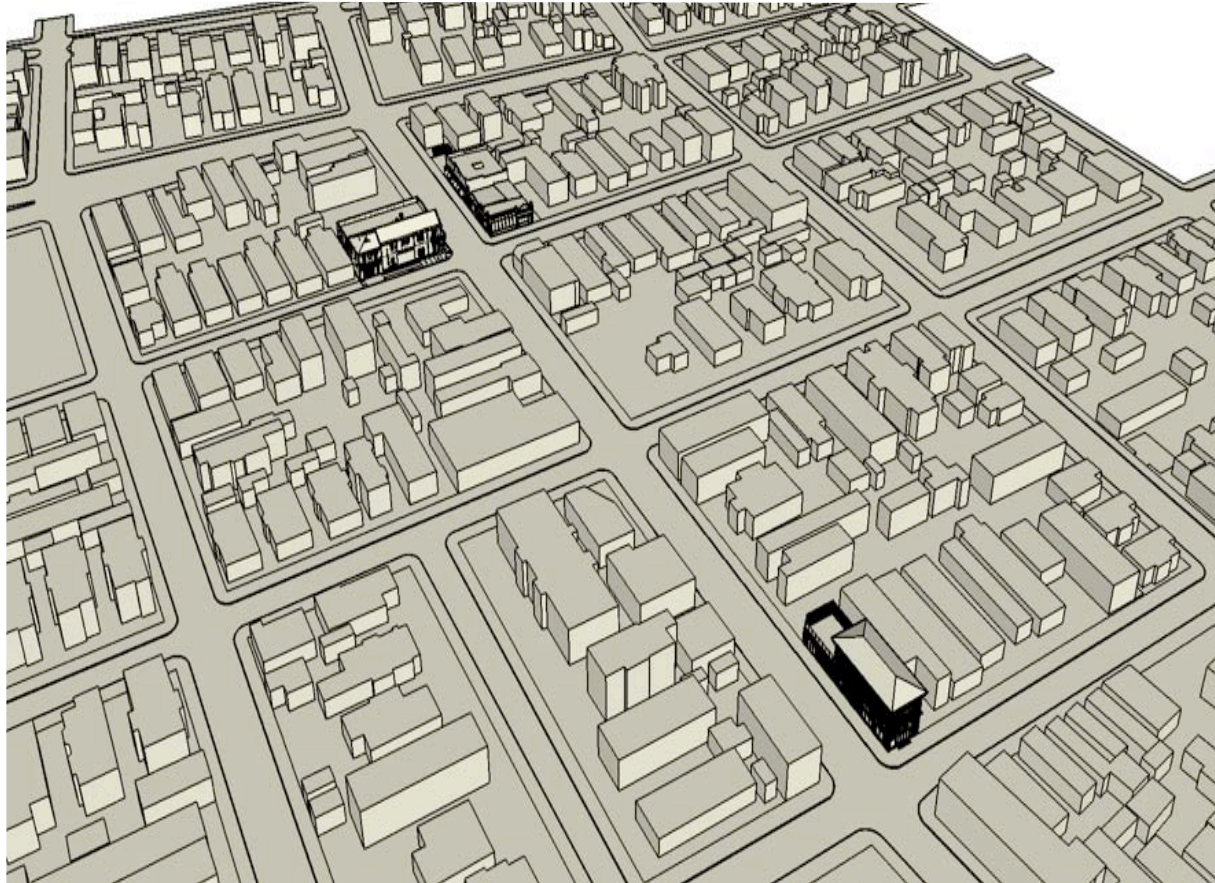


AFTER THE STORM:

Analysis and Application of Urban Preservation Theory to the Case of Post-Katrina New Orleans



University of Texas at Arlington
Graduate Design Studio in Preservation
Spring 2007

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This publication of student work was compiled and produced by Dr. Anne Parmly Toxey with assistance from Michael Okies and Lyndsay Wright.

While some students in this course displayed strong academic backgrounds, others had no previous experience in the collection and analysis of research, which define Part I of this collaborative project. This course challenged them and required them to develop these essential skills in short order. Despite lectures and discussions of research methods and proper techniques for citation, however, their inadequate knowledge and experience may have led to unintentional plagiarism. In this event, the students and instructors apologize to any uncredited or miscredited authors and owners of illustrations used.

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Part One:

General Research, Field Research, Building Analyses, Urban Preservation Initial Recommendations

Introduction: Project Overview

by Anne Parmly Toxey

“After the Storm: Analysis and Application of Urban Preservation Theory to the Case of Post-Katrina New Orleans” is the name and mission of the first graduate preservation studio to be offered by the University of Texas at Arlington. Taking place in the spring of 2007, its purpose was to expose students to the challenges of historic preservation practice while channeling their efforts to a real and needy project: the acres of damaged urban properties of post-Katrina, post-Rita, post-flood New Orleans.

The topic of the course developed from strong personal relations between members of the UTA faculty (Dean Donald Gatzke and this course’s instructors) and the city of New Orleans and from UTA’s membership in the CITYbuild consortium of architecture schools, led by Tulane University, which have united to assist the city’s post-storm rebuilding effort. UTA’s contribution to CITYbuild with the course was one of the first preservation initiatives within this multi-school effort.

Being co-taught by two professors and preservation practitioners, Anne Toxey and Donald del Cid, the course was divided into two parts. The first part was directed by Dr. Toxey. This publication documents the students’ work accomplished in this first part of the course, which shares its title with the course title.

To set the scene for post-flood urban preservation, we began research and analysis of the urban history of the city, including its social and physical geography, building methods and types, history of hurricanes and flooding, and events of the 2005 storms and flood. This general research was

necessary to begin the course since the students were not intimately familiar with the history and site of New Orleans and since it is the instructor’s belief that preservation intervention of a site cannot take place without a thorough understanding of its social, physical, and historical geography. Chapter I presents the results of this work.

Chapter II presents the students’ second effort: the research of preservation history and analysis of preservation practices in New Orleans, their comparison with standards set nationally, and their review for social and environmental sustainability. This last area of inquiry stems from the course’s ultimate objective: urban preservation. We define urban preservation as the repair, maintenance, and improvement of the physical and social fabric of a residential and commercial environment. This endeavor expands the object of preservation from the conservation of “historic” buildings to include larger social, economic, and environmental concerns of a neighborhood or city.

Chapters III–VI address the class’s specific study site: Freret Street and the surrounding neighborhood. Chapter III is a collection of essays analyzing the urban development and socio-economic history of the area. Due to the Mardi Gras celebration that was occurring during most of February 2007, our site visit took place late in the term. As a result, the students made initial (i.e., pre-field trip) recommendations for the site’s urban preservation and revitalization based upon their remote research. These are presented in Chapter IV. Chapter V documents the group’s field trip to New Orleans and Freret Street as well as the studies that they carried out there.

Concluding Part One of the course, Chapter VI presents the students’ analyses of specific commercial buildings along Freret Street, their recommendations for preservation, and their design proposals for renovation. This work directly benefits the owners of these structures who will use it to apply for preservation grants and to guide renovation work. It also benefits the various neighborhood organizations, Neighborhood Housing Services, Neighbors United, and the Freret Business Association, which have been working to bring residents and businesses back to this formerly vibrant community.

In Part II of the course, led by Mr. del Cid, students were given the option to continue developing their urban preservation and revitalization plans for the Freret neighborhood or to design residential infill in the Lakeview neighborhood of New Orleans. The continued work on Freret urban preservation by seven of the students is included at the end of this publication.

Participating in the class and authoring this work are graduate architecture students representing a broad variety of backgrounds and interests. They came to this program with degrees and professions in design, social sciences, liberal arts, and business. For some of them, this type of research was new, and for all them, the field of preservation was new. The fact that this is a real project that impacts the lives of real people with real needs motivated the class to overcome its own obstacles and to produce thoughtful and pragmatic solutions that push the confines of preservation to meet the challenges of New Orleans.

Chapter I: Urban Development of New Orleans

Introduction:

To begin the course and introduce its participants to the culture and urban history of New Orleans, Professor Toxey asked the students to develop a series of essays and analyses that investigated the social, historical, physical, and architectural geography of the city and region. They divided the program (below) among the ten participants.

Program:

Part A) Diagram the general history of urban development of the city and region including water management systems; map the social and urban geography of the city and analyze by neighborhood.

Part B) Develop and map building typologies, identifying vernacular vs. non-vernacular zones (be sure to include site and surroundings of final project).

Part C) What were the precedents for these building types? (Are there connections, for example, with building types in Orleans, France? Acadia? Spain? the Caribbean?) What are the structural systems and building materials used? Are any of these considered to be “green” by current definitions?

Required Readings:

Peirce Lewis, *New Orleans: The Making of an Urban Landscape* (Santa Fe, NM: Center for American Places, 2003)

“Preface to a Plan” digital collection of planning and related materials on New Orleans (University of Southern California, Department of Planning, 2006)

Dell Upton, “New Orleans: The Master Street of the World: The Levee,” in *Streets: Critical Perspectives on Public Space*, edited by Zeynep Celik, Diane Favro, and Richard Ingersoll (Berkeley, University of California Press, 1994)

Works Progress Administration, *Guide to New Orleans* (1983)

14th Street and Union Square Preservation Plan (New York City, Columbia University GSAPP Preservation Studio, 2006) http://www.arch.columbia.edu/hp/studio/2005-2006/pdf/The_Written_Plan.pdf

-Sample Arc Boutant Historic Preservation Program publication <http://www.arcboutant.org/publications>

-Sample urban geography case study: *Fremont, California* <http://geography.berkeley.edu/projectsresources/CommunityProfiles/FremontProject/WebPages/Fremont.html>

Recommended Readings:

Lloyd Vogt, *New Orleans Houses : A House-Watcher's Guide* (Gretna: Pelican Publishing, 1985)

Article on New Orleans cemeteries by Dell Upton published in a back issue of *Perspectives on Vernacular Architecture*

Samuel Wilson, Bernard Lemann, Mary Louise Christovich, Roulhac Toledano, and Betsy Swanson, *New Orleans Architecture* (Gretna: Pelican Publishing, 1971)

Mary Cable, *Lost New Orleans* (Boston: Houghton Mifflin, 1980)

Susan Lauxman Kirk and Helen Michel Smith, *Architecture of St. Charles Avenue* (1977)

AIA of New Orleans, *Guide to New Orleans* (1974)

Samuel Wilson, *Guide to Architecture of New Orleans, 1699-1959* (AIA New Orleans Chapter, 1959)

Italo William Ricciuti, *New Orleans and Its Environs: The Domestic Architecture 1727–1870* (New York: Bonanza Books, 1938)

Nathaniel Cortlandt Curtis, *New Orleans: Its Old Houses, Shops, and Public Buildings* (1933)

I.A Social and Historical Geography of New Orleans

by Miguel Perez with research and writing assistance from Lyndsay Wright

Introduction:

The city of New Orleans has a very dynamic and complex history. Peirce F. Lewis, in his book *New Orleans: The Making of an Urban Landscape*, identifies four distinct periods of great change in New Orleans's past: 1) 1718–1810; 2) 1810–1865; 3) 1865–1945; and 4) 1945–1975.

1718–1810:

During the first distinct period of growth in New Orleans, from 1718 to 1810, many people immigrated to the city, mostly from Europe. The original immigrants in New Orleans arrived from France. Rural Acadians arrived after the 1750s, and by 1767 the Spanish had control over the city. The Spanish held great influence over the type of architecture built in New Orleans, following the great fires of 1770 and 1880.

The urban layout of the city was planned by French engineers using a symmetrical grid system. This is the New Orleans neighborhood now known as the French Quarter, or the *Vieux Carré*. The focal point in this plan is the central square facing the Mississippi River. This square was originally named *Place d'Armes* and is now known as Jackson Square. The layout of this plan was intended to symbolize a “new Europe,” and the fabric of this plan became dense only after the 1800s.

During this period of New Orleans's development, the main means of transportation was via water routes. *Rue de la Levée* (now called Decatur Street) housed a line of docks and commercial buildings. The construction of roads was a chal-

lenge due to the geography of the site.

In 1803, New Orleans was sold to the United States in what came to be known as the Louisiana Purchase, and “Americans” began to settle in the city. Over the next seven years, the population of New Orleans grew threefold.

1810–1865:

The second distinct period of growth in New Orleans lasted from 1810 to 1865. Rapid influx of new settlers created great tension in New Orleans. Creoles were discontent with the new constraints on space in the city. New suburbs sprawled out from the center of New Orleans. Many Americans settled upstream from the French Quarter, while others settled near the outer walls. A transportation canal was proposed between the American and Creole neighborhoods but was never built. Today, this area is called Canal Street, and it symbolizes a “neutral ground” between the Creoles and the Americans.

Creoles from the *Vieux Carré*, Irish, and Germans populated the *faubourg* of Joseph Marigny much more slowly than the Americans settled their neighborhoods. In 1836 the city of New Orleans was broken into three municipalities: the French Quarter, the American city in faubourg St. Mary, and downtown Creole-cum-immigrants. The American elite began to move into what became the Garden District. Elements of suburbanization began to emerge in the development of New Orleans: architecture was now set back from the street, and the city began to expand outwardly. Patterns of white and black population concentra-

tions and the development or movement of white and black neighborhoods were directly influenced by the existing layout of the city's streets.

Unintended segregation manifested itself in the urban plan of New Orleans. Many affluent, white Americans dwelled in large homes lining the grand boulevards, while poorer blacks lived behind these luxurious homes on small streets running parallel to and separating the boulevards. These homes clustered between the grand boulevards are still largely occupied by blacks. The poorest blacks had very little choice as to where they lived and would settle wherever they could find a place to rest. For many, this was the *battures* of the backswamps. Wealthy whites tended to occupy the (topographically) highest parts in each municipality. The left over areas where drainage problems were rampant and where recurrent floods were a constant threat were occupied primarily by poorer whites and blacks.

1865–1945:

During the third distinct period of growth in New Orleans, from 1865 to 1945, great opportunity existed to engage Latin America and other commercial-agricultural countries. Wealthy Latinos sent their children to New Orleans to study English, and small Latino neighborhoods developed throughout the city.

In 1884 in an attempt to announce to the world that the city was ready for business, New Orleans hosted a world cotton exposition. Unfortunately, little effect was achieved in terms of new commerce; however, certain parts of the city were ren-

ovated. Audubon Park was also a positive result of this exposition, and land was set aside for two major universities, Tulane and Loyola. During the mid-1870s, the neighborhoods surrounding the universities became densely occupied by whites.

New Orleans was becoming overcrowded, and insufficient space in the city needed to be addressed quickly. People began to settle on the other side of the river. Following the Civil War, fewer Germans and Irish resided in the city, and Italians became the largest white ethnic minority.

Three options could possibly remedy the complications resulting from the surge of new immigrants: 1) the city could expand toward the lake; 2) the city could expand along the natural levee; or 3) New Orleans could crowd more people into the existing footprint of the city. At the time, certain dangers prevented expansion of the city toward the lake. Furthermore, land was limited along the natural levee, preventing this from being a feasible solution. Therefore, the only real opportunity to alleviate the immigration problem was the third option, to crowd more people onto the same land. This was accomplished by persuading owners of larger land areas to subdivide their properties.

This solution led to the introduction of the shotgun house into the New Orleans building fabric. Shotgun houses were built and sold at reasonable prices, and this house type could be erected on narrow lots, due to its extremely narrow footprint. The basic floor plan for a shotgun house was a string of rooms connected by one hallway. Shotguns were the cheapest houses on the market at the time they were built. Double shotgun houses—two shotgun houses side-by-side and built under a single roof—became popular as well. Many of these homes were built from five to fifteen feet above the ground.

Technological advances, especially the invention of the Wood pump, allowed for the backswamps to be drained. This led to an increase in the amount of land available for new development, allowing more people to crowd into the city.

1945–1975:

The fourth distinct period of growth in New Orleans lasted from 1945 to 1975. Large development projects such as “New Orleans East,” equal to one-quarter of the total area of New Orleans, resulted from assimilated internal projects in the city.

People in New Orleans began to identify the French Quarter as the core of their city. The federal government (the highway men) and the business district had redevelopment plans and ambitions that threatened the French Quarter that New Orleanians loved by introducing an elevated highway between the old city and the river. The people of New Orleans fought to protect their unobstructed view of the river from Jackson Square. Revitalization in the French Quarter led to the construction of new facilities and projects in downtown New Orleans.

Sources:

Lewis, Peirce F. *New Orleans: The Making of an Urban Landscape*, Second Edition. Santa Fe, NM, and Staunton, VA: Center for American Places, distributed by the University of Virginia Press, 2003.

I.B New Orleans: Historical Building Materials and Construction Methods

by Jeffrey Harris and Luis Tejeda

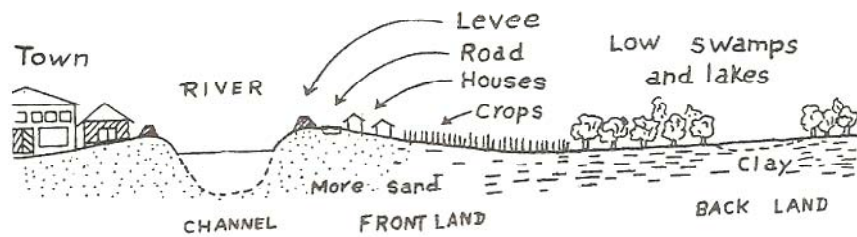
Introduction:

A close study of the building construction methods and materials used in New Orleans, from the first primitive wooden dwellings to today's modern glass and steel giants, reveals a gradual evolution from working in tandem with the land and climate to a casual disregard for them. By seeking to reestablish the wisdom of vernacular building, New Orleans can restore its balanced relationship with nature.

Location:

Louisiana lies in the Gulf Coastal Plains: its lowland district is composed of the "front land," areas where water drains back into the swamps not the river, and swampland, where rainfall and overflows from rivers end up. The site affords unparalleled access to both the Mississippi and the Gulf of Mexico, but its proximity to both bodies of water makes its soil and climate inhospitable.

Fig. I.B.1
"Front land" and "Backlands" drawing

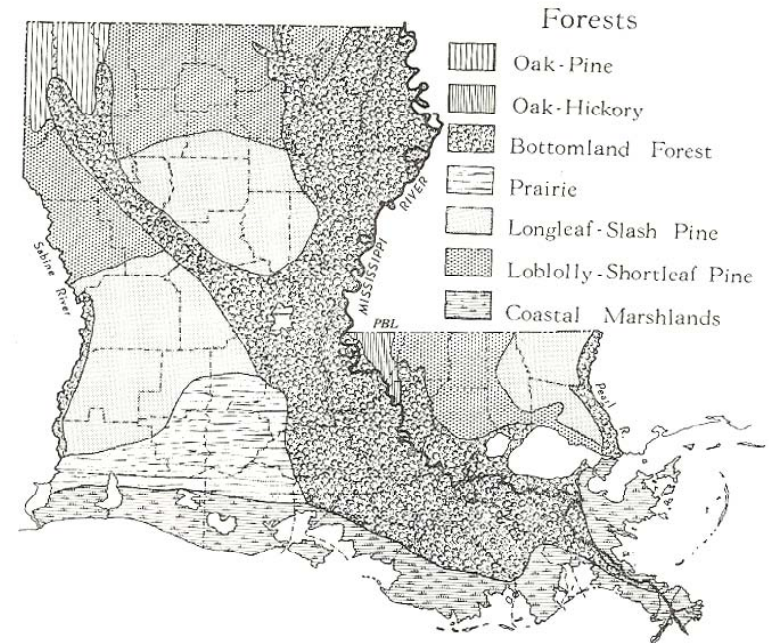


From Russell, *Louisiana: Our Treasure Ground*

Soils:

One third of the state is covered in alluvial soils (clay, silt, sand and gravel) deposited by the overflowing of rivers and bayous, typically producing fertile soils. The ground under New Orleans consists of a combination of loam, clay, and "muck," the soupy morass created by the cycle of swamp growth and swamp decomposition. These are clearly not ideal building conditions and have greatly impacted the architectural course of the city. Early French settlers, as well as the later-arriving Spanish, who wanted to build using their own vernacular methods and styles, were forced to adapt their building practices to fit New Orleans.

Fig. I.B.2
Map of Louisiana



Clay could be found in the natural levees of the Mississippi and on the shores of Lake Pontchartrain. Brick kilns were introduced in the early 18th century, producing soft and porous bricks with a characteristic brown-reddish hue.

Natural Resources:

The live oak is native to the coastal regions, and the cypress is abundant in swamp and lowland areas. The cypress can be identified by its "knee roots," which grow above the surface of the water, allowing the tree to aerate its waterlogged root system. Pine timber can be found in the upper portions of the state.

Cypress trees were the predominant lumber product in the early centuries of constructing New Orleans. It is exceptionally durable, easily worked, readily split into shingles and boards, less inflammable than other woods, and resistant to termites.

Spanish moss was also abundant in the region and was used by Indians in conjunction with mud to plaster huts and to make loin cloth and torches. French settlers first found use for it as mattresses filling and insulation. However, they also used it with mud as “noggin” in house construction and mixed it with clay to strengthen the unusually soft local bricks. The 1930s marked the peak of moss production in Louisiana, with a sharp decline coming in the 1960s.

Building Materials and Construction:

Well before the arrival of European colonists, Native American Indians occupied the land around Lake Pontchartrain. They lived in huts framed with

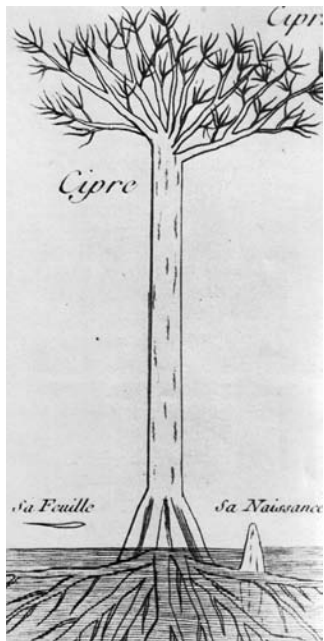
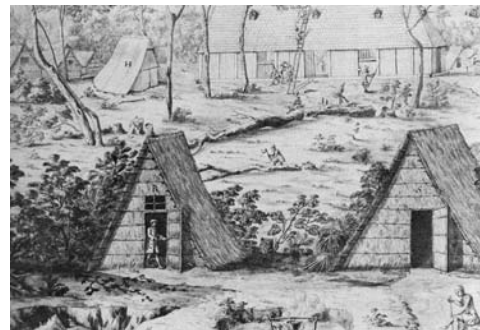


Fig. I.B.3
(Left) Cypress tree illustration with “knee root”

Fig. I.B.4
(Right) Indian dwellings influenced European colonial architecture



cypress posts and covered in a mixture of clay, found in abundance on the shores of the lake, and “Spanish beard,” a type of moss. The French settlers, seeing the “seemingly endless stands of virgin [cypress] wood”¹ and being comfortable with timber frame construction in their own right, assimilated some of the Indian techniques into their first structures: “the spaces were filled with *bousillage*, a mixture of mud and Spanish moss or animal hair, which the French copied from Indian dwellings.”² The dwellings were “built on wooden sills placed directly in the ground”³ and, despite cypress timber’s natural resistance to rot, were quickly devoured by the damp, soft soil or blown apart by hurricanes.

In a shift toward more permanent dwellings, settlers established their first brickyard in 1725 using the sturdier (but still relatively soft and porous) bricks for infill between posts, a technique called *brique-entre-poteaux*.⁴ The humidity called for a protective layer of wood siding or cement stucco to protect the wood from rot and the bricks from deteriorating. This final protective layer meant the difference between a building lasting only seven

- 1 Kingsley, Karen. (21)
- 2 Kingsley, Karen. (19)
- 3 Vogt (33)
- 4 Vogt (33)

years, in the case of the first Ursuline Convent, and a building standing strong for sixty-four years, only to be cut down by fire in the case of the St. Louis Church.⁵

Ironically, not flooding but major fires in 1788 and 1794 resulted in the enactment of the first building code in New Orleans, which called for tile roofs on all buildings, as opposed to wood shingles or cypress bark and for the first floor of any two-story structure to be constructed of *brique-entre-poteaux* with cement stucco veneer.⁶ Without being required by law to do so, many New Orleanians raised their buildings off the ground for a number of reasons. First, “since wood sills and posts quickly decomposed in the wet Louisiana soils, it soon became customary to raise buildings above the ground, either on cypress blocks or brick piers or on brick walls of sufficient height to provide a ground-level basement.”⁷ This type of construction derives from an Italian building type called a *pallafitti*, which refers to a dwelling that is elevated above a body of water, or potential body of water in the case of a floodplain, on wood stilts that have been plunged deeply into the soil

- 5 Kingsley, Karen. (20)
- 6 Vogt (31)
- 7 Kingsley, Karen. (21)

Fig. I.B.5
Brique-entre-poteaux construction



or sediment below. In New Orleans, this building type lessened the destructive power of flooding and improved the air quality by lessening damp underneath the house.⁸ Other buildings influenced by the pallafitti are the “oysterman’s hut” and the bathing pavilions that can be found on the shores of Lake Pontchartrain, both of which are intentionally built over water.⁹

The closest relative of the pallafitti in Louisiana, of which there are few remaining because of the decomposition of wood in water, is the building type referred to as *poteaux-en-terre*, meaning posts in ground. New Orleanians’ adaptation of this was to lift houses onto brick walls, essentially moving the first floor up a level to make room for a ground-level basement. The best and oldest example of this building method is Madame John’s Legacy, rebuilt in 1788 after the first major fire.

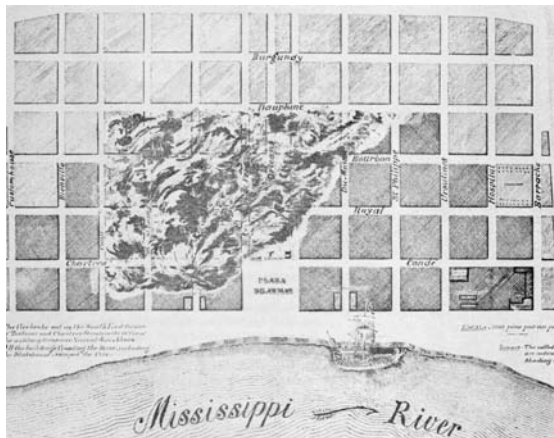
Modern times brought modern innovations, two of which led to the shift in building construction away from the wisdom of the Indians and the early set-

8 Kingsley.(19)

9 *Louisiana: A Guide to the State* (158-9)

Fig. I.B.6

Map of New Orleans illustration the extent of the 1788 fire



tlers and towards a simplistic imitation of building techniques from other parts of the country. The first innovation was the pump system that allowed New Orleans to drain the swampy area north of the city up to the shore of Lake Pontchartrain and fill it with buildings. Because the “muck” of the swamp tends to compress when the water is removed, this new dry land also happened to be up to fifteen feet below sea level. Instead of adjusting zoning requirements to acknowledge

Fig. I.B.7

Photograph of Madame John’s Legacy



the clear danger of excessive flooding, houses were built with even less flood-preparation than the houses that were built on higher ground. The slab-on-grade, Ranch-style house—the second innovation—descended on New Orleans and filled in the low land. When the potential flooding became reality after Katrina, the effect was catastrophic. Even buildings that were not “destroyed” in a structural sense were rendered uninhabitable by the nature of their materials. Pine lumber dried too slowly to avoid rot; drywall either disintegrated or was contaminated beyond rescue.

Sources:

Comeaux, Malcolm L. *Geoscience and Man*. Vol. 2. Baton Rouge: The School of Geoscience Louisiana State University, 1972.

Davis, Edwin A. *Louisiana: the Pelican State*. Baton Rouge: Louisiana State UP, 1959.

Kingsley, Karen. *Buildings of Louisiana*. New York: Oxford University Press, 2003.

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Writers' Program of the Work Projects Administration. *Louisiana; a guide to the State*. New York, Hastings House, 1941.

Sources for images:

A Home in Pierre Part Constructed of Hand-Split Cypress Around a Framework of Young Cypress Trees. 1972. Louisiana.

Atchafalaya Swamp Life. By Malcolm L. Comeaux. Baton Rouge: The School of Geoscience Louisiana State University, 1972.

"Front lands" and "Back lands". 1959. *Louisiana: the Pelican State*. By Davis, Edwin A. Baton Rouge: Louisiana State UP, 1959

"The Land of Louisiana". 1959. *Louisiana: the Pelican State*. By Davis, Edwin A. Baton Rouge: Louisiana State UP, 1959

I.C New Orleans Housing Typology

by Mariem Bennani

Introduction:

New Orleans houses are a mixture of types and styles, a testament to their adaptation to culture and nature over time. These types span more than one period, and each type is associated with more than one style. There are fourteen common house types in New Orleans.

House Types:

French Colonial Plantation

Constructed from the early 1700s to the early 1800s, this style was influenced by the buildings of the West Indies and represents a blending of French and Spanish influences.

These rectangular structures are raised above ground-level cellars with the main floor on the second level and storage below. A gallery runs the length of the building on at least two sides and sometimes on all four sides. A steep, hipped roof

Fig. I.C.1

French colonial plantation house (Source: web.pulse.net)



is generally pierced by dormers on two or four sides. The number of rooms varies, and the floor plan never includes hallways. Cabinets, small rooms used for storage, are positioned at the rear outer corner of the house. Each room on the second level has French doors opening onto the gallery.

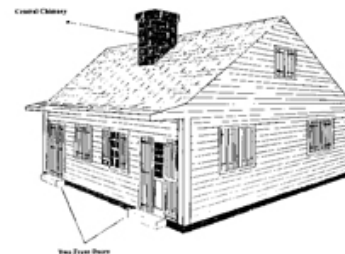
Creole Cottage

This house type originated in the West Indies and was introduced to New Orleans around 1790. It was the most common house type during the first half of the nineteenth century in New Orleans and remained popular until shortly before the Civil War, around 1850.

The Creole cottage is square or rectangular in shape, raised eighteen to thirty inches above a ventilated crawl space, and is built up to the front property line. The typical plan consists of four rooms arranged symmetrically, each square with sides measuring twelve to fourteen feet, and two traditional small cabinets in the rear outer corners. One cabinet generally houses a spiral staircase

Figs. I.C.2-3

Creole cottages (Sources: www.bohemianarmadillo.com and *New Orleans Houses* by Lloyd Vogt)

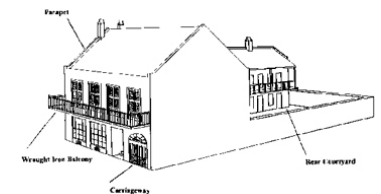


to the attic, used as a sleeping room, while the other cabinet is used for storage. There are two variations of this plan: the two-bay cottage, which is half of a Creole cottage (two rooms rather than four), and the three-bay cottage, which has the same arrangement but with a side entrance. Most Creole cottages have either gabled or hipped roofs; the gabled roof is the most common. The front of the Creole cottage usually has four shuttered openings, of which two are doors and two are windows. Above the front wall is an overhang called an *abat-vent*. Much like balconies, abat-vents provide protection for the front wall, doors, and windows from sun and rain.

Creole cottages are mostly found in the French Quarter, Bywater, Faubourg Marigny, New Marigny, and Esplanade Ridge but are also scattered throughout other neighborhoods.

Figs. I.C.4-5

Creole townhouses (Source: www.cr.nps.gov)



Creole Townhouse

The Creole townhouse became common when the city was rebuilt after the great fires of 1788 and 1794. It remained popular until the mid-19 century.

Some of its characteristics include a two-to-four story structure set at or near ground level with the façade wall set on the property line. Also identifiable is the exterior wrought-iron balcony on the second and sometimes third levels. Most Creole townhouses have pitched roofs and roof dormer windows. The ground floor was often used as a commercial shop and consisted of two rooms of the same size, one opening to the street façade and the other opening to the rear stair hall.

This type is mostly found in the French Quarter and Faubourg Marigny.

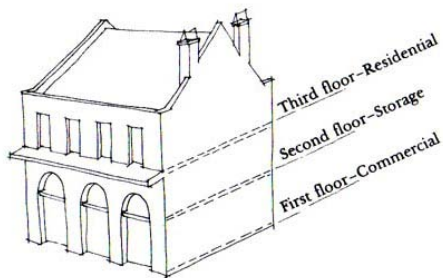
Entresol House

This building type was an experiment with full-service vertical living in the growing 18th-century city.

It is characterized by a second floor unperceived from the outside. A short middle level, or *entresol*, separating the ground floor commercial space from the upper-level living quarters was used for stock and storage. These mezzanine spaces get

Fig. I.C.6

Entresol house type (Source: Vogt)



light and air from extra high, arched, and barred first-story transoms.

Entresol houses were constructed in the French Quarter during the postcolonial period.

Shotgun House

The origin of this type house is traced to Africa and Haiti. The shotgun house appeared throughout the city of New Orleans from the second half of the 19th century and until 1910. It remains the city's prominent house type.

The shotgun house is a narrow, one-story dwelling without halls. Each room is placed behind the next in single file. The traditional explanation of why these houses are called "shotgun" is that if one fires a shotgun through the front door, the shot will pass directly through the lined-up doors of each room and out the back door, without hitting anything in between. The lots on which they are built are very narrow, typically about 35 feet wide. The shotgun design developed as an inexpensive solution to fit these narrow New Orleans lots.

Shotguns come in two principal variations: the single shotgun and the double shotgun. The single shotgun is a rectangular house with all rooms

Figs. I.C.7-8

Double (left) and single (right) shotgun houses (Source: bywater.org/Arch/DoubleShotgun)



arranged one behind another in a straight line. The shotgun double is composed of two shotgun singles joined together side-by-side under one roof with a shared center wall.

The rooms of a shotgun house are usually of a good size, approximately fourteen feet square and have high ceilings. Most of them have a narrow front porch covered by a roof supported by columns and brackets, often with lacy Victorian ornamentation.

Shotgun houses were built in lower and middle class neighborhoods.

Camelback House

Camelbacks were popular in New Orleans from the 1860s to the early 1900s. The camelback is a single or double shotgun with one story in the front and two in the rear. They were built in the latter part of the shotgun period, and only a few were built in Bywater. This type was developed because taxes were levied on the basis of the height of the house along the street front, rather than its height at the rear of the property. It is also possible that the camelback developed as a direct descendant of the Creole cottage.

Fig. I.C.9

Camelback (Source: bywater.org/Arch/Camelback3a.jpg)



Corner Storehouse

One feature of neighborhood land use patterns in 19th-century New Orleans was the utilization of corner lots for commercial establishments. The corner storehouse that resulted is a combination commercial-residential building featuring a commercial area on the ground level and residential space above.

The commercial space is usually a grocery store, shop, restaurant, or bar. This building type has a wraparound canopy projecting over the sidewalk at the first level. This canopy is usually supported by wooden pillars or by colonnettes of iron or turned wood. This type of building appears throughout New Orleans.

Georgian House

The Georgian design reflects the American influence on traditional French and Spanish building types in the French Quarter from 1831 to 1860. This house type was not common in New Orleans until the Georgian colonial revival, when bathrooms were incorporated into second floor plans. Some Georgian Colonial houses were

also attempts at constructing replicas of Georgian houses built on the Eastern Seaboard during the English colonial period from 1700 to 1770.

The design of the Georgian house is based on principles of formal composition. It is square in plan with five bays, two stories, and a central hall flanked by four rooms of the same size (two on each side). The plan is symmetrical with a medium-pitched, hipped or side-gabled roof.

This style strives for balanced façades, muted ornamentation, and minimal detailing. The Georgian house is known for its simplicity, symmetry, and solidity. This type of building appears throughout New Orleans.

Outbuilding

Support buildings for the main house, outbuildings were a common feature of urban dwellings from the early 1800s until 1860. Before 1830, they were completely detached from the main structure, forming the rear or side wall of a flagstone or brick-paved courtyard. After 1830, outbuildings were often attached to the rear of the main house. In the 1850s, outbuildings began to decline in use and were gradually incorporated into the design of the main structure.

Outbuildings vary in height from one to three stories, two stories being most common. The floor-plan generally includes two or three rooms, one room deep on each level. Since in most cases outbuildings were constructed either at the side or back of the property, it is common to find outbuildings for two houses back-to-back, sharing a center wall, with the end gables extending above the roof line and forming a fire wall.

American Townhouse

This house type was influenced by the architecture of the Northeast and appeared in New Orleans as an urban residence from the 1820s–50s. They were two-to-four stories high and were frequently constructed as row houses. A two-story service wing was attached to one side at the back of the house. The side hall plan usually had a three-bay façade with two or three rooms aligned from front to rear, parallel to an interior side hall with a stairway to the upper levels. These structures were built in rows of as many as thirteen identical common-wall residences with no separations between individual units. They have Federal or Greek Revival ornament and castiron galleries.

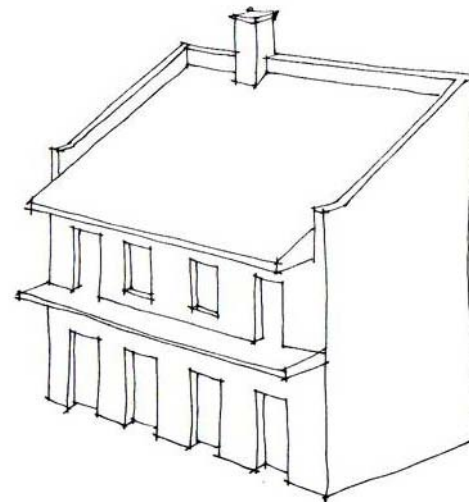
Fig. I.C.10

Corner storehouse (Source: *Lost New Orleans* by Mary Cable)



Fig. I.C.11

Georgian house (Source: www.OntarioArchitecture.com)



Figs I.C.12–13

Outbuilding (left) (Source: Vogt); townhouses (right) (Source: “Preface to a Plan...”)



American townhouses were urban residences built in the American sector of New Orleans, which is now the Central Business District and Lower Garden District.

Double-gallery House

This house type appeared in the early suburbs of New Orleans as a variation of the urban American Townhouse from 1820 to 1850. It evolved during the antebellum period.

The American townhouse and the two-story double shotgun can be categorized as double-gallery houses. The double gallery house is known for its asymmetrical arrangement of façade openings. It is a two-story structure raised on low brick piers with a side-gabled or hipped roof. The house is set back from the property line. Two covered galleries are framed by two-story columns supporting the entablature.

This house type is mostly found in the Lower Garden District, the Garden District, Uptown, and Esplanade Ridge.

Fig. I.C.14

Double-gallery house (Source: www.coliseumsquare.org)



Bungalow

The bungalow was very popular in New Orleans throughout the 1920s and 1930s. The name “bungalow” was derived from the Hindustani Bangla, low houses surrounded by porches, built in India by the English government as rest houses for foreign travelers.

Bungalows are one-story or one-and-a-half-story structures with low, simple lines and large projecting roofs with exposed roof rafters in the eaves. In the side-gable version, a large, single roof dormer with either a shed or gabled roof is placed in the front façade. Porches and galleries are important design features. Many bungalows were built with screened porches, using the newly developed insect screen. Porch roofs are supported by large, tapered, square pedestals extending three feet above the ground level, and tapered, square columns. This style expressed a feeling of simplicity, a choice of comfort over elegance.

Bungalows are found mostly in the neighborhoods of Mid-City, Gentilly Terrace, and Broadmoor and are scattered throughout older neighborhoods as infill construction.

Fig. I.C.15

Bungalow (Source: www.K2urbancorp.com/homes/_img/craftsman)



Architectural Styles:

New Orleans knew different architectural styles that became popular during different eras. Some of the major historical periods in the development of New Orleans and the architectural styles associated with them follow.

Colonial Period (1718–1803)

French colonial style

Balance and symmetry define the French Provincial style, which includes a steep hipped roof, balcony and porch balustrades, and rectangular doors set in arched openings.

Postcolonial Period (1803–1830)

Creole style

A front wall that recedes to form a first-story porch and a second-story balcony highlights the Creole cottage design.

Antebellum Period (1830–1862)

Greek revival style

Large porches, entryway columns, and a front door surrounded by narrow, rectangular windows characterize Greek Revival homes. Residentially, this style is mostly seen in American cottage houses. This was the predominant style used for public and private non-residential buildings.

Victorian Period (1862–1900)

Gothic revival style

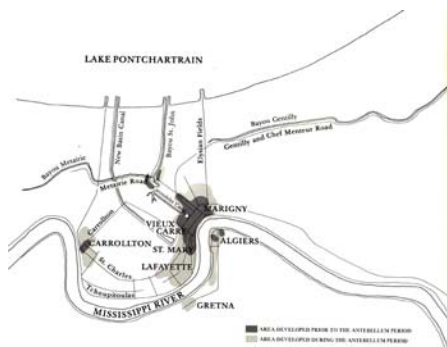
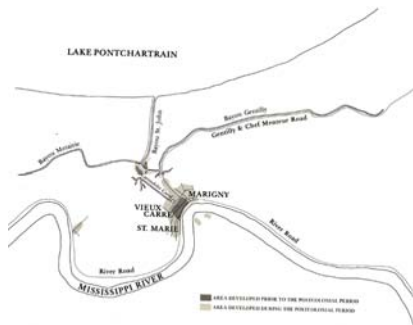
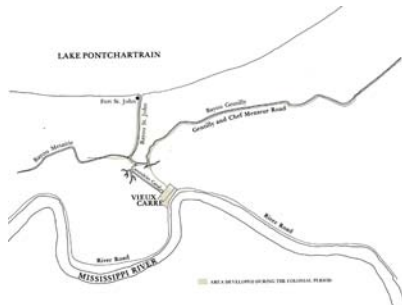
English romanticism influenced this style, marked by “Gothic” windows with pointed arches, exposed framing timbers, and steep, vaulted roofs. This style was mostly used in churches.

Italianate Style

Symmetrical bay windows in front, small chimneys set in irregular locations, tall, narrow windows, and in some cases towers, typify Italianate

Figs. I.C.16–18

Location of French colonial-style buildings (top), Creole-style buildings (middle), and Greek revival-style buildings (bottom) in New Orleans based on periods of urban development. (Source: Vogt)



houses. This style was mostly used in American townhouses.

Second Empire Style

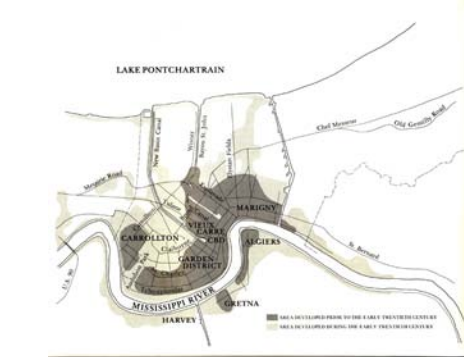
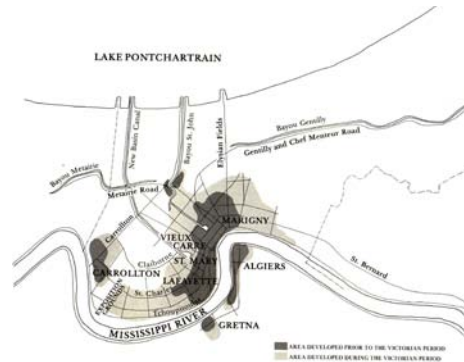
A Victorian style, Second Empire homes feature mansard roofs with dormer windows, molded cornices, and decorative brackets under the eaves.

Eastlake Style

The Eastlake style promotes a peculiar kind of furniture and interior decoration that was angular, notched and carved, and deliberately opposed

Figs. I.C.19–20

Location of Victorian style buildings (top) and twentieth century style buildings (bottom) in New Orleans, based on periods of urban development (Source: Vogt)



to the curved shapes of French Baroque Revival Styles.

Queen Anne Style

Emerging late in the Victorian era, the Queen Anne style employs inventive, multistory floor plans that often include projecting wings, several porches and balconies, and multiple chimneys with decorative chimney pots.

Richardsonian Romanesque Style

This style incorporates 11th-century southern French and Spanish Romanesque characteristics. It emphasizes clear strong picturesque massing, round-headed Romanesque arches, recessed entrances, richly varied rustication, boldly blank stretches of wall contrasting with bands of windows, and cylindrical towers with conical caps embedded in walls.

Elements of these various Victorian styles were adapted to shotgun houses.

Early Twentieth Century (1900–1940)

Georgian colonial revival

Refined and symmetrical with paired chimneys and a decorative crown, Georgian houses were named after English royalty.

Neoclassical Revival

Neoclassical homes, which range from one-story cottages to multilevel mansions, are distinguished by their Ionic or Corinthian-columned porches. This style was used on the first shotgun house.

Tudor Revival

Half-timbering on bay windows and upper floors and facades that are dominated by one or more steeply pitched cross gables typify Tudor homes.

Bungalow Style

A forerunner of the craftsman style, California Bungalows offer rustic exteriors, sheltered-feeling interiors, and spacious front porches.

Spanish Colonial Revival

Taking its cues from early Spanish missions, this eclectic Spanish style adds details from Moorish, Byzantine, Gothic, and Renaissance architectural styles.

Modern Period (1940-)

International Style

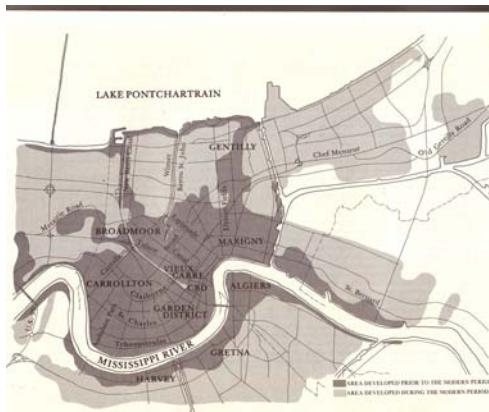
The International style exposes functional building elements, including elevator shafts, ground-to-ceiling plate glass windows, and smooth facades.

Suburban Ranch Style

Similar to the Spanish Colonial, Prairie, and Craftsman styles, Ranch homes are set apart by pitched-roof construction, built-in garages, wooded or brick exterior walls, sliding doors, and picture windows.

Fig. I.C.21

Location of Modern style buildings in New Orleans, based on periods of urban development (Source: Vogt)



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I.D Ethnic Groups of New Orleans

by Michael Okies

Introduction:

Ethnic groups in New Orleans are numerous, so this article will only cover the most populous and influential groups which define the basic core of the identity of New Orleans. The list of multicultural groups important to New Orleans is extensive. Some ethnic groups not researched for this article are: Albanian, Croatian, Dutch, Greek, Hungarian, Middle Eastern, Norwegian, and Romanian.

French, French-Speaking, and Creole

Many French settled in New Orleans during the colonial period; some arrived directly from France while others came from Canada and the West Indies. The first settlers following the city's foundation included more or less involuntary immigrants such as indentured servants and convicts, together with speculators enthused by John Law's financial enterprise.

From 1765 through 1785 Acadians exiled from Canada came to Louisiana, although most settled in rural areas west of New Orleans. The late 18th century and beginning of the 19th brought many French-speaking immigrants to the city who were fleeing unrest in revolutionary France and revolt in St. Domingue.

In colonial New Orleans, native-born New Orleanians (as opposed to those fresh off the boat from Europe), whether of French, Spanish, African, or Amerindian descent, tended to mix freely with one another, resulting in a cultural or racial mixture later also termed "Creole."

Spanish and Spanish-Speaking:

While many Spaniards came to New Orleans during the colonial era, they were more limited in number than inhabitants of French descent. They tended to mix in quickly with French and other New Orleans residents, forming a French-speaking Creole mix of native-born New Orleanians.

Spanish immigrants continued to settle the area during the first half of the 19th century. A specific Spanish identity was retained longer outside of New Orleans, in St. Bernard Parish, among "Los Islenos" and to some extent in New Iberia (southwest Louisiana).

Since 1959, most Spanish-speaking immigrants to New Orleans have come from Latin America, particularly Central American and Cuba. Their involvement in New Orleans also dates to the colonial era. The Spanish element in New Orleans has left its mark on the typically Spanish-colonial architecture of the Vieux Carré. It also survives in some buildings, such as the Cabildo and Pontalba buildings on Jackson Square, and in street names, such as Galvez and Gayoso streets (governors during the Spanish period).

The most recent wave of migration to the New Orleans area has been an influx of Hispanic workers who have come since September 2005 to help with the post-Katrina cleanup and rebuilding. This Hispanic group consists of a higher percentage of Mexican nationals than the previous mix of Hispanic Louisianans.

Los Islenos

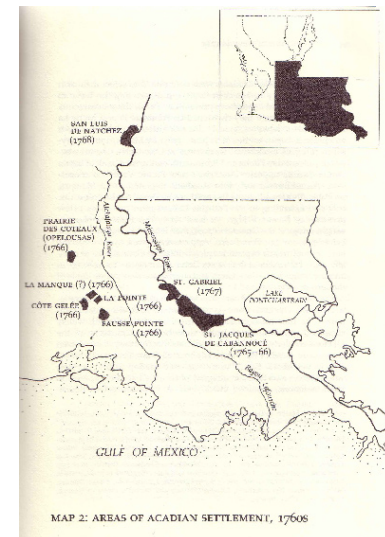
Canary Islanders arrived in southeastern Louisiana in 1778–1783, settling particularly in St. Bernard Parish. Some Spaniards from Spain proper also joined the St. Bernard communities. Some descendants of Los Islenos continued to speak a Spanish dialect into the 20th century. Spanish surnames can still be found among prominent St. Bernard families.

German:

There were some colonial-period Germans living in New Orleans, including speculators lured by John Law's enterprise. Many other Germans, including Swiss-Germans, colonized an area of

I.D.1

Areas of Acadian settlement, 1760's (Source: Brasseaux, 98).



farmland along the Mississippi River, upriver from the city. The term “German Coast” is still used for this area in St. Charles and St. John Parishes; the town named “Des Allemands” also commemorates German presence, as do place names based on German surnames.

More German immigrants came to New Orleans in the first half of the 19th century. While some remained in the New Orleans area, settling in communities west or south of the city that soon turned into 19th century suburbs, many other Germans entering through the port moved on from New Orleans to more northerly and westerly parts of Louisiana and the U.S.

During the period 1864–1898, a third wave of German immigration through New Orleans took place, however, most did not remain in the city.

Irish:

A few Irish came to New Orleans during the colonial period, but most Irish immigrants came over during the first half of the 19th century. The “Old Irish,” who settled between 1800 and 1830, tended to be more prosperous than the “New Irish,” who arrived between 1830 and 1862 and who generally worked as manual laborers, such as ditch diggers and dock workers, or as servants. The Irish who immigrated during the Potato Famine of 1845–1849 were even less prosperous than the “New Irish.” While the Irish lived in various parts of the city, one area became known as the “Irish Channel.”

African:

People of sub-Saharan African descent or partial African descent formed the largest element in the population of New Orleans during the colonial period, as they do today. In addition to many who were transported here as slaves, a great number of free people of African descent arrived from

France. Under the colonial legal systems of the French and Spanish, slaves could be freed or obtain their freedom, and free people of all races could hold property, intermarry, file lawsuits, and conduct business as they chose.

Legal status of slaves and free blacks was less favorable after Louisiana became part of the U.S., but many were successful as merchants and professionals. The French-speaking community was characterized by racial and residential mixture, maintaining ties with their European-descended relatives. The substantial population of free people of color was a distinctive and crucial aspect of New Orleans history and culture prior to the U.S. Civil War.

A large slave market continued to operate in New Orleans, however, and slavery lasted until 1863. The 1850s saw a decline in both the status and numbers of free people of color, due to tensions leading up to the Civil War. The period of Reconstruction (1865–1877) was mixed in its impact on African-Americans in southeast Louisiana, with opportunities for political participation and leadership on the one hand but riots and violent repression on the other. People of African descent have made fundamental contributions to the culture of New Orleans throughout its history. The characteristic buildings and ironwork in historic districts of New Orleans, including the French Quarter, while exhibiting Spanish and other European influences, were mostly the work of craftsmen of color, slave and free.

British:

A few British came to New Orleans during the colonial period, but they were not prominent as a group. The most notorious British individual associated with the colonial city was John Law, a Scot working for the French monarchy to set up the financial scheme associated with the Com-

pany of the West, later the Company of the Indies. However, he never actually lived in Louisiana.

During the 19th century, more British immigrants arrived in New Orleans. Some had already lived in other parts of the U.S. and settled, together with U.S.-born migrants, in neighborhoods and communities upriver from the French Quarter. New Orleanians of British origin made significant contributions to the community. For example, architect Thomas Wharton built some of the grandest mansions in the Garden District for immigrants from Britain.

Vietnamese:

One of the largest concentrations of Vietnamese Americans in New Orleans lived in New Orleans East prior to Hurricane Katrina. About 20,000–25,000 people of Vietnamese origin lived in the overall New Orleans metropolitan area, including the “West Bank” of the Mississippi River in the suburbs of Algiers and Gretna. Large numbers of Vietnamese found their way to New Orleans following the fall of South Vietnam in 1975.

Vietnamese-Americans were among the first New Orleans East residents to return to this devastated area following Katrina. As of May 2006, forty-five of fifty Vietnamese-owned businesses in the Village l’Est neighborhood had managed to reopen.

Italian:

Some Italians settled in New Orleans from the earliest period, although their surnames sometimes appear in French form. From 1850 to 1870, more Italians were settled in this city than in any other in the country. The main period of Italian immigration actually took place from 1890 to 1910. Initially, these immigrants worked primarily as farmers, laborers, citrus importers, and shopkeepers. The French Quarter became known as “Little Sicily” during the early 20th century.

Jewish:

There has been a large and thriving Jewish community in New Orleans since the 19th century. Although only a few Jewish immigrants were able to live in the colonial city—since they were technically barred by law from doing so—beginning in 1803 more began arriving from other parts of the U.S., Caribbean, and Europe. The first Jewish congregation was established in 1827.

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I.E. Economic Development of New Orleans

by Nancy Edwards Greene

Since its founding, New Orleans's economy has relied on its port. While still true today, the city now also relies heavily on tourism, as well as a few other smaller industries, such as higher education and commercial banking. All of these industries have had their ups and downs, but most seem to be recovering well in the post-Katrina era.

In 1718 the French founded New Orleans as a port city. Sited at the mouth of the Mississippi River, it served the transportation needs of the entire Midwest. As the Ohio River Valley grew

with settlement, the New Orleans population and economy also grew to meet the Midwest's expanding need to trade. Since the only transportation avenue available was by river, New Orleans greatly benefited.

With the Louisiana Purchase in 1803, New Orleans began to boom with an influx of Anglo-American settlers.

In fact, the city's population tripled in the first seven years after the Louisiana Purchase. With industrial expansion in New England and in Europe, this southern port became busier and larger. Increasing need for cotton and other Midwestern foodstuffs and products was necessary to keep the new industries and their subsequent economies running. This in turn meant more jobs and more people for New Orleans. More people meant more sprawl; more sprawl meant more jobs.

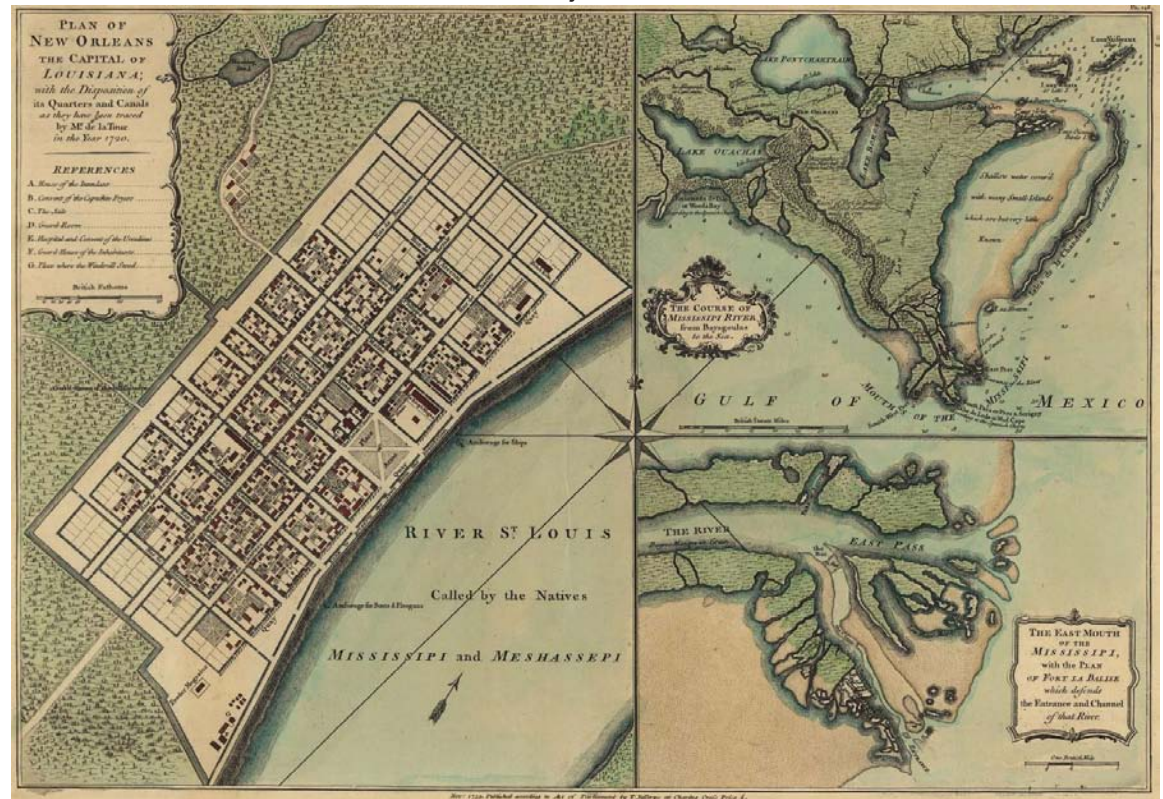
Fig. I.E.1 (below)

U.S. map showing extent of Louisiana Purchase (Source: James Madison University, The James Madison Center http://www.jmu.edu/madison/center/main_pages/madison_archives/life/secretary/la_purchase/history.htm)

Fig. I.E.2 (right)

1720 Maps of the city of New Orleans

(Source: <http://nrm.wikipedia.org/wiki/1718>)

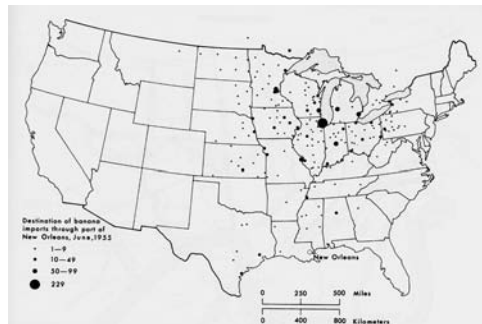


There was an end to this surge of the economy, however. The invention of the steam locomotive in the mid-19th century slowed the business of the New Orleans port. When St. Louis and Chicago became major railroad hubs, New Orleans lost its monopoly on the Mississippi Valley trade. The river, however, was still used for hauling bulk cargo that the railroads could not handle, such as grain and coal.

Eventually, the river traffic began to revive, and by happenstance New Orleans became a railroad hub as well. With its location at the junction of the Mississippi River Valley and the Gulf of Mexico, New Orleans became the prime port for commercial agriculture goods from the Southern states and Latin America. By the mid-20th century, with its combination of water, rail, and roads, New Orleans had become a transportation juggernaut.

Because New Orleans was a prime port, the trade industry really opened up to Central and South America. The trade industry was so large that Latin commercial offices began to line the port. New Orleans eventually housed consuls for every Spanish-speaking republic. Latinos vacationed in New Orleans and even came to New Orleans for a U.S. education.

Booming business was wreaking havoc on the port, and new technologies were making the port obsolete. The port needed new wharves, more



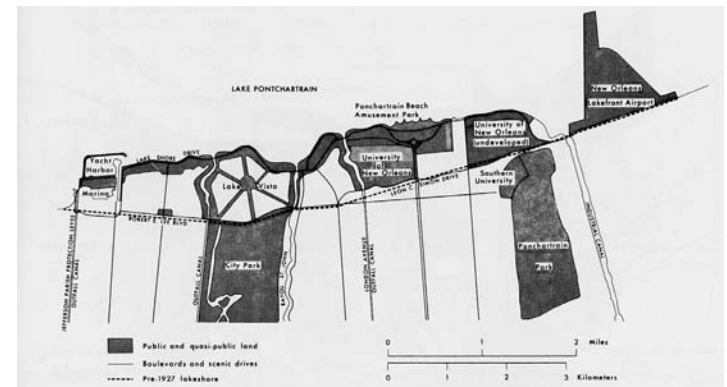
efficient ways to load and unload cargo, deeper channels for the new, bigger ships, and a port authority to control it all. Thus came a newly renovated port and the Board of Commissioners for the Port of New Orleans, commonly known as the “Dock Board.”

This increase in business gave the leaders of New Orleans and the state a new idea to boost the economy even more. They decided to make a new lakefront for Lake Pontchartrain. As the lake was constantly affected by storms and the Gulf, in 1924 the state created the Levee Board. This new board initiated the creation of a new levee to replace the natural levee, thus creating a new lakefront. This new lakefront would in turn become prime property with beaches, boulevards, parks, a new yacht harbor, and even a municipal airport.

From around 1945 to 1975, New Orleans had many new obstacles to overcome. The first was more changes in the technology of shipping. At the time, New Orleans depended more on income from overseas maritime commerce than any other large port in the United States. This was due to the fact that only 14% of work in New Orleans was in manufacturing. The port needed to stay in the forefront of technology in order to keep up and stave off competing ports.

Fig. I.E.3
Bananas were just one of the major imports from Latin America. (Source: Lewis)

Fig. I.E.4
Diagram of new lakefront of Lake Pontchartrain (Source: Lewis)



Another obstacle was that railroads were expanding and railroad companies were merging. Sometimes these mergers lead the routes through other cities that were more viable for the railroad companies. This meant fewer routes through New Orleans.

During this time interstate highways were being built, which gave way to more truck transportation. It also meant that some cities were more accessible for transportation. Trucks as well as airplanes also took away some long distance freight hauling. Another threat to New Orleans’s domination over Midwestern maritime trade was the completion of the St. Lawrence Seaway in the 1950’s, making Chicago a deep-water seaport.

As with all technology in the second half of the 20th century, the shipping industry made a few major changes as well. The industry began using containers. The standardized steel boxes could be transferred quickly from ship to shore and vice versa. Also, in 1970 the industry began to use large-carrying ships. These new large carriers could load entire barges that allowed them to transfer bulk and general cargo quickly and easily.

New Orleans needed to upgrade its port to handle container facilities, but it hesitated because most of its underdeveloped Latin industry did not have

container ships and because it thought shippers would be reluctant to send the heavier ships very far inland. It waited so long that its shipping facilities became obsolete.

Finally, in the 1960s New Orleans launched a long-term project that would completely upgrade its port facilities. This project would last for at least 30 years and would require that most existing facilities be torn down and that the main functions of the port be moved to the east end of the city.

In 1969 the city came to a realization that it had a new focus for its economic well-being. A Gallup Poll showed that New Orleans stood 3rd in public esteem for its fine restaurants, and it also ranked high for being a unique city. However, it was not listed as a good place to live. The city leaders saw this as an opportunity to increase their economic backbone, so they increased the budget for the Tourist and Convention Commission and began revitalizing the French Quarter.

By 1975 the New Orleans economy was on a rise. The oil and gas industry was especially vibrant due to the embargo OPEC had placed on its oil exports. Many were making fortunes: jobs were plentiful, and most paid very handsomely.

With the economy strong, New Orleans decided to host the 1984 World's Fair to show the world that New Orleans was the place to be. As it turned out, the fair was a disaster financially. It was the only World's Fair up to that time that had to declare bankruptcy. Even so, the fair grounds gave New Orleans a new waterfront and spurred the rejuvenation of the surrounding areas as well. The Great Hall of the fair became the city's Convention Center.

All of this renovation and rejuvenation restored public access to the river. In the late 1980's New

Orleans opened a new streetcar line along the river from the Convention Center to the French Quarter. There were many attractive stops along the way for tourist and others. Tourism was on the rise!

As for the oil and gas industry, it was still booming until the bottom fell out in the mid-1980s. Corporate offices were forced to close and/or relocate which led to a large exodus of people, as well as many jobs lost. By 1990 unemployment had significantly risen. The jobs that were available were not paid as well as they had been in the past. Almost one third of the city was in poverty.

With the oil bust, few manufacturing jobs to rely on, and the modernization of the port which meant fewer workers needed, there were large numbers of people without jobs or prospects for jobs. The only jobs to be had were in the tourism industry. Since the 1970s the city had been pushing tourism. By 2000, with constant additions to the Convention Center, it was one of the largest convention facilities in North America. The growth of the industry was phenomenal. Within 25 to 30 years, the numbers in tourism went from the thousands to the millions, and tourists' expenditures had risen to billions of dollars a year.

Then came Katrina. In 2005 Hurricane Katrina followed by Rita devastated New Orleans as a whole. Most of the major tourists spots survived relatively well, however, with little to no damage. The tourism industry and the port were both up and running within weeks.

Presently, most industries are up and running, and New Orleans is returning to normal. As of September 2006, the port was reporting that its pre-Katrina cargo levels were restored, and three of the four major cruise ships that called New Orleans home would be back by the end of the

Figs. I.E.5-7

Traditional method of handling cargo (top); loading a container (middle); container storage lots, 2001 (bottom) (Source: Lewis)



year. As for present day tourism, it was named a top destination for 2007 by Orbitz (www.orbitz.com) and *Travel + Leisure* magazine. According to the New Orleans Convention and Visitors Bureau, the Convention Center has retained 70% of its pre-Katrina bookings for 2007 and nearly 100% for 2008. The Bureau also reports that 90% of businesses have reopened. All the local colleges and universities have reopened, although many of the K through 12 schools still need much work. New Orleans has worked hard at restoring its economy post-Katrina, and by all reports it seems to be doing very well.

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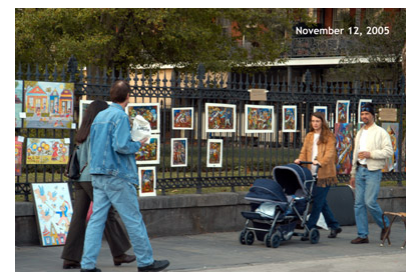
Figs. I.E.8–9
The port in 1973 (above left) and the new renovated waterfront for tourism in 2001 (above right) (Source: Lewis)



Figs. I.E.9–14
Various photos from the New Orleans Convention and Visitors Bureau showing that the city is indeed back and doing well. Photos date from September–December 2005. (Source: Lewis)

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I.F. New Orleans Levee System

by Hank Dow and Jadey James

Background:

The Mississippi River, which starts at tiny Lake Itasca in Minnesota, is the third largest drainage basin in the world, covering 41% of the 48 contiguous United States. The river has always been a threat to the security of the valley through which it flows. Major flooding in 1912, 1913, and 1927 destroyed millions of dollars of property. After the flood of 1927, Congress passed the Flood Control Act of 1928. This legislation authorized the Mississippi River and Tributaries (MR&T) project. This project oversees four major flood control methods: levees, floodways, tributary basin improvements, and channel improvement and stabilization.

After periods of high water, the Mississippi River channel at many places is too shallow, too narrow, or too difficult for navigation. The New Orleans District has maintained continuous efforts to improve and stabilize the channel by constructing dikes, revetments, cutoffs, and dredging. The levee setback, as shown below, affords only temporary protection against the river. Once made, it is just a matter of time before the river threatens the relocated levee. To hold the river in the desired alignment and maintain the levee system, its banks are stabilized with revetments.

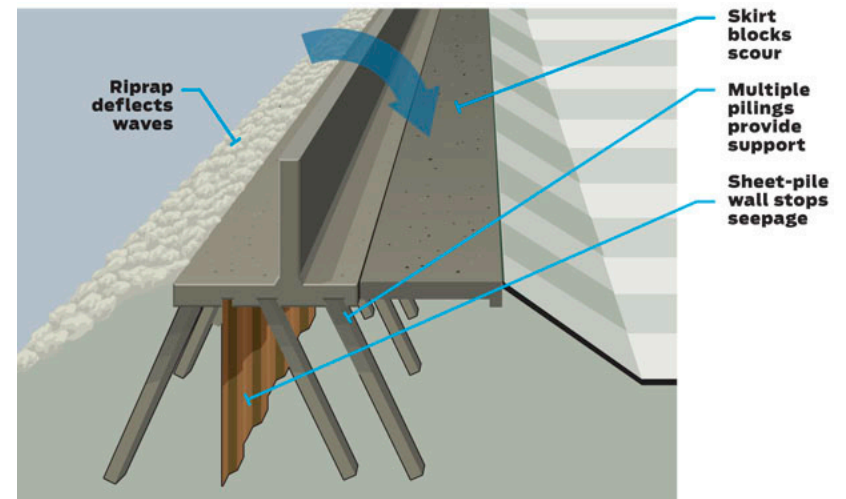
Storm vulnerability is worsened by ongoing wetland loss and barrier island erosion. The basin is home to more than one million people and is extremely important to the vitality of the Gulf of Mexico ecosystem. For these and many other reasons, it is important to study past tropical storm events to be better prepared for the future.

Levees are earthen structures, made of clay (sedimentary particles smaller in diameter than sand and silt) forming in cross section a truncated triangle. The base is commonly 10 times as wide as the height. Floodwalls are concrete and steel walls, built atop a levee, or in place of a levee, often where space is insufficient for a levee's broad base. This levee system in New Orleans is one of the most extensive in the world. New Orleans's protective levees are designed to withstand only a moderate (category 3) hurricane storm surge.

In addition to its separation from the coast, the topography of the land in the city of New Orleans is adverse. The city is surrounded by a river levee system 25 feet high along its southern boundary and by hurricane protection levees about 15 feet high along the remaining boundaries. Most of the land in the city is below sea level with much of the

northern half of the city more than five feet below sea level. About one half of the population of the city cannot and will not evacuate during a hurricane. Many people, about 200,000, do not have automobiles or access to an automobile. There are an additional 20,000 special needs people that cannot be easily moved. Finally, there several hundred thousand people that will not evacuate because of the difficulty of actually evacuating and finding suitable shelters. The hurricane protection levees surrounding the city are designed to protect the city from a category slow 2 or fast category 3 hurricane. Thus for any slow category 3, or category 4 or 5 hurricanes, the possibility exists for flooding the metropolitan area of New Orleans. The city of New Orleans averages 1.8 m (6 ft.) below sea level, forming a shallow depression surrounded by levees and water.

Fig. I.F.1
Levee construction diagram





The New Orleans Levee District, a quasi-governmental body, is responsible for 129 miles of earthen levees, floodwalls, 190 floodgates, two flood control structures, and 100 valves. The governor appoints six of the board's eight members, and they serve at his pleasure. When a storm approaches, this district is responsible for closing the hundreds of hurricane protection floodgates and valves on levees surrounding the city. All residents outside of these levees evacuate.

The New Orleans levee systems and the dangers they face are not unique; similar systems, and risks, exist in California's freshwater levee system, the Mississippi and Ohio River basins, and elsewhere in the United States.

Hurricanes and Louisiana:

The following four storms represent some of the most devastating and therefore some of the most studied storms in the Lake Pontchartrain Basin during the 20th-century:

Hurricane of 1947 (Sept. 4–21, 1947)

The 1947 Hurricane made landfall near the Chandeleur Islands, LA on September 19, 1947. Wind gusts of 112 mph and a central pressure of 967 millibars (mb) were measured at Moisant International Airport. A storm surge of 3.0 m (9.8 ft) reached Shell Beach. As a result of this storm, hurricane protection levees were built along the south shore of Lake Pontchartrain to protect Orleans and Jefferson parishes from future storm surges.

Hurricane Betsy (August 8–27, 1965)

Betsy was a fast moving storm (22 mph forward speed) that made landfall at Grand Isle, LA, on September 10, 1965. Grand Isle experienced 160 mph gusts and a 4.8 m (15.7 ft) storm surge that flooded the entire island. Winds gusted to 125 mph in New Orleans with a 3.0 m (9.8 ft) storm.

Engineering geology of New Orleans

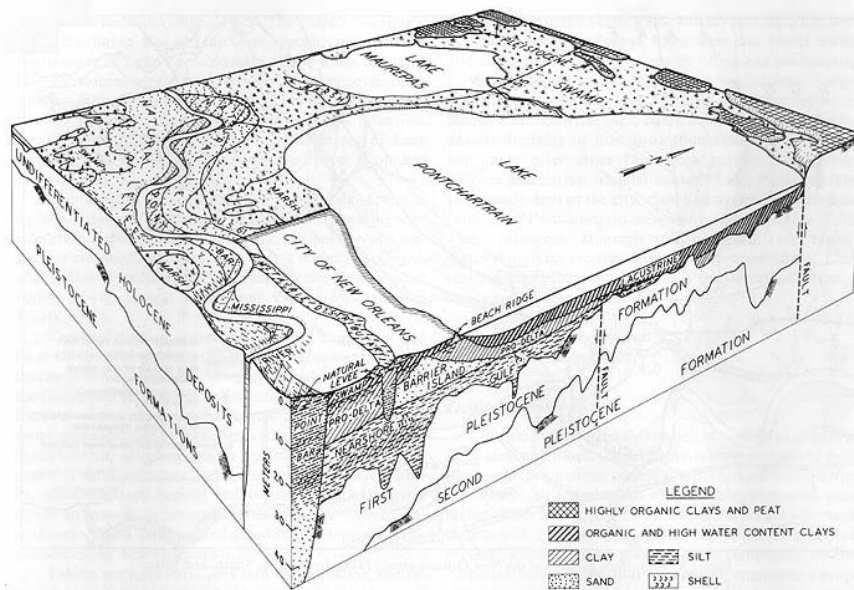


Figure 4. Idealized distribution of depositional environments and soil types in the vicinity of New Orleans. (Adapted from Kolb and Shockley, 1959)

Figs. 1.F.2–3

Map of New Orleans showing levee locations in red (above); geologic section of New Orleans area (below). (Sources: <http://bigpicture.typepad.com/writing/images/levees_083001302.jpg>. February 18, 2007. <www.loyno.edu/lucec/images/engineology.jpg>. February 15, 2007.)

Damage in southeast Louisiana totaled \$1.4 billion. The Orleans Levee Board raised the existing levee to a height of 12 ft in response to the flooding caused by Betsy.

Hurricane Camille (August 14–22, 1969)

Camille intensified rapidly in the Gulf of Mexico reaching category 5 status by August 16. The small-diameter hurricane headed northeast at 14 mph and made landfall in a sparsely populated section of the Mississippi coast on August 17. Wind estimates during landfall reached 175 mph. The storm was a category 5 storm and produced flooding of over 20 feet along the Mississippi coast.

Hurricane Georges (September 15–October 1, 1998)

Georges did extensive damage to Haiti, the Dominican Republic, Puerto Rico, and other Caribbean islands. Georges made final U.S. landfall near Biloxi, MS, on September 28. The maximum sustained surface wind at landfall was 104 mph, and the minimum central pressure was 964 mb. Maximum storm surge in Louisiana was 2.7 m (8.9 ft) at Point à la Hache. Georges again showed the vulnerability of New Orleans to hurricanes, and efforts resumed the following year to improve the levee system along the canals that connect the city with the Lake.

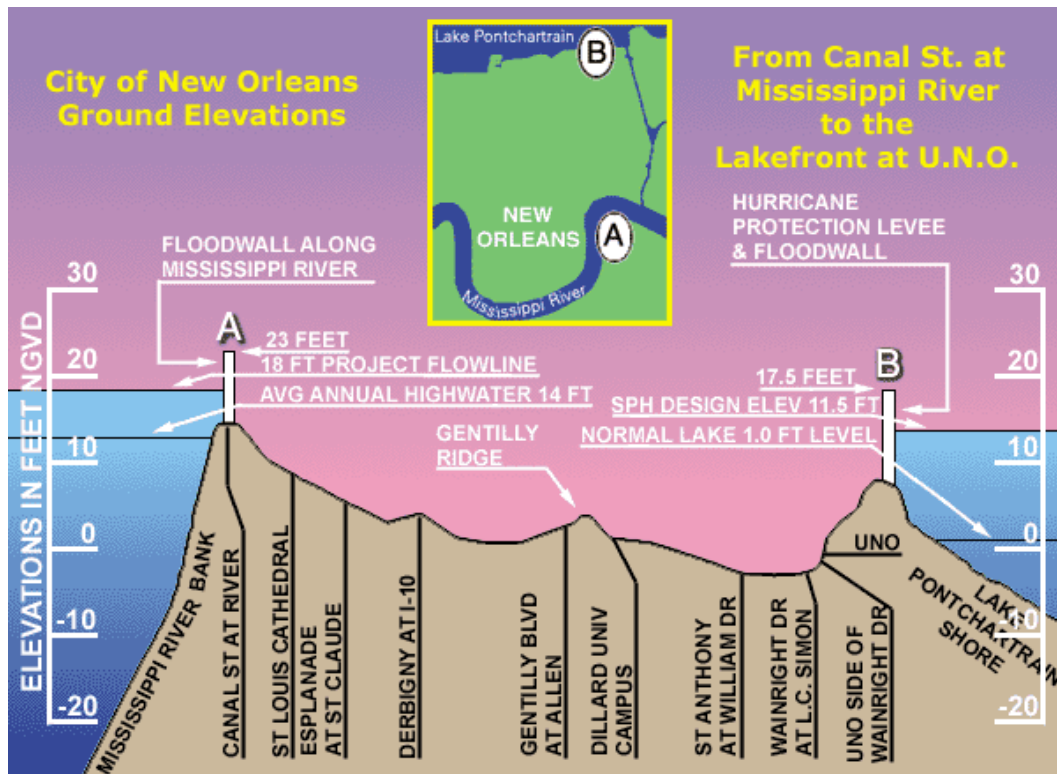
Hurricane Ivan (September 14, 2004)

Hurricane Ivan did not cause significant damage

in New Orleans; however; the class 4 hurricane did expose shortcomings in the city’s evacuation plans. More than one million people tried to leave the city and surrounding suburbs on Tuesday September 14, 2004, creating a traffic jam as bad as or worse than the evacuation that followed Georges. (www.globalsecurity.org/ops/hurricane-risk-new-orleans)

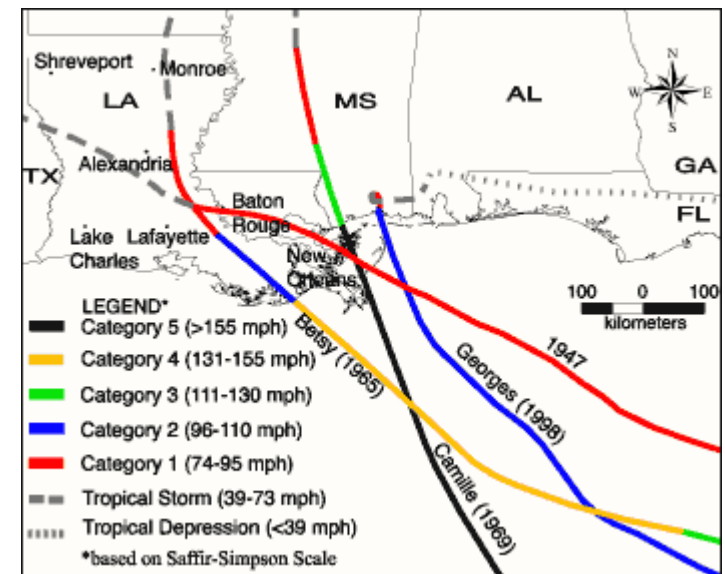
Hurricane Katrina (August 29, 2005)

Katrina was the largest hurricane of its strength to approach the United States in recorded history. Its sheer size caused devastation over 100 miles (160 kilometers) from the storm’s center. The storm surge caused major or catastrophic damage along the coastlines of Louisiana, Mississippi, and Alabama, including the cities of Mobile, Biloxi, Gulfport, and Slidell.



Figs. I.F.4–5

Section across city of New Orleans (left); map of major hurricanes and categories (right) (Sources: en.wikipedia.org/wiki/drainage_in_new_orleans. February 17, 2007. www.globalsecurity.org/security/ops/images/hurricane-tracks.gif. February 15, 2007.)



Hurricane Katrina was one of the deadliest hurricanes in the history of the United States, killing over 1,800 people. Katrina was the 11th named storm, fifth hurricane, third major hurricane, and second category 5 hurricane of the 2005 Atlantic hurricane season. It was also the sixth strongest hurricane ever recorded.

New Orleans's levee failures were found to be primarily the result of system design flaws combined with the lack of adequate maintenance. According to an investigation by the National Science Foundation, those responsible for the conception, design, construction, and maintenance of the region's flood-control system apparently failed to pay sufficient attention to public safety. source:<http://dsc.discovery.com/convergence/katrina/facts/facts.html>

Sewerage and Water Board:

The Sewerage and Water Board of New Orleans consists of three main operating systems: sewerage, water, and drainage.

Sewerage

The sanitary sewer system of the city is a gravity collection system consisting of 1,450 miles of lateral and trunk sewers, ranging in size from eight inches to seven feet in diameter. Lifting and conveying the sewage by trunk sewers and sewer force mains requires 82 electrically operated pumping and lift stations, 79 of which are automatically operated with no attendance other than periodic maintenance visits.

New Orleans was settled by the French in 1718 on the high ground adjacent to the Mississippi River, only 14 feet above sea level. As a result of its unusual topography, the city was subject to periodic flooding from the Mississippi River and Lake Pontchartrain, as well as frequent inundation from the high-intensity rainfall.

A sewage collection and disposal system was also non-existent. Human waste was disposed in the open pit privy, while household wastes found their way into open gutters. Such unsanitary conditions gave rise to typhoid fever, yellow fever, cholera, and other diseases, which decimated the population at regular intervals.

Today, New Orleans is provided with water, drainage, and sewerage facilities 24 hours a day, 365 days a year, where and when they are needed.

Drainage

By 1893, it became apparent to city leaders that accommodation of area growth would depend on their ability to keep New Orleans drained, dry, adequately supplied with water for drinking and fire protection, and provided with a sanitary sewerage system. Planning for the three systems began that year.

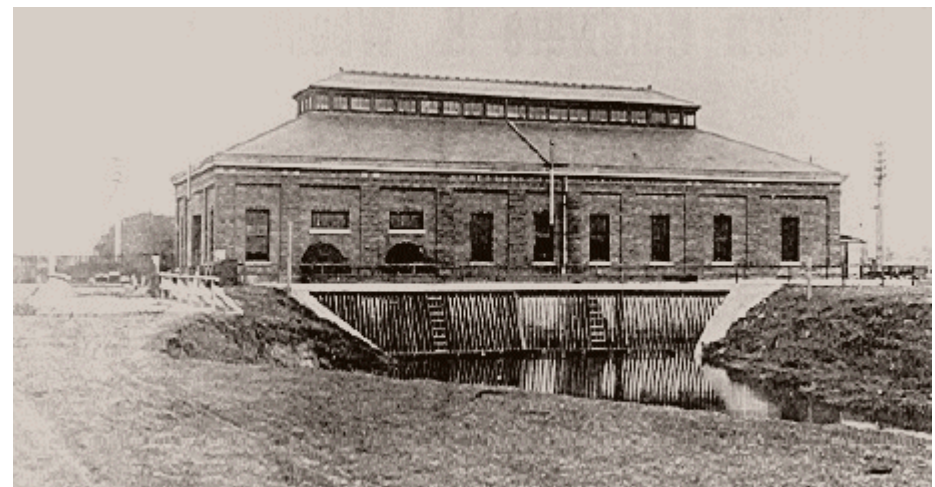
In 1896, the New Orleans Drainage Commission was organized to carry out a master drainage plan that had been developed for the city. Three years later, in 1899, the Sewerage and Water Board was authorized by the Louisiana Legislature to

furnish, construct, operate, and maintain a water treatment and distribution system and a sanitary sewerage system for New Orleans. In 1903, the Drainage Commission was merged with the Sewerage and Water Board in order to consolidate drainage, water, and sewerage programs under one agency for more efficient operations. This combined organization retained the title Sewerage and Water Board and remains as such today.

Once organized, the Sewerage and Water Board set out to fulfill its goals to provide the city with adequate drainage, sewerage collection, and drinking water. Between 1879 and 1915, \$27,500,000 were spent on the construction of water, sewerage, and drainage facilities. At that time, funds for construction came from either a special two-mill tax on all property or one-half of the surplus from the one per-cent debt tax. Today, the Board gets funding in part from sources that include the three-, six-, and nine-mill property taxes

Such extensive construction was a bold step for a city at that time. Present-day construction costs are more than forty times those of the early 1900's. At current prices, such a program could amount to billions of dollars. Furthermore, this

Fig. I.F.6
New Orleans Pumping Station No. 3 as originally constructed in 1909 (Sewerage & Water Board 1909) (Source: <www.mvn.usace.army.mil/pao/history/no_drainage>. February 17, 2007)



monumental program was financed by a population of far less than one-half that of present-day New Orleans.

In 1962, the Sewerage and Water Board reactivated and assumed the operation of a United States government-owned, activated sludge plant to provide sewage treatment for the Michoud residential and industrial area east of the Industrial Canal. In 1965, the capacity of this plant was increased from one million to 2.5 million gallons per day.

The Board was created in 1899 to establish a water and sewerage system for the city; in 1903, the board was assigned responsibility for completing a drainage system. State law requires that the three systems operate as separate cost centers, each having dedicated revenue sources that may be used only within that system.

Water System

The S&WB treats 143 million gallons of Mississippi River water daily through its two treatment plants: the Carrollton Water Treatment Plant for



the east bank and the Algiers Water Treatment Plant for the west bank. The quality of finished water and river water is tested daily by an in-house water quality laboratory.

Drainage System

The city's unique distinction as the only major U.S. city below sea level requires an extensive drainage collection and pumping system. The drainage system can currently remove roughly one-inch of rainfall in the first hour, and an additional half-inch per hour after that. The network consists of approximately 90 miles of open canals and 90 miles of subsurface canals. Most rainwater is pumped into Lake Pontchartrain except for two West bank pumping stations and two stations in Eastern New Orleans that pump rainwater into the Inter-coastal Waterway and the Industrial Canal. Within New Orleans there are 22 drainage pumping stations with station personnel on duty

24 hours a day, seven days a week. There are 13 underpass stations containing 2–3 pumps turned on by rising water. The S&WB operates its own power plant and underground electrical distribution system to provide electricity for many of the pumps. (www.swbnola.org)

Presently, New Orleans is dumping 26.1 million gallons of raw sewage into the Mississippi River every day, according to the state Department of Environmental Quality.

The sewage is not processed as it is collected from toilets and drains, but it is diluted with water before flowing into the river, DEQ Secretary Mike McDaniel said. His staff is monitoring the Mississippi River water and testing the intake valves at Belle Chasse, where river water is sucked up and treated to become drinking water. McDaniel said no dangerous levels of toxins have been found.

Figs. I.F.7–8

Modern pumping station operated by the Sewerage & Water Board (left); diagram of levee breaches causing flooding following hurricanes Katrina and Rita (right). (Sources: <www.bbsnews.net/.../pumping_station.jpg>. February 19, 2007. <www.msnbc.msn.com/id/9130254/>. February 16, 2007.)



The U.S. Environmental Protection Agency granted a six-month variance to allow the city to dump sewage into the river because Hurricane Katrina knocked out the sewer system. "We are not able to treat sewage. Our treatment plant was decimated," New Orleans Mayor Ray Nagin said. But as early as next week, he said, two motors could be repaired that would allow for at least some treatment of the sewage. The motors that feed the sewage into the water-treatment plant were flooded with 12 feet of water.

The Sewerage and Water Board of New Orleans announced Friday that the motors could be repaired as early as next week. Though much of the treatment plant is still inoperable, the hope is that initial processing, such as emulsifying and diluting solids, could be done before the waste is dumped into the river.

The city's sanitary sewer system consists of 1,450 miles of pipes ranging in size from eight inches to seven feet in diameter. Sewage is lifted and moved by 82 pumping stations throughout the city.

Sources:

www.watercenter.org/blog/WCorgposts/

www.swbnola.org

I.G New Orleans: A History of Flooding

by Lyndsay Wright

Introduction:

New Orleans rests below sea level and below the water level of Lake Pontchartrain. Because of this, the city has a long history of flooding. The people of New Orleans rely on levees and pump systems to keep them dry. When these systems fail, the results are often catastrophic.

New Orleans was originally at sea level, and although urban development was restricted to the high ground along natural river levees and bayous, throughout the 19th century the city was still prone to flooding. The low-lying areas of what is today Uptown New Orleans and the center of the city were swampland until the Sewerage & Water

Board of New Orleans hired Tulane graduate A. Baldwin Wood to improve the city's drainage. Wood invented the screw pump, "flapgates," and hydraulic devices to help reclaim the marsh, and New Orleans development spread into what is today the city of New Orleans.

Subsidence, or the removal of water from this marshland, caused the elevation of the city to drop below sea level and the water level of Lake Pontchartrain. Furthermore, the water removed from the city was pumped into Lake Pontchartrain, causing the lake level to rise further. Flooding in New Orleans comes from two sources: extended periods of normal rainfall and tropical storms.

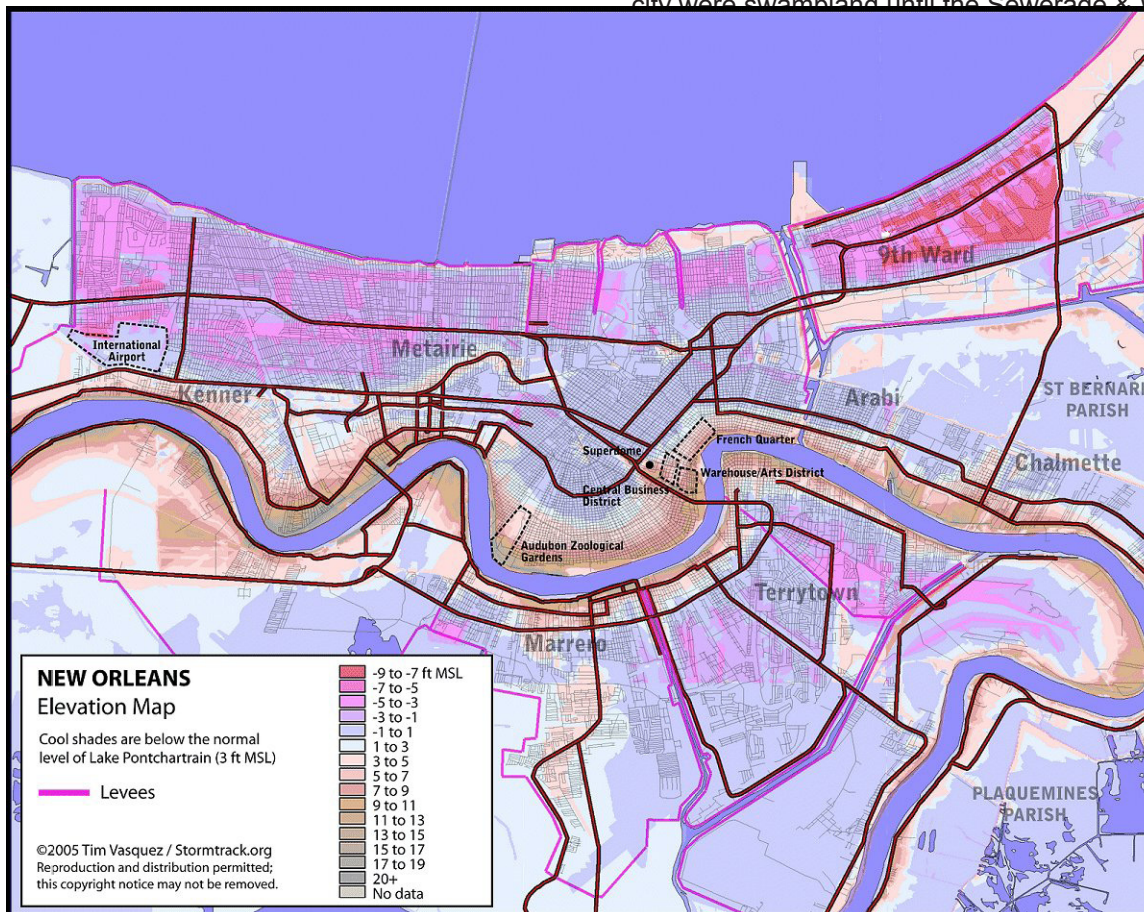
Sauvé's Crevasse:

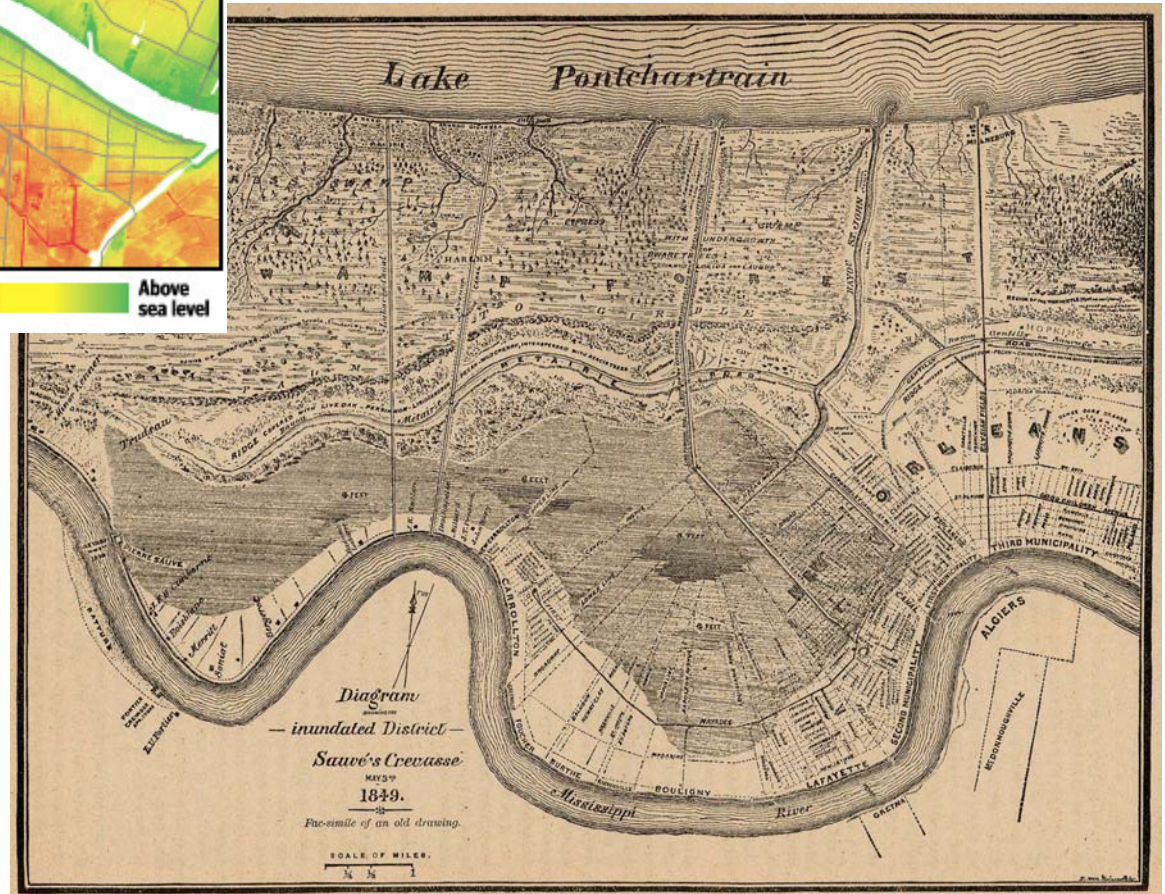
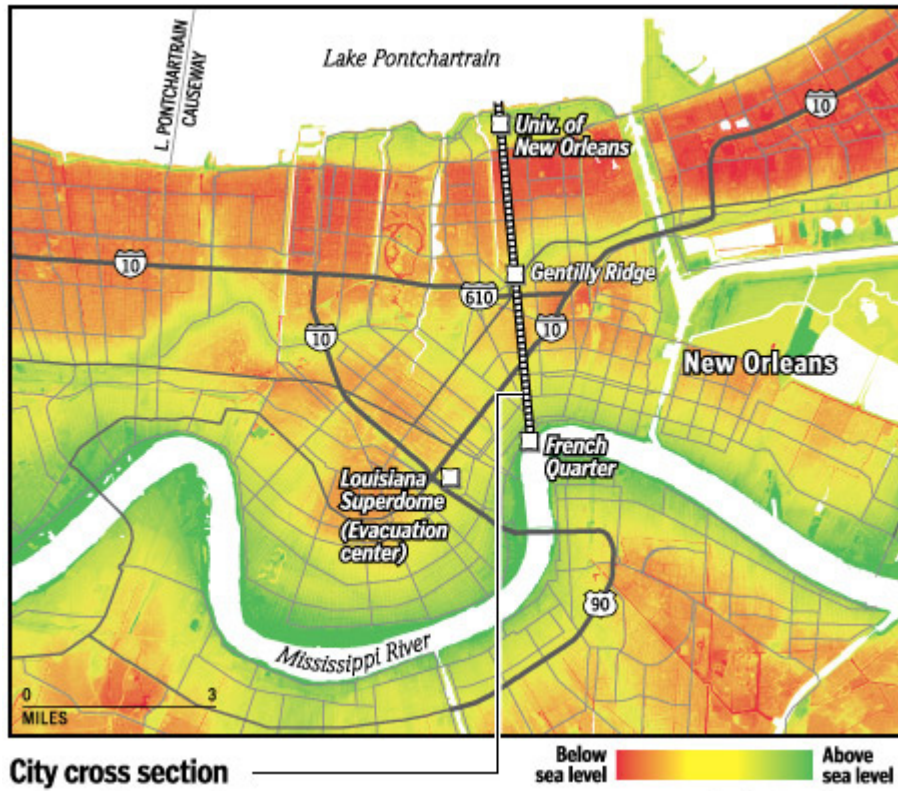
On May 3, 1849, a levee broke seventeen miles upriver from New Orleans on Pierre Sauvé's plantation (now River Ridge, Louisiana). By May 15th, the water had reached Rampart Street. The first municipality raised a small levee along the lower bank of the Carondelet Canal. The water drained via this canal into Bayou St. John and subsequently into Lake Pontchartrain, saving much of the city below the Carondelet Canal. Providing an outlet for the water also prevented further flooding above the canal. Most of what is now Uptown New Orleans and the Central Business District was badly flooded; however, at that time these areas were not yet settled.

Bonnet Carré Crevasse:

Fig. I.G.1

Elevation map of New Orleans





Figs. I.G.2-4
 Topography map of New Orleans (above left); topographic section of New Orleans (above right); map of the flood caused by Sauv e's Crevasse (below right). The shaded area reflects flooded land.

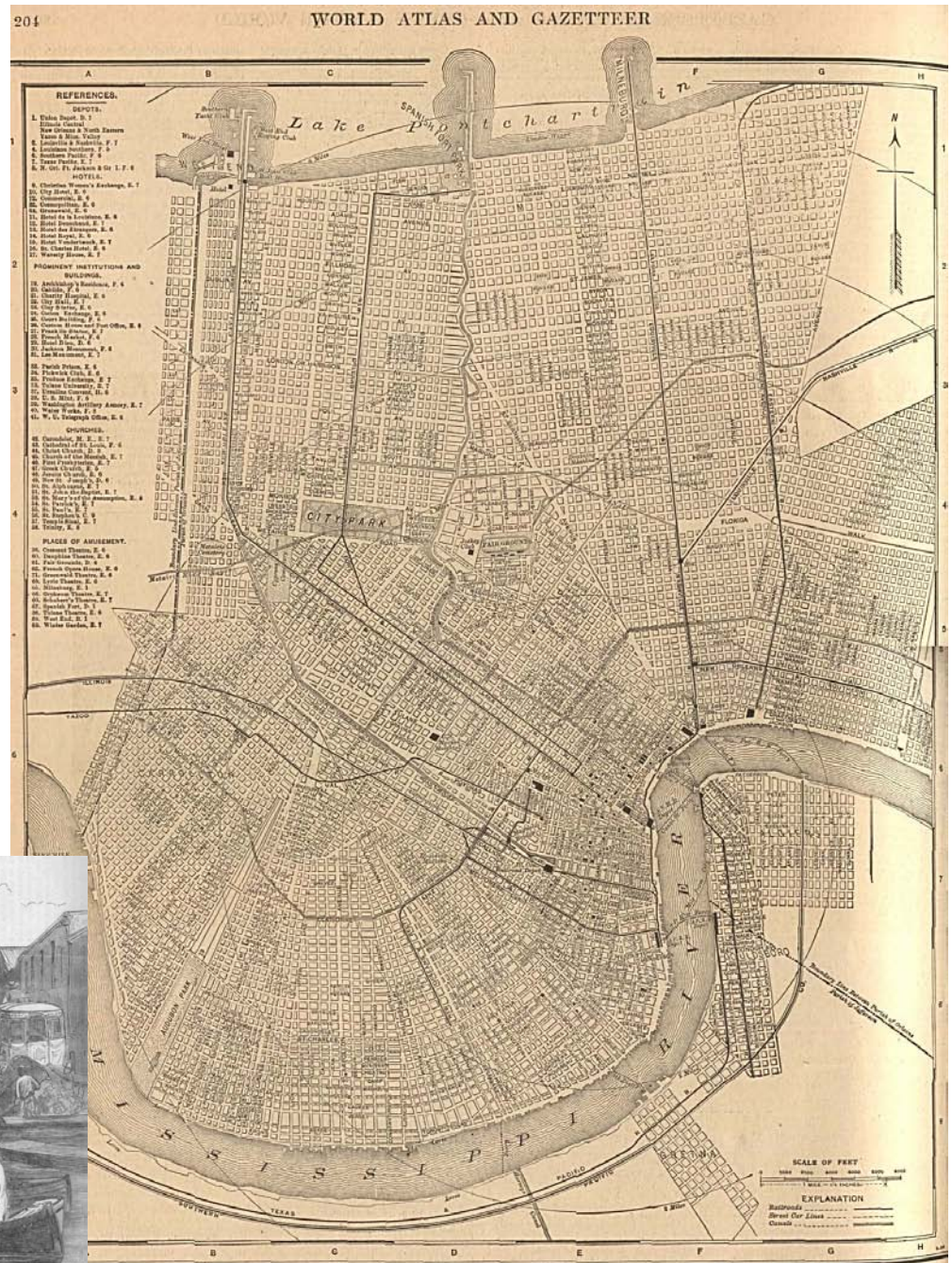
In 1871 a levee broke fifteen miles upriver from New Orleans in Bonnet Carré, an area in St. Charles Parish, Louisiana. The flood was so great that attempts to staunch the breach were quickly abandoned. The flood spread all the way to Lake Pontchartrain, causing the lake level to rise, which caused the water level to rise along the lake's outlet into the Gulf of Mexico. A storm with high winds pushed water from the lake over the Hagan Avenue Levee, causing widespread flooding in the city of New Orleans.

Grand Isle Hurricane of 1909:

On September 20, 1909, the Grand Isle Hurricane made landfall between New Orleans and Baton Rouge. This hurricane produced widespread

Figs. I.G.5-6

Engraving illustration by Alfred R. Waud & Samuel S. Kilburn, originally published *Every Saturday*, July 8, 1871. Canal Street at Claiborne, after the breach of the Hagan Avenue levee (left); 1908 map of New Orleans (right)



flooding in New Orleans, similar to that caused by Katrina nearly a century later. However, the consequences of this flood were much less severe because the low-lying areas of the city had very little residential settlement.

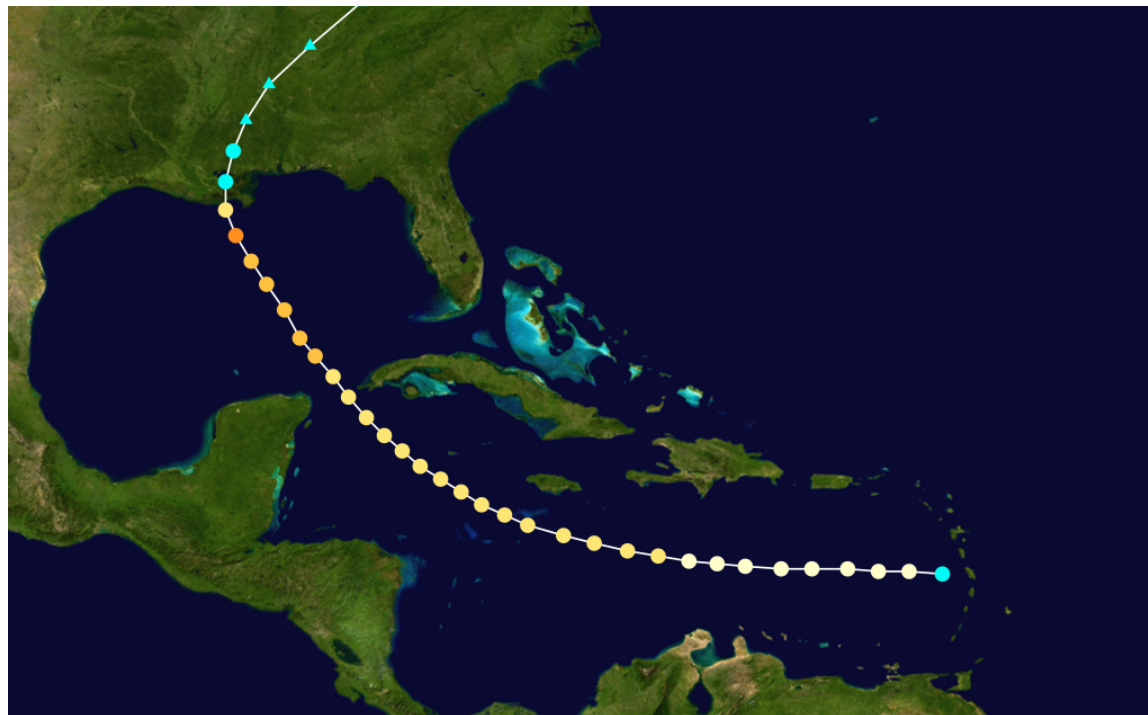
1908 Map of New Orleans

New Orleans Hurricane of 1915:

On September 29, 1915, a category 4 hurricane made landfall near Grand Isle, Louisiana. Flooding from this storm was much less widespread than the Grand Isle Hurricane of 1909 because the force of the 1915 hurricane actually forced the waters from Lake Pontchartrain backwards into the city's drainage canals.

By this time, Wood's pumps were being used to

Figs. I.G.7–8
Storm track of the New Orleans Hurricane of 1915 (lower left); Explosion of the Caernarvon Levee in 1927 (upper right)



remove water from the marshland, causing the elevation of these areas of New Orleans to drop below sea level. This meant that all of the pumps used to drain the city were positioned below sea level. Within a few hours, “heavy short-circuits occurred, and the pumps operating at Station Nos. 1, 3 and 7, and a few moments later at 6, went out of step.”¹ There were also numerous reports of Lake Pontchartrain overflowing its levees throughout the city. The Sewerage & Water Board’s report of this event did not recommend any modifications to their plans at the time for the pump and levee system. It was deemed that the storm was an extraordinary occurrence and that the current plan, once completed, would be sufficient to handle a similar weather event.

The Great Mississippi Flood of 1927:

In the summer of 1926, heavy rains battered the Mississippi River. By that winter the river was swollen to capacity, and levees broke in 145

¹ “The Hurricane of Sept. 29th, 1915, and Subsequent Heavy Rainfalls. Report of Geo. G. Earl, Gen’l Supt. to Sewerage and Water Board of New Orleans, October 14th, 1915.”

places. To prevent the flood from reaching New Orleans, a levee at Caernarvon, Louisiana was demolished. New Orleans was spared from the flood, but much of St. Bernard Parish and all of Plaquemines Parish's east bank were flooded. Unfortunately, an upstream levee break the following day, which made the flooding of New Orleans an impossibility, rendered the demolition of the Caernarvon levee unnecessary.

Fort Lauderdale Hurricane of 1947

On September 19, 1947, the eye of the Fort Lauderdale Hurricane, a category 3 storm, passed directly over New Orleans. A large part of New Orleans was flooded, including Moisant Airport, which was under two feet of water and parts of Jefferson Parish were under six feet of water. This storm demonstrated the dire need for tidal protection levees for New Orleans. This hurricane has



Figs. I.G.9–10

Storm track of the Fort Lauderdale Hurricane of 1947 (lower left); storm track of Hurricane Betsy in 1965 (upper right)

been nearly forgotten, as it fell narrowly between World War II and the Cold War, and as it struck an area that had seen other, more severe and destructive storms in recent times.

Hurricane Betsy

On September 9, 1965, Hurricane Betsy, a strong category 3 storm, made landfall at Grand Isle, Louisiana. The storm then traveled upriver, causing the Mississippi River at New Orleans to rise by ten feet.

Hurricane Betsy drove a storm surge into Lake Pontchartrain and the Mississippi River Gulf Outlet, a deep shipping channel to the east and to the

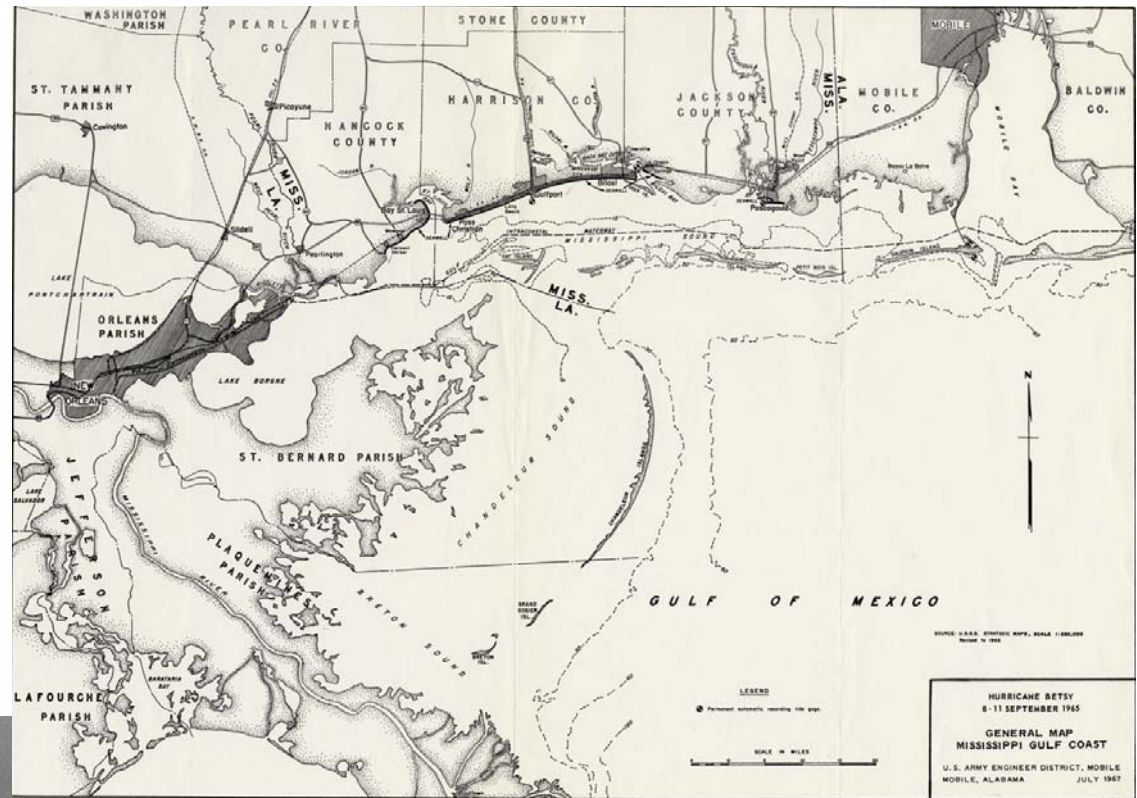
south. Levees for the Mississippi River Gulf Outlet failed along Florida Avenue in the Lower Ninth Ward and on both sides of the Industrial Canal. New Orleans was inundated.

In some places, water reached the eaves of houses and reached over the roofs of some single-story homes in the Lower Ninth Ward. As would happen after Katrina forty years later, many residents drowned in their attics, trying to escape from the rising waters.

These levee breaches caused flooding in parts

Figs. I.G.11-12

Aerial view of flooding from Hurricane Betsy (below left); map of the flood caused by Hurricane Betsy (above right). The shaded area reflects flooded land.



of Gentilly, the Upper Ninth Ward, and the Lower Ninth Ward. It was more than ten days before the waters receded enough for residents to return to their homes. People who did not have family or friends with dry homes slept in shelters at night while waiting for the federal government to provide relief in the form of trailers. Altogether, 164,000 homes were flooded.

As a result of Hurricane Betsy, the Army Corps of Engineers' Hurricane Protection Program came into existence. The Corps built new levees for New Orleans. These levees were taller, made of stronger material, and designed to protect the city against a fast-moving, category 3 storm like

Betsy. These levee protection requirements were those that were in place when Hurricane Katrina, a large and slow-moving category 3 storm, stuck New Orleans in 2005.

Hurricane Camille:

On August 17, 1969, Hurricane Camille made landfall near Bay St. Louis, Mississippi as a category 5 storm. When Katrina threatened New Orleans in 2005, comparisons were made between Hurricanes Camille and Katrina, and people bragged that they would not evacuate New Orleans for Katrina, as they had “waited out” and

survived Camille. These hurricanes were quite different from one another. At landfall, Katrina was weaker than Camille but much larger and slower, which meant a larger and broader storm surge than that of Camille. Another major difference is that Camille drew part of its storm surge from adjacent waters, causing the waters of Lake Pontchartrain to actually recede, which kept New Orleans from flooding.

May 8, 1995 Louisiana Flood:

The May 8, 1995 Louisiana Flood struck the New Orleans metropolitan area and shut down the city

for two days. First, areas south of Lake Pontchartrain, began receiving great amounts of rain in the late afternoon of May 7th, continuing on into the early morning of May 8th. Flooding began that morning on the south shore of the lake, in Jefferson and Orleans parishes. Over a period of twelve hours, some areas received up to twenty inches of rainfall. The following day, the north shore received similar amounts of rain and flooding. This weather event was similar to the Great Mississippi Flood of 1927. Because the pump stations at the time were only rated to pump a maximum of one inch per hour, pumping stations were quickly overwhelmed and could not pump the rainwater out of New Orleans into Lake Pontchartrain. As a result of this flood, new pump stations were built, and canals were expanded in order to prevent future flooding from rainfall.

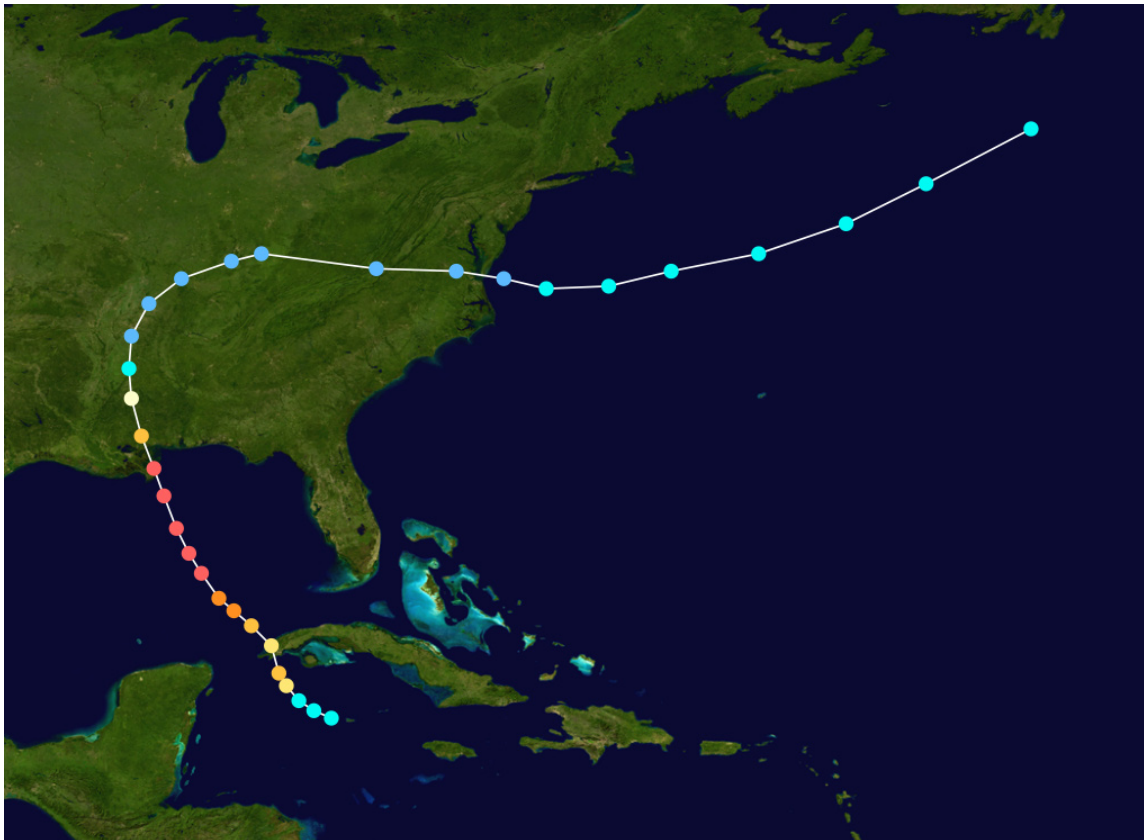


Fig. I.G.13

Storm track of Hurricane Camille in 1969

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Fig. I.G.1. <http://content.answers.com/main/content/wp/en/thumb/e/e2/300px-Msyelevst.jpg>>. February 2007
Fig. I.G.2. <http://www.macchuck.com/KATRINA/GALLERIES/info/ElevationMap.html>>. February 2007.)
Fig. I.G.3. <http://www.macchuck.com/KATRINA/GALLERIES/info/ElevationMap.html>>. February 2007.)
Fig. I.G.4. http://www.lib.utexas.edu/maps/historical/new_orleans_1849.jpg>. February 2007.)
Fig. I.G.5. <http://en.wikipedia.org/wiki/Image:CanalClaiborne1871Flood.jpg>>. February 2007.
Fig. I.G.6. http://www.lib.utexas.edu/maps/united_states/new_orleans_1908.jpg>. February 2007.
Fig. I.G.7. http://en.wikipedia.org/wiki/Image:1915_Louisiana_hurricane_track.png>. February 2007.)
Fig. I.G.8. http://img2.tfd.com/wiki/4/49/1927_flood_caernarvon_levee_dynamite_st._bernard_parish.png>. February 2007.)
Fig. I.G.9. http://en.wikipedia.org/wiki/Image:1947_Fort_Lauderdale_hurricane_track.png>. February 2007.)
Fig. I.G.10. http://en.wikipedia.org/wiki/Image:Betsy_1965_track.png>. February 2007
Fig. I.G.11. http://en.wikipedia.org/wiki/Image:Hurricane_BetsyFloodingAirForceONE.jpg>. February 2007.)
Fig. I.G.12. http://www.hq.usace.army.mil/history/Hurricane_files/Map%20Betsy.jpg>. February 2007
Fig. I.G.13. http://en.wikipedia.org/wiki/Image:Camille_1969_track.png>. February 2007

I.H Katrina and Rita Events

by Brian David

Forming over the Bahamas on August 23, 2005, Hurricane Katrina soon became the third-strongest landfalling hurricane in the United States claiming over 1,800 lives and over \$84 billion in damages.

Initially crossing southern Florida as a moderate category 1 hurricane, it gained strength quickly over the warmer waters of the Gulf of Mexico.

Fig. I.H.1

Storm track map: Path of Hurricane Katrina



Fig. I.H.2

Mapped areas of heavy flooding



Here, the storm surged into a category 5 hurricane on August 28th, making it the strongest recorded hurricane in the Gulf of Mexico (record later broken by Rita). The storm made its second landfall on the morning of August 29th as a category 3 storm east of New Orleans. The hurricane maintained strength over 150 miles into Mississippi until it was downgraded into a tropical depression over Tennessee.

With the eye of the storm to the north and east, New Orleans was spared the experience of the category 3 winds that ravaged much of Missis-

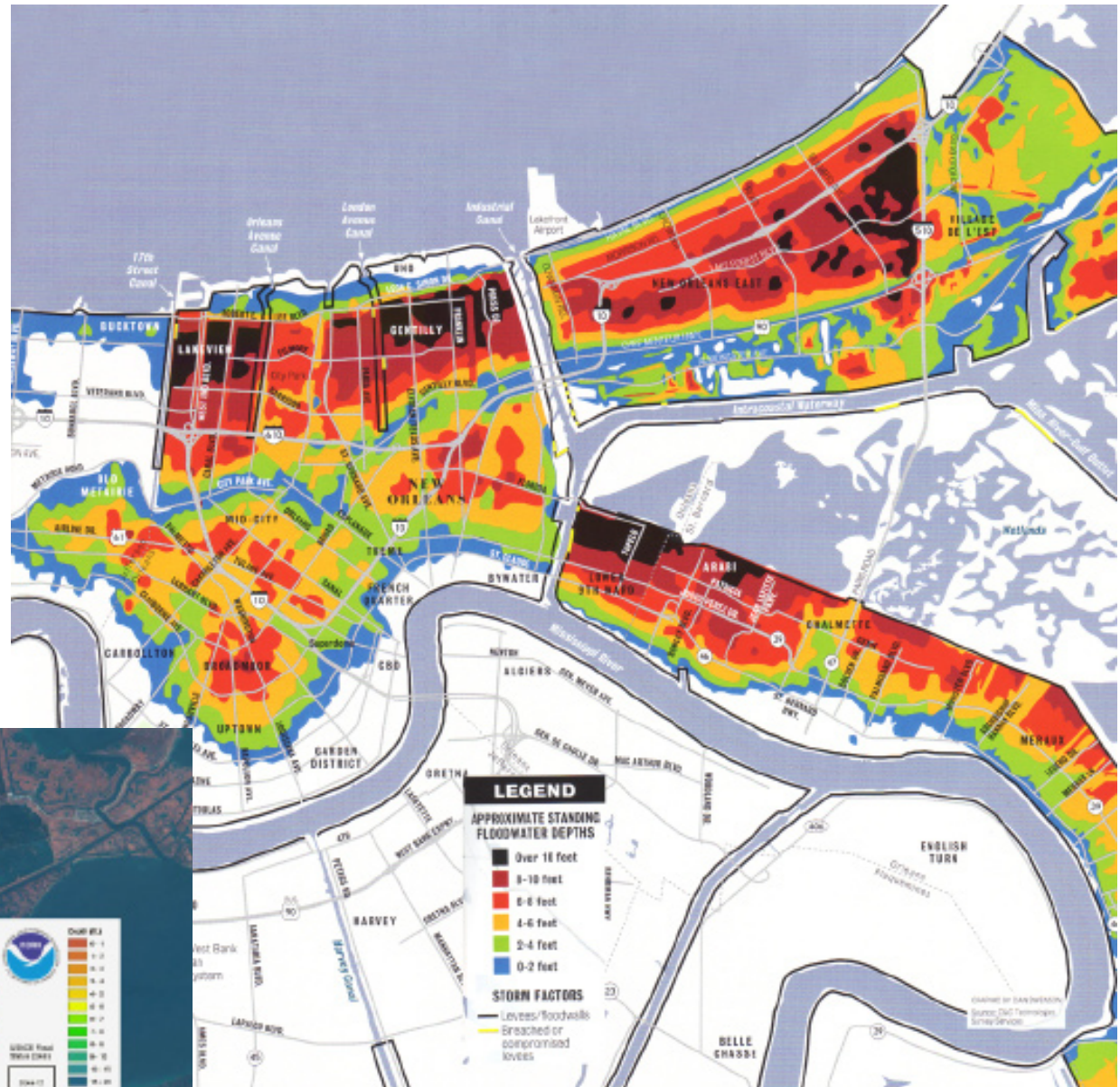
issippi. Although the majority of the winds that struck most of New Orleans remained category 1–2, the slow moving nature of the storm is what brought devastation upon the city. With a heavy influx of storm surge and the rising level of Lake Pontchartrain, the floodwalls of the shipping and drainage canals were breached and subsequently inundated the city with flood waters within the two days after the hurricane passed.

On August 29th and in the days that followed, there were approximately 28 levee failures across New Orleans. Investigations of these breaches point to design flaws, poor maintenance, and failure due to the storm surge. The majority of the breaches occurred along the 17th Street Canal, London Avenue Canal, and the Industrial Canal.

By August 31st approximately 80% of New Orleans was flooded, with many parts of the city beneath 20 feet of water.

Fig. I.H.3 (right) NOAA Post-Katrina flood map

Fig. I.H.4 (below) Flood depth map

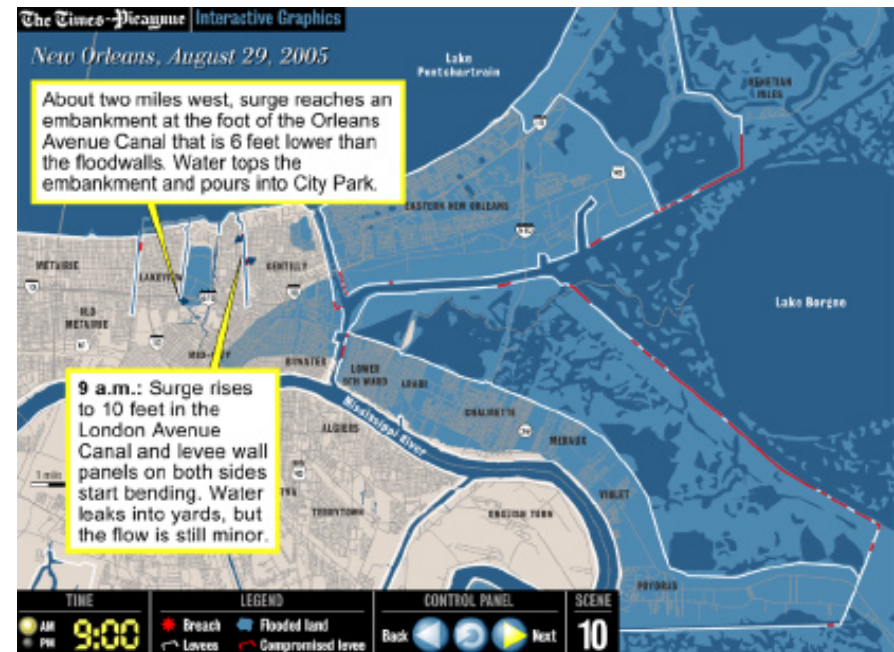
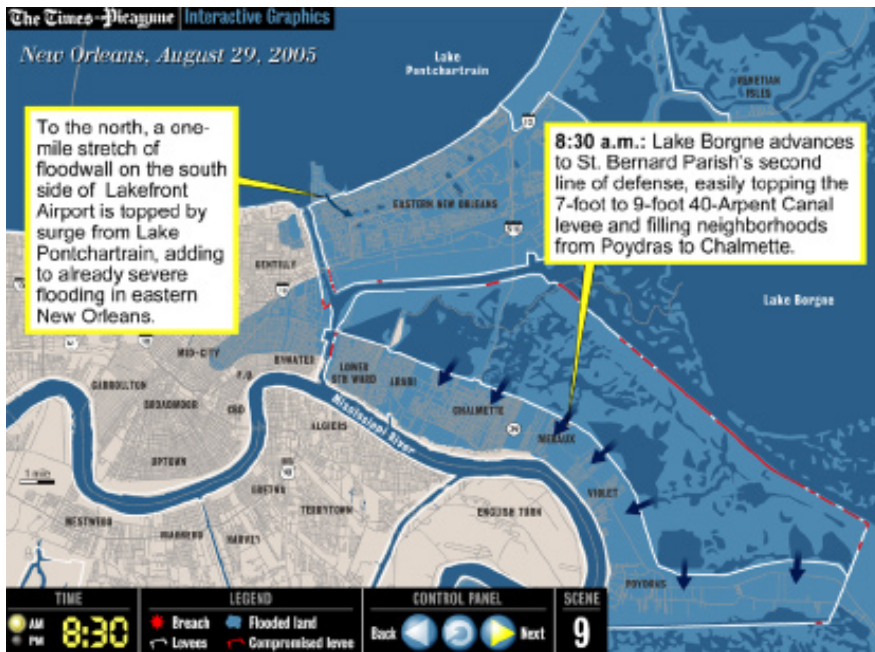


Figs. I.H.5-17

Flash flood interactive graphics series (The Times-Picayune newspaper)









Figs. I.H.18–19
 Homes inundated by post-Katrina flood (below); Satellite imagery showing flooded areas in a dark blue (right)





Fig. I.H.20
Graphic timeline, August 31–September 24, showing recession of water after flooding reached its peak

Fig. I.H.21
Graphic illustration of where Katrina victims were found

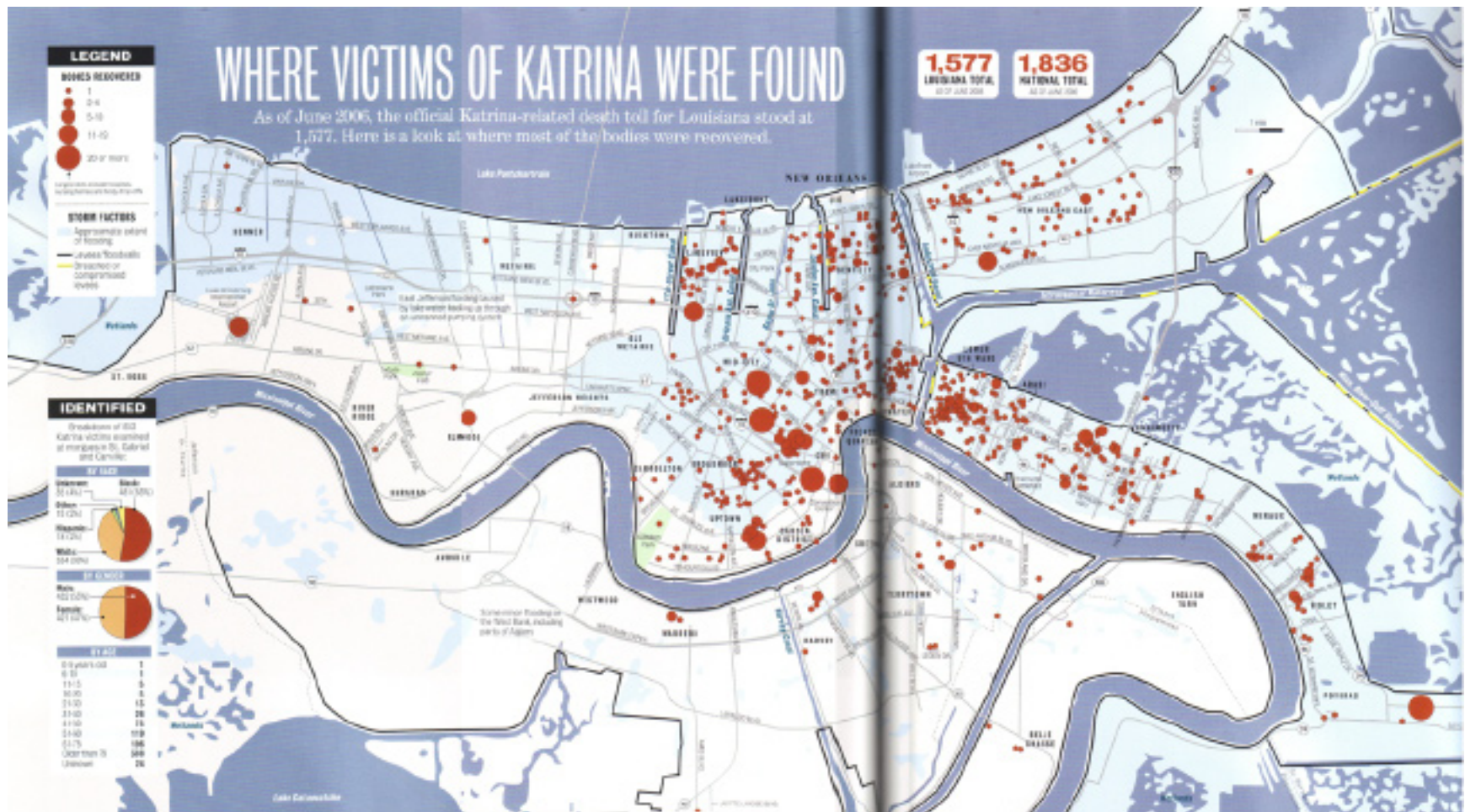


Fig. I.H.22

Workers pumping water from flooded roads



Sources

http://en.wikipedia.org/wiki/Effect_of_Hurricane_Katrina_on_New_Orleans (Feb. 2007)

<http://www.nola.com/katrina/graphics/flashflood.swf> (Feb. 2007)

http://www.nytimes.com/packages/html/national/2005_HURRICANEKATRINA_GRAPHIC/ (Feb. 2007)

http://www.fema.gov/hazard/flood/recoverydata/katrina/katrina_la_resources.shtm (Feb. 2007)

http://www.lib.utexas.edu/maps/katrina_2005.html (Feb. 2007)

<http://www.katrina.noaa.gov/maps/maps.html> (Feb. 2007)

http://www.time.com/time/covers/20050912/new_orleans_map/ (Feb. 2007)

Chapter II: Preservation History of New Orleans

Introduction:

Building upon their first study and narrowing the focus of their investigation, the students were asked in the second assignment to study New Orleans's rich history of and contribution to historic preservation. They were also asked to compare local and national preservation guidelines and to analyze both of these for newer concerns of preservation, namely social and environmental sustainability. Again, the ten students divided the multi-part program into individual or group efforts.

Program:

Part A) Research, analyze, and summarize pre-Katrina preservation history, policies, and directives for New Orleans. What are the local attitudes toward the extant built environment? Compare to the Secretary of Interior's Standards for Rehabilitation <http://www.cr.nps.gov/hps/TPS/tax/rhb/>. Are environmentally or socially sustainable building technologies addressed in any of these?

Part B) Study and diagram areas of damage from recent hurricanes and flood (include diagrams of levee failures and varying amounts of flooding). This may be best illustrated with simple CG (computer graphics) using city map or Google Earth as a base.

Part C) Based on urban development analysis from Project 1 (Chapter I), how have different building types held up to these extreme weather conditions? How can or should the answer to this question affect building codes and preservation policies?

Part D) Collect, summarize, and comment on

post-Katrina discussions and decisions about preservation and applicability of the old policies toward the current situation and conditions. How have the hurricanes and flood changed the preservation policies in effect in New Orleans?

Part E) Looking back at what we have learned about the history and development of New Orleans and looking forward to anticipated urban needs and climatic changes, discuss preservation theory. Based on the economic, climatic, and political conditions of New Orleans, what would be an appropriate preservation strategy for older urban fabrics?

Required Readings:

Eugenie L. Birch and Susan M. Wachter, eds., *Rebuilding Urban Places After Disaster: Lessons from Hurricane Katrina* (University of Pennsylvania Press, 2006). See especially article by Dell Upton.

Louisiana Comprehensive Statewide Historic Preservation Plan (available online)

Bureau of Government Research, *Plan and Program for the Preservation of the Vieux Carré: Historic District Demonstration Study* (1968; 1972)

<http://www.neworleansonline.com/neworleans/architecture/archtypes.html>

<http://www.neworleansonline.com/neworleans/arts/museums/historichomes/index.html>

<http://www.prcno.org/>

<http://www.crt.state.la.us/hp/>

<http://www.crt.state.la.us/hp/Complan2001.pdf>

<http://www.laheritage.org/>

<http://www.neworleansonline.com/neworleans/architecture/archtypes.html>

Recommended Readings:

John M. Barry, *Rising Tide: The Great Mississippi Flood of 1927 and How It Changed America* (New York: Simon & Schuster, 1997)

Mike Davis, *Ecology of Fear: Los Angeles and the Imagination of Disaster* (New York: Metropolitan Books, Henry Hold and Company, Inc., 1998)

Peter Evans, *Livable Cities? Urban Struggles for Livelihood and Sustainability* (Berkeley: University of California Press, 2002)

Robin F. Bachin, *Building the South Side: Urban Space and Civic Culture in Chicago 1890-1919* (Chicago: University of Chicago Press, 2004)

The Urban Conservancy, "In Praise of Green Space" (11/16/06) <http://urbanconservancy.org/>

See ICCROM website and related sites for:

-Athens Charter (1931)

-Venice Charter (1964)

-Nara Conference on Authenticity (199x)

-International Council of Monuments and Sites (ICOMOS), France (1965)

-Burra Charter (ICOMOS Australia)

-World Heritage Centre, UNESCO

II.A History of the Historic Preservation Movement in Louisiana

by Hank Dow and Jadey James

Introduction:

The Vieux Carré, the Old French Quarter of New Orleans, is probably the best known historic district in the United States. It includes all of the land within the original city established in 1718 as the capital of France's new empire in America. (*Plan and Program for the Preservation of the Vieux Carré*, p. 23)

The first official recognition that historic preservation in the Vieux Carré was in the public interest apparently came with the adoption of a City Ordinance on October 21, 1925, which established the original Vieux Carré Historic Preservation Area, consisting of twenty-two full squares and parts of twenty-four additional squares (four squares per acre). (*Vieux Carré Historic Demonstration Study*, p. I-1)

In 1925 a commission was set up to advise on preservation in the Vieux Carré. In 1926 the city asked the consultant firm of Harland Bartholomew to conduct a study for a citywide zoning ordinance. The consultant's report recommended the creation a Vieux Carré district with restrictions on height, use, and area "to preserve this unusual and historic section of predominant residential uses and small businesses."

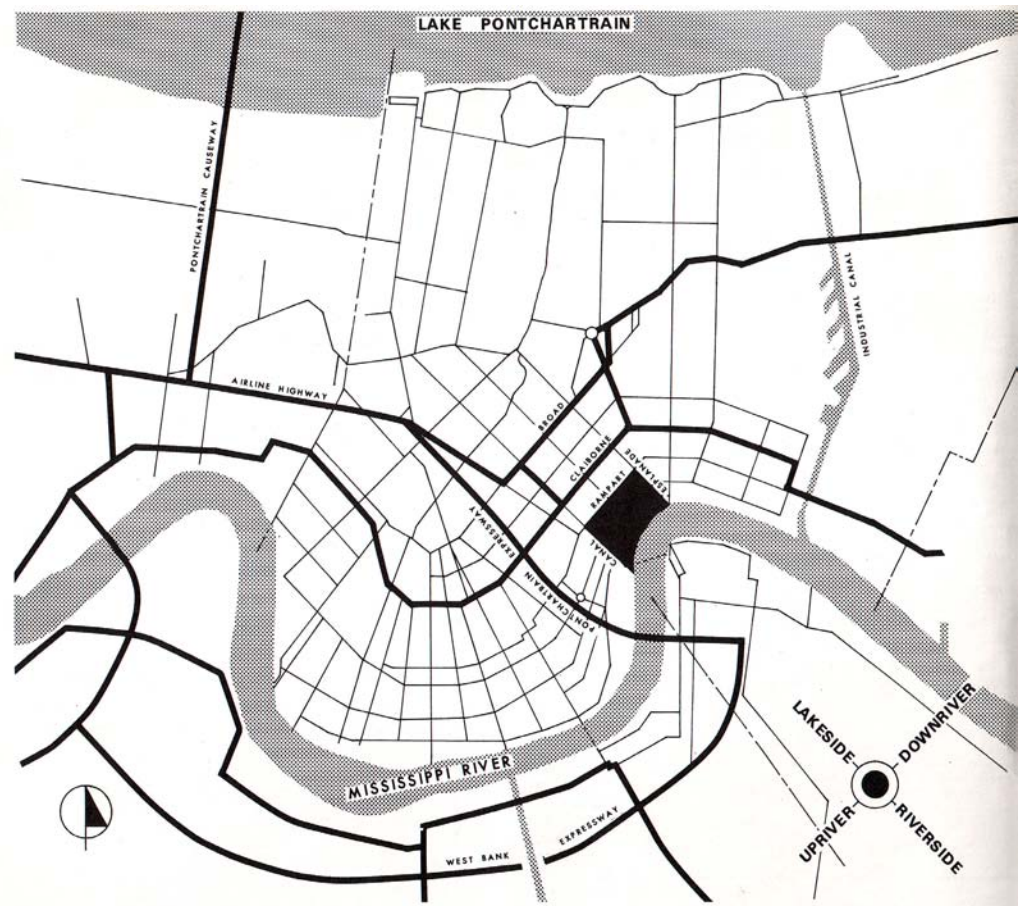
The "Athens Charter for the Restoration of Historic Monuments" was adopted at the First International Congress of Architects and Technicians of Historic Monuments in 1931 in Athens. At the congress in Athens the following seven main resolutions were made and called "Carta del Restauoro."

1. International organizations for Restoration on operational and advisory levels are to be established.
2. Proposed Restoration projects are to be subjected to knowledgeable criticism to prevent

mistakes which will cause loss of character and historic values to the structures.

3. Problems of preservation of historic sites are to be solved by legislation at the national level for all countries.

Fig. II.A.1
Regional
location
map: Vieux
Carré shown
shaded



4. Excavated sites which are not subject to immediate restoration should be reburied for protection.

5. Modern techniques and materials may be used in restoration work.

6. Historic sites are to be given strict custodial protection.

7. Attention should be given to dangers by initiating a system of regular and permanent maintenance calculated to ensure the preservation of the buildings. (*Historic Preservation Handbook*, J. Kirk Irwin, p. 205)

In 1931, seven years after the Williamsburg restoration had begun, the city of Charleston adopted the first historic district zoning ordinance in the nation and established a Board of Architecture review to approve plans for exterior details on any construction in the Old and Historic Charleston District.

In the process the Charleston project introduced a concept described as the *tout ensemble*, the idea that the character of an area is derived from its entirety, or the sum of the parts, rather than from the character of its individual buildings. This was an important advance in preservation thinking. Previously, preservationists tended to focus on individual places and buildings as something quite apart from the larger context.

Charleston provided a model for communities across the nation. It led some of the country's most important cities, including New Orleans, Louisiana, and Annapolis, Maryland, to establish historic districts regulated by ordinances protected by boards of architectural review. (*A Richer Heritage, Historic Preservation in the Twenty-First Century*, p. 7)

Similar to *tout ensemble* was the concept of *ambientismo* advocated by Gustavo Giovannoni. It proposes that a monument's dignity and scale depend upon the coexistence of more modest structures and that older parts of a city merit preservation because they are physical manifestations of culture and society. (Choay, *L'Allégorie du Patrimoine*, pp. 121-129; Anne Toxey, *Tides of Politics Traced in Stone*)

In 1936, by constitutional amendment, the Louisiana legislature increased the powers of the Vieux Carré commission. The City Council of New Orleans was permitted under this provision to confer on the commission powers to preserve buildings within a designated area and to exercise review over plans for new construction and alternation to existing properties within that area. But the Vieux Carré district was not subject to the controls of a zoning ordinance—as was the Old and Historic District in Charleston—and it was some time before the commission took the initiative in halting demolition of old buildings.

Since 1937 the Vieux Carré has been protected against the impairment of its “quaint and distinct character” through a municipal ordinance establishing the Quarter as a historic district and setting up the Vieux Carré Commission to administer the ordinance. The ordinance was authorized by an amendment to the Constitution of Louisiana. (*Vieux Carré Historic Demonstration Study*, p. I-1)

The history of the Vieux Carré district in New Orleans in the 1930s is significant. The boundaries of this 260-acre district are those of the French colonial town that was platted in 1721. The plan was a grid with many narrow streets, a fascinating mix of Old World mystery and New World order. Many features survived from the Spanish colonial period (ended by the Louisiana Purchase), including distinctive and romantic architecture.

In the Victorian Era, the city's central business

district developed on the other side of Canal Street, and there was little demand for business activity space in the Vieux Carré. However, after nearly two centuries of relatively little change, the early twentieth century experienced development pressures, such as the creation of rail links with the waterfront and the establishment of industries along the river that threatened to destroy the historic character of the district. It was during this era that the “romanticization” of the Vieux Carré set in as it began to attract artists and writers. (*History in Urban Places*, Hamer, pp. 7–9)

Preservation efforts in the state centered almost entirely around older neighborhoods in New Orleans and various landmark plantation houses. During the 1940s and 1950s a few communities founded preservation societies. During the 1960s, New Orleans preservationists were able to block a Federal Highway Administration proposal to build an elevated freeway along the Mississippi riverfront through the Vieux Carré, an effort which became popularly known as “The Second Battle of New Orleans.” Preservation efforts and interest then expanded significantly after 1970. For example, the New Orleans Preservation Resource Center was founded in 1974 as an offshoot of the local Junior League. The Louisiana Preservation Alliance was founded in 1977. Since 1970 the number of ordinance-regulated historic districts in the state has expanded from one to over thirty, and the number continues to grow.

The Historic Preservation Federal Tax Credit program currently leverages roughly \$50 million a year in private investment in Louisiana historic properties. In addition, the expanding Main Street Historic Downtown Revitalization Program generates an average of ten new jobs per community per year. Overall, despite numerous setbacks, it can fairly be said that at the pres-

ent time the preservation movement in Louisiana stands higher than it has in the past. (*Louisiana Comprehensive Statewide Historic Preservation Plan*, pp. 57–59)

Developing a Model Preservation Law:

The language of the suggested constitutional, charter, and Vieux Carré Ordinance amendments has been tailored to accommodate the specific situations and relationships that exist between the Vieux Carré, the City of New Orleans, and the State of Louisiana. Hence, these suggested laws may not be suitable for verbatim application to other historic preservation areas elsewhere in the nation. Therefore, in order to develop a model which might have general application, localities were examined and evaluated in the light of the legal and administration experiences of the Vieux Carré Commission and the conclusions and recommendations developed in this Demonstration Study. A suggested model state preservation law has been drafted which includes guidelines, terms, and conditions for local governing bodies to create and establish historic preservation districts.

The recommendations contained herein are far-reaching, and their complete implementation will take several years. A sustained, positive, aggressive, coordinated effort on the part of political, civic, and business leaders of the community will be required for the recommended Vieux Carré Historic Preservation District of New Orleans to become fully operational.

1. No more high-density hotel-motel construction should be permitted in the Vieux Carré.
2. No more heavy traffic-generating land uses should be permitted in Vieux Carré.
3. Positive steps should be taken by the present

Vieux Carré Commission and/or the City Council to insure that all restorations and all new construction are designed authentically and conform to the tout ensemble.

Preservation Purposes and Problems:

The purpose for creating a historic district may be bricks-and-mortar (to preserve architecture) or dollars and cents (to increase a historic district's tourist appeal), but primarily preservation should be thought of as having a flesh and blood social purpose (to enrich and give meaning to the daily life of the people of a rich community).

As a nation it has been noted that we have been careless with our architectural, artistic, and historic heritage. Four main reasons suggest this:

1. Insufficient awareness of the importance of this heritage, especially by those in decision-making positions.
2. The difficulty of identifying the valuable things and the absence of criteria for determining their relative importance.
3. Present design approaches and methods which do not take the trouble to retain important elements and generally do not provide motivation to do so.
4. The lack of a method for considering the value of excluding forms to local people and of mechanisms for making policy decisions about them on the local level.

A systematic approach and method of analysis is clearly needed for undertaking preservation planning in any historic district. The Supreme Court of Louisiana adopted the important "tout ensemble" rule in holding the Vieux Carré Ordinance applied to all structures in the historic district irrespective

of an individual building's own historic or architectural value.

Components of the Tout Ensemble:

The physical and functional components of the tout ensemble can be defined as follows. Man-made elements and natural features not limited to:

1. Objects including buildings, street furniture (street lights, hitching posts, etc.), and other artifacts;
2. Combinations of architectural features including street facades, other groups and masses of structures, and boundary forms (levees embankments, etc.);
3. Open spaces (squares, courtyards, etc.) and landscape features together with the natural features of topography and water;
4. Landmarks and other points of visual dominance, viewpoints, and vistas;
5. Historic places associated with past events or important personalities and groups and physical elements having present associations—points of social activity (institutions, churches, museums, etc.) that do not at this time necessarily have historic significance;
6. Buildings of architectural and historical significance. (*Preservation of the Vieux Carré*, pp. 1,3–4)

Goals and Policies and Guidelines:

Proposed Goals

1. Preserve the Vieux Carré as a historic district of national significance.
2. Guide change to insure continuity of the Vieux Carré's environmental unity, its tout ensemble.

3. Improve the quality of the Vieux Carré's environment by eliminating incompatible and undesirable uses and structures, providing needed amenities and services, and strengthening incentives and controls to improve design standards for new construction and for rehabilitation of existing buildings.

4. Realize the Vieux Carré's physical, social, and economic potential as an important tourist center, a resource for the people of the metropolitan area, a desirable in-town residential district, a focal area for the arts and crafts, a major shopping and entertainment complex, and a vital part of the city's economic and tax base.

5. Provide needed facilities and services to support and enhance the functioning of the historic district for serving visitors, residents, and workers.

6. Provide facilities to improve traffic circulation, transit service, and automobile storage within the historic district consistent with proper environmental standards,

Preservation Policies

1. Preservation should encompass both the physical and functional elements of the Vieux Carré that contribute to its identity and environmental unity.

2. Public action should be especially directed at retaining and strengthening the Quarter's diversity and authenticity.

3. The Vieux Carré should be continued as a living, functioning community, not as a museum complex.

4. The quality of rehabilitation-restoration work in the Vieux Carré should be improved through positive programs of financial and technical assis-

tance as well as the application of such negative controls as zoning and building regulations.

5. The maintenance and repair of buildings of architectural and historic significance should be assured by public action where necessary.

6. Individual structures should be continued in uses that are compatible with their architectural character.

7. Changes in density resulting from rehabilitation should be carefully controlled.

8. Systematic code reinforcement should be carried out within the Quarter to upgrade existing building conditions and prevent demolition by neglect.

Development Policies

1. Development should be channeled to remove obsolete buildings and renew declining sub-areas within the Quarter and should be diverted away from the historic core where older structures are concentrated.

2. New buildings should be carefully related to existing structures in terms of height, material, color, form, and site plan and should honestly express present-day requirements.

3. New construction should be consistent in design and location with the existing historic context and architectural setting.

4. Physical development should be planned to delineate more strongly the physical limits of the Vieux Carré with the Mississippi reestablished as the natural physical boundary of the Quarter.

5. The pattern of development within the Vieux Carré and centers of activity adjoining the Quar-

ter, especially the International Trade Mart, the central retail area, and the proposed new cultural center, should be closely related to one another.

6. The range of available facilities within the Vieux Carré should be greatly expanded, including additional facilities for tourists and visitors, community facilities for local residents, and supporting out-of-town, city, and Vieux Carré residents.

7. A system of public and private open space should be developed to provide an internal physical structure to the Quarter and reestablish the visual and physical link between the riverfront and the area of original settlement.

8. Historic open spaces and similar features should be recreated wherever feasible to serve modern needs for amenity and use.

Transportation Policies

1. The requirements of the automobile should be recognized but subordinated to the need for preserving the quality of the historic environment.

2. Internal circulation, service, and goods-handling within the Quarter should be improved with through-traffic diverted from local streets.

3. Conflicts between pedestrian and vehicular traffic should be minimized and the quality of the pedestrian environment greatly upgraded.

4. An internal transit system for tourists and others should be established.

5. The Riverfront Expressway should be carefully designed to reduce its negative impact on the Quarter.

6. Parking facilities should be expanded to provide for future demands and properly located to

minimize future disruption. (*Preservation of the Vieux Carré*, pp. 87–89)

Preservation Guidelines

The National Trust urges that public controls never be applied with the intention of prohibiting contemporary design “which harmonizes with the heritage of the past through its awareness of scale and materials.” Buildings and sites significant enough to be preserved for exhibition purposes should be maintained or restored “with utmost fidelity to the highest restoration standards possible.” (*Preservation of the Vieux Carré*, pp. 133–135)

Buildings of Architectural Significance

All buildings within the Vieux Carré Study Area were evaluated to determine their architectural and historic significance. This evaluation was completed as part of Tulane University School of Architecture’s Vieux Carré Survey. The survey was undertaken by two qualified observers and reviewed by a special committee as well as by the planning consultants for this study. Buildings were rated as being of: 1) national architectural or historical significance, 2) major significance, 3) local importance, 4) value as part of the scene, or 5) no importance or objectionable. (*Preservation of the Vieux Carré*, pp. 45–47)

Historic District Classification:

A historic district is a defined geographical area designated for its cultural, social, economic, political, and/or architectural significance. There are two different types of historic districts in the City of New Orleans: National Register districts and locally designated districts. Currently, there are seventeen National Register districts and thirteen local districts.

New Orleans Historic District Landmarks Commission (HDLC)

New Orleans Historic District Landmarks Commission has jurisdiction over nine (9) local historic districts, one hundred sixty-three (163) individual landmark buildings, and one hundred eighty-two (182) nominated landmark buildings in all areas of the City that are outside of the boundaries of the Central Business District (CBD).

Central Business District (CBD) HDLC

This eleven-member commission provides the guidance and protection of our historic resources within the four (4) local historic districts, along with thirty-one (31) landmarks and twenty-six (26) nominated landmark structures in the Central Business District (CBD).

CBD Guidelines

1. Work applications

2. Information about the building, the owner, and others involved in the project
3. Major alterations and additions to an existing building
4. New construction
5. Demolition applications
6. Demolition
7. Applications before other city agencies
8. Information about the project
9. Maintenance and repair
10. Work to alter the appearance of a building

Current Preservation Programs Utilized:

Operation Comeback

The Preservation Resource Center’s Operation Comeback promotes the purchase and renovation of vacant historic properties. Started in 1987 as a focused effort to revitalize the Lower Garden District, Operation Comeback expanded rapidly and

Fig.II.A.2

Map of Vieux Carré indicating architectural-historic significance of structures by color

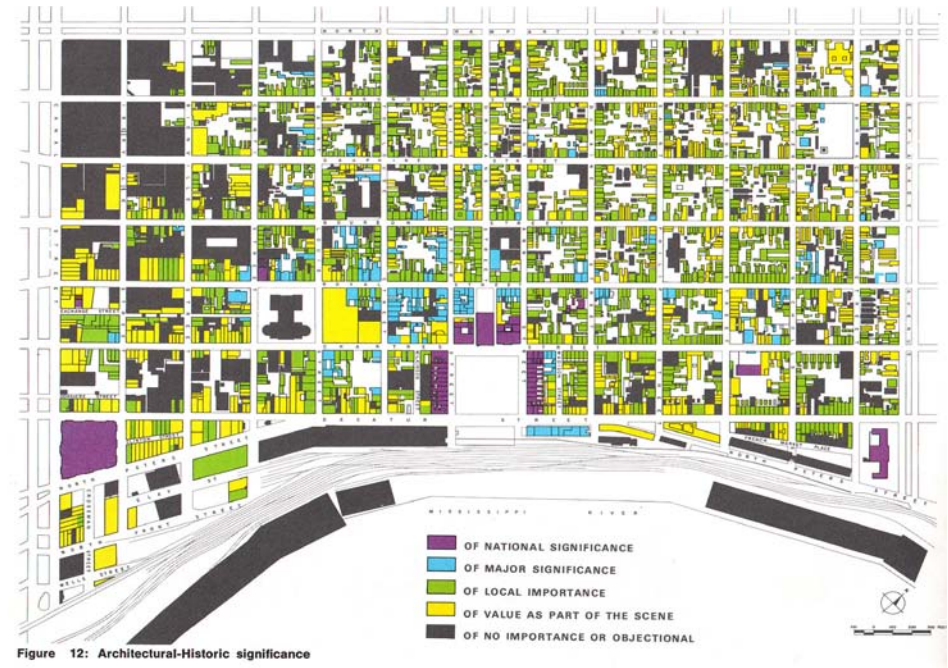


Figure 12: Architectural-Historic significance

Figs. II.A.3-14

Examples of completed preservation projects, before (above) and after (below)



1436 N. Roman Street

611 Opelousas Street



1329 St. Andrew Street

1009 Poydras Street



137 Royal Street

923 S. Peters Street



now works with dozens of neighborhood associations and community development corporations citywide to revitalize New Orleans.

Operation Comeback sponsors a variety of workshops to help prospective buyers learn how to identify a vacant property suitable for renovation, negotiate its acquisition, find appropriate financing, and achieve a successful renovation project. Workshops include: 1) Six Ways to Get a House, 2) Renovation 101, 3) Renovators' Happy Hours 4) Live in a Landmark, and 5) First-Time Home-buyer Training.

In addition to presenting seminars for prospective buyers or owners of historic properties, Operation Comeback also offers a continuing education program for licensed realtors called Historic House Specialist Seminar.

Real Estate Program

A primary component of the Operation Comeback's revitalization efforts is the real estate development initiative in targeted neighborhoods. After selecting a neighborhood and forming a partnership with the neighborhood association, Operation Comeback purchases vacant, at-risk properties, rehabilitates them, and offers them for sale. There are two neighborhoods that are currently part of this program, Uptown in the Faubourg Marengo area and in the historic Holy Cross. (www.prcno.org, February 2007)

Sources:

Plan and Program for the Preservation of the Vieux Carré

Vieux Carré Historic Demonstration Study

Historic Preservation Handbook, J. Kirk Irwin

A Richer Heritage, Historic Preservation in the Twenty-First Century

Choay, Françoise. *L'Allégorie du Patrimoine*. Paris: Editions du Soleil, 1996.

Toxey, Anne. *Tides of Politics Traced in Stone: Preservation, Modernization, and Residues of Change*. Berkeley: University of California (dissertation), 2006.

History in Urban Places, Hamer,

Louisiana Comprehensive Statewide Historic Preservation Plan

Preservation of the Vieux Carré (same as first on list?)

www.prcno.org, February 2007

II.B Local Attitudes Toward the Extant Built Environment and Their Comparison to the Secretary of Interior's Standards for Rehabilitation

by Nancy Edwards Greene

It is a widely known fact that New Orleans is determined to rebuild itself. New Orleans is a very proud city and wants to keep and restore its heritage. Long before Hurricane Katrina, the city council set up a commission to preserve its architectural heritage. This commission was named the New Orleans Historic District Landmarks Commission, and it still serves this purpose today.

When the commission was formed in mid-1980, it was given a very important task: to regulate, preserve, and protect the historic districts and landmarks within the city of New Orleans. While this task may not seem to have a broad impact on the city as a whole, its city council founders believed it would have an extremely significant impact on the city. In section one of the ordinance that created the commission, the council stated very clearly its intent of the new commission:

to promote historic districts and landmarks for the educational, cultural, economic, and general welfare of the public through the preservation, protection, and regulation of buildings, sites, monuments, structures, and areas of historic interest or importance within the City of New Orleans; to safeguard the heritage of the City by preserving and regulating historic landmarks and districts which reflect elements of its cultural, social, economic, political, and architectural history; to preserve and enhance the environmental quality of neighborhoods; to strengthen the City's economic base by the stimulation of the tourist industry;

to establish and improve property values; to foster economic development; and to manage growth. [*New Orleans Historic District Landmarks Commission; Enabling Legislation; Ordinance*]

Since a vast majority of the city has been damaged or destroyed, the standards and guidelines of the commission will no doubt be of great use to the entire city and not be limited to those buildings that have been previously given the rank of historic landmark. No one entity could be better qualified to help restore the city of New Orleans than its Historic District Landmarks Commission.

In general, the rule of the commission is not to restore, alter, add, move, or demolish any part of a building or its surroundings within any historic district without first applying for approval through the commission. The same is true on the federal level according to the Secretary of Interior's Standards for Rehabilitation, but there is no official approval needed because their standards are just guidelines. Both the Historic Landmarks Commission and the Secretary of Interior's Standards have strict guidelines on all elements of the exterior of a building. One major difference between the two sets of standards/guidelines is that the Secretary of Interior's Standards for Rehabilitation also include the interior of the building. These standards state that "rehabilitation" is defined as: the process of returning a property to a state of utility through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property that are significant to its historic, architectural,

and cultural values. [*The Secretary of Interior's Standards for Rehabilitation: Introduction to the Standards*]

The New Orleans Historic District Landmarks Commission, however, clearly states that it will not consider the interior of a building or its use as long as the exterior of the building remains true to its original existence and its surroundings.

Another major difference between the two entities is that the Secretary of Interior's Standards for Rehabilitation are merely guidelines. They very methodically list actions and methods that are "recommended" and "not recommended." The actions and methods that are consistent with the Secretary of Interiors Standards for Rehabilitation are "recommended." The actions and methods that would adversely affect the historic character of a building are "not recommended." The Historic District Landmarks Commission, however, has a set of regulations that must be followed, applied for, and approved by the commission. In the aftermath of Hurricane Katrina, the permit approval process has been relaxed somewhat to make things easier for residents, but a permit must still be obtained before any work can begin.

Secretary of the Interior's Standards for Rehabilitation Guideline Categories:

Masonry
Wood
Metals
Roofs
Windows
Entrances/Porches
Storefronts
Structural Systems
Spaces/Features/Finishes
Mechanical Systems
Site
Setting
Energy
New Additions
Accessibility
Health/Safety

Historic District Landmarks Commissions Categories:

Roofs and Associated Details
Rooftop Additions
Openings: Doors and Windows
Guidelines for New Construction
Wood Finish Materials
Existing Masonry Construction
Signs
Fences, Gates and Walls
Lighting
Paving
Structural and Ornamental Metals
Ceramics and Other Materials
Demolition by Neglect

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II.C Social and Environmental Sustainability in U.S. and Louisiana Preservation Guidelines

by Miguel Perez

The U.S. Secretary of the Interior is responsible for setting preservation standards at a national level. One of the main purposes of these standards is to guide preservation activities of federal agencies. Historic districts and planning commissions across the country may also adopt these standards, or use them to craft their own individual preservation strategies. At a national level, the main concern is to find a way to positively deal with issues that affect historical architecture. These guidelines focus on the physical preservation of historical architecture.

One section of these standards deals with energy efficiency. Some historical buildings have secondary energy efficiency features, such as shutters, skylights, sunrooms, porches, and plantings, to name a few. The first step is to try to determine or quantify a building's current energy-conservation potential.

One recommendation of these standards is to maintain existing features. Retaining historic elements is an issue repeatedly addressed in the Secretary of the Interior's guidelines. One section discusses consideration of the safety and health of occupants. It is important to know who will be occupying the facility being restored. Preservation of buildings is what drives the priorities of these standards.

What is the most important aspect of a neighborhood? What people make up the neighborhood? New Orleans is divided into many different kinds of neighborhoods. The national document does not really explain how to deal with the social as-

pect of a neighborhood being impacted by preservation.

The Louisiana comprehensive state-wide historic preservation plan addresses only preservation issues directed towards Louisiana. The information is divided into six parts. It introduces the different organizations and entities that impact cultural resources. Parts three and four deal with historic issues that have impacted Louisiana. Part five is the most important section of the document, dealing with the goals and objectives that will have a critical impact on the decisions of the public.

Objective 3-4 informs people to "...encourage young people to take an interest in the state's heritage and to work actively for its preservation once the ownership of the state's historic properties passes into their hands." Later on, the document discusses educating those who may have the greatest direct impact on historic preservation. This document talks about how the public can play a part in the preservation theme and encourages the public to be enthusiastic about historic preservation. Objectives of the document emphasize how to make a change in the minds of the current citizens of Louisiana; however, this document does not really address the issues of the future. The neighborhoods of New Orleans are made up of different social infrastructures. Certain neighborhoods have their own unique pattern of living.

Objective 5-3 encourages the tourism industry. When you invite more people to visit the town where you live, more businesses are needed

to serve these visitors. Is there a way to allow increase of the tourism industry while still allowing the locals in their neighborhoods to keep their way of living? The document is very helpful for the immediate future. What can local or national governmental entities do, in order to preserve the social environment, along with its physical historical architecture?

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II.D Damage Incurred by New Orleans Buildings from Hurricanes Katrina and Rita and Ensuing Flooding

by Mariem Bennani, Brian David, and Lyndsay Wright

Introduction:

Three types of damage are responsible for the widespread destruction in New Orleans following hurricanes Katrina and Rita: wind damage, contamination, and structural damage induced by flooding.

Wind Damage:

After Hurricane Katrina, wind damage to both commercial and residential buildings was widespread throughout New Orleans. Because Katrina's wind speeds were generally below the wind design standards in most areas, most of the resulting wind damage affected the building envelopes and rooftop equipment, rather than causing damage to the structural systems of those buildings. The poor performance of building envelopes was a function of both low wind resistance and damage from windborne debris impact. The most commonly damaged elements were vinyl siding, soffits, glazing, and rooftop equipment. Roof

coverings, in particular, performed poorly. Downtown New Orleans experienced extensive glazing damage. Many windows were broken directly by windborne debris, and many windows, weakened by scratches from wind-borne debris, then failed when over-stressed by wind pressure.

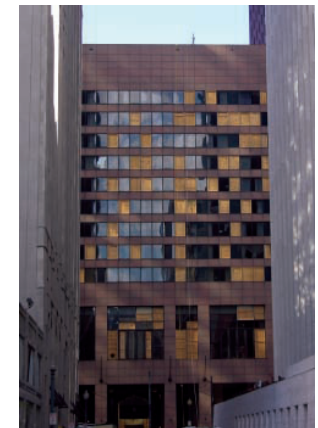
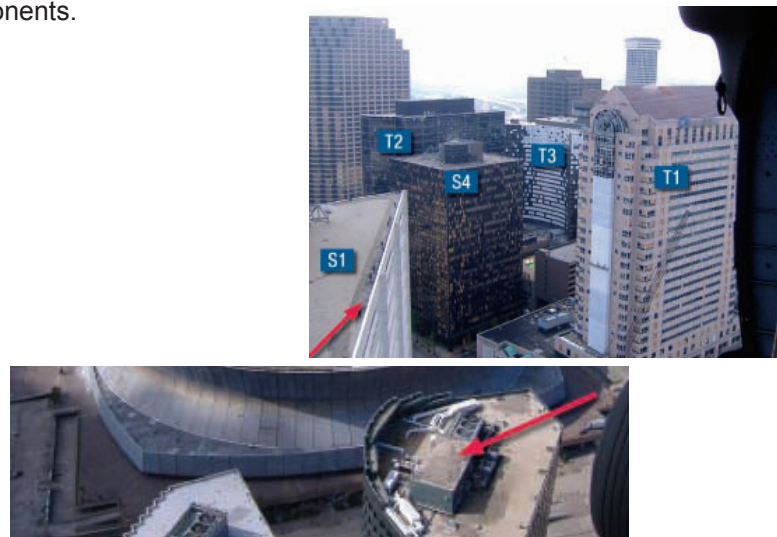
Wind damage to commercial buildings correlated more closely to the construction and the structural systems of the building than to the location of the building. Many old, pre-engineered metal structures were destroyed by low wind speeds, while stronger, heavily engineered buildings that experienced high wind speeds exhibited some damage to the building envelope, but very little damage to the actual structure of the building. High- and medium-rise buildings performed much better than low-rise structures, receiving mostly damage to the building exterior, but not to the structural components.

The severity of wind damage did not vary with the foundation type of the affected building. Structures with shallow foundations performed similarly to those with deeper foundations. Buildings constructed with reinforced concrete or heavy steel frames performed well structurally under the wind loads; however, non-reinforced masonry buildings experienced extensive damage.

Wind damage to residential buildings varied with wind speed, building shape, structural design, and construction qualities. Damage was greater when a building envelope was breached at "soft" portions of the building exterior, such as soffits and lightly constructed ceilings over covered corridors or breezeways. These types of breaches resulted in increased internal pressure, causing failure of structure and envelope components. Many wood-framed residential buildings experienced wind

Figs. II.D.1–4

Illustrations of wind damage to New Orleans



damage to the structure of the wall and roof elements. In both old and new residential construction, the most common wind-related structural failure in light frame construction was failure of the roof framing.

Even though many historic buildings do not meet current building codes, many of those buildings performed well under the applied wind loads because construction techniques used in historic structures created stronger roofs than are seen in present-day framing. Another common element in historic buildings is the use of shutters, which successfully protected many windows from breakage. Most of the wind damage inflicted on historic buildings was a result of debris impact or falling trees.

Figs. II.D.5–9

Reinforced concrete building that performed well under wind loads (lower left); wooden frame residential structured damaged by winds (center and right images)



Contamination:

The duration of the flood in New Orleans contributed to further damages, as some areas of the city remained underwater for several weeks. This long-duration flooding saturated porous types of building materials with contaminated water, leading to moisture entrapment within the walls and floors of the flooded buildings and creating an ideal breeding ground for biological contami-



nants. Materials affected by long-duration flooding include: wood framing and framing connections, exterior and interior wall materials, insulating materials, wall covering and coatings, interior doors and cabinets, floors and floor coverings, and utility systems. There were two types of contamination seen in New Orleans after Hurricane Katrina: chemical contamination and biological contamination.

Chemical contamination

Chemical contamination may be broken into two categories: heavy metal contamination and pesticide contamination. The thirteen heavy metal pollutants are: antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel,



selenium, silver, thallium, and zinc. These heavy metals are naturally found in the earth's crust and cannot be destroyed. They may be deposited in lakes, rivers, and groundwater through human and industrial waste or through acid rain breaking down soil. When a flood occurs, these heavy metals may then be distributed over a widespread area by the floodwaters.

Heavy metals

After Katrina, FEMA tested a sampling of forty-four sites throughout New Orleans for the presence of heavy metals. In the majority of the samples, arsenic levels exceeded 250% of the mean (average) value, what is considered normal for an area. In three or more of the samples, the levels of beryllium, cadmium, chromium, copper, lead, nickel, silver, and zinc exceeded 250% of the mean (average) value. The concentration of heavy metals appeared to be higher in buildings that are closer to Lake Pontchartrain and lower in buildings located farther away from the lake. As a result of this trend, FEMA concluded that these heavy metals were deposited by the floodwaters from Lake Pontchartrain.

Pesticides

Pesticide contamination is caused by floodwaters, which churn up pesticides lingering in the soil. New Orleans has a long history of use of pesticides in termite control. Current pesticides are water-soluble and therefore would have been diluted by floodwaters, causing no health risk to the public. Older pesticides, such as chlordane and DDT, have been banned due to their negative impact on the environment. However, because they are oil-based pesticides, they have lingered in the soil for up to 20 years, without becoming diluted. In the FEMA findings, chlordane was the most consistent contaminant. Older homes, which were more likely to have been originally protected by chlordane, showed higher levels of the con-

taminant, while newer homes showed much lower levels.

Biological contamination

Biological contamination may be broken into two categories: bacterial contamination and fungal contamination. Both types of biological contamination are caused in the same way, and they seem to have an inversely correlated occurrence: where bacterial levels are high, fungal levels are low, and vice versa. The presence of these biological contaminants poses a great health risk and will be a major challenge to the restoration process. High levels of biological contamination will make salvage an impossibility in many cases.

Bacteria

Bacterial contamination occurs in the environment where building materials have been wet for more than seven days. Areas where the floodwater was impacted by sewage poses the greatest risk for potential bacterial contamination. FEMA found bacterial contamination in most of the sampled structures, where the bacterial levels were deemed to range from high to extreme. High bacteria levels were found in places with high moisture levels and in the outer surface of exposed wooden studs.

Fungi

Fungal contamination was observed in all of the inspected facilities. Fungal growth was observed to be more vigorous on porous content and porous finishes above the water line, as compared to materials below the water line. This growth was supported by high humidity levels.

Figs. II.D.10–11

Examples of chemical (? fungal?) contamination

Structural Damage Induced by Flood:

In New Orleans the majority of structural damage from Hurricane Katrina was caused by flooding. Property elevation was the key difference in the amount of flood damage inflicted upon a structure. However, foundation type made a significant difference in the ability of a structure to resist a variety of flood conditions and flood loads. In areas subjected to severe flooding, damage to shallow foundations was extensive, and structural failures were dramatic. Once the flood levels and wave heights exceeded the first lowest finished floor, severe building damage resulted, even if the building were raised on a high foundation. The only buildings that survived the severe flood conditions were buildings with high foundations, where the flood height did not surpass that of the lowest finished floor. Four types of foundation are common in New Orleans residential design: masonry pier foundations, slab-on-grade foundations, crawlspace/foundation wall foundations, and stem wall foundations.



Masonry piers

Masonry pier foundations are the oldest and most common foundation type in New Orleans. This construction is used to elevate buildings from two feet to ten feet above grade. Materials and design vary widely, but most masonry pier foundations are brick, concrete-filled masonry units, or cast-in-place, reinforced concrete. Piers with discrete footings are much more prone to failure than piers constructed with continuous grade beams, which were effective foundations as long as the storm surge and wave heights remained below the floor beam. Pier performance was best in still water flood conditions, where soil erosion was minimal and where waves were small.

Slabs-on-grade

Slab-on-grade foundations are very common in New Orleans, especially in more recent construction. Buildings constructed with slab-on-grade designs were severely damaged when floodwaters and waves reached above the slab. Where the height of the storm surge exceeded the slab elevation by more than three feet, damage to load-bearing walls resulted in severe structure damage or in a total building loss, leaving nothing but the foundation slab.

Figs. II.D.12–15

Examples of damage to houses on masonry piers



Masonry walls

Crawlspace foundations typically use a masonry perimeter wall to elevate the structure above grade. Stem wall foundations contain and elevate compacted fill, which then supports a slab. The higher elevation above surrounding grade makes this foundation preferable to a slab-on-grade foundation and adds protection against local storm water flooding. Stem wall foundations are often used to meet elevation requirements where the Base Flood Elevation (BFE) is several feet above grade. This earth-filled platform provides more stability in face of water intrusion than typical crawl space perimeter walls. Similar to buildings with slab-on-grade foundations, buildings with stem wall foundations experienced severe damage when floodwaters and waves reached above the slab.

Residential buildings with light frames are generally incapable of resisting coastal flood loads; therefore, they are designed to avoid flood loads altogether through elevation above the design flood level and by limiting flood loads to the building foundation. However, when Katrina's storm surge height exceeded that of the lowest finished floor, and where waves were present, almost all of the buildings were heavily damaged or destroyed completely, regardless of foundation type.

A wide variety of low-rise commercial buildings experienced flooding and severe damage from Hurricane Katrina. No commercial building constructed on a slab-on-grade foundation near the coastline escaped damage when wave height or the height of the storm surge exceeded that of the lowest finished floor. The downtown central business district experienced widespread still water flooding but was protected by greater ground elevations and by the higher density of buildings. In larger retail buildings, steel frame construction with infill masonry walls is more common. Under pressure from Katrina's waves, the heavier steel frame continued to support the roof, but walls and their contents were destroyed.

High-rise buildings in New Orleans performed well structurally. Due to the height of the ground on which they are built and to the elevations of the buildings, high-rise foundation systems were generally not impacted by the storm surge and wave impacts. The foundation stability of tall buildings was not affected, because most of these foundations are cast-in-place, reinforced concrete. New Orleans high-rises are some of the best examples of structural stability and success in light of Hurricane Katrina.



Historic buildings in New Orleans were constructed on raised foundations to allow water to pass underneath, and therefore, most fared well.

Some neighborhoods of New Orleans experienced more structural damage than others. The failure of the Industrial Canal and overtopping of coastal levees caused structural damage to buildings in eastern New Orleans and St. Bernard Parish. The most severe structural damage in these two areas was evident in the Lower Ninth Ward of New Orleans and in Chalmette in St. Bernard Parish. In these areas the pressure of the waters breaching the levees applied great force to the structural members of the buildings in the immediate area. Residences immediately behind failed sections of levees suffered significant structural damage, such as failure of load-bearing walls and the shifting of entire structures off of their foundations. Residences sited on poor foundation soils suffered structural damage, such as cracking of load-bearing walls and sagging floors due to subsidence. Continued entrapment of moisture within structural members of the walls and floors could induce rotting of the structural framework over the long term.

Figs. II.D.16–18 Slab on grade houses damages or washed away by flooding



Future Building Standards for New Orleans:

Prior to Hurricane Katrina, minimum foundation heights were based on the BFE for the property location. The BFE is calculated using interior flood data, which only includes rainfall amounts. The BFE does not account for exterior flood sources, such as the Gulf of Mexico, Lake Pontchartrain, or the Mississippi River. Because pumps are designed to remove rainwater from the city, rainfall is not perceived to be a major flood threat, and the resulting BFEs for most of New Orleans are determined to be at, or even below, sea-level. In historical New Orleans, residents built buildings on much taller foundations, often leaving an entire first floor for purely storage purposes, in order to reduce any damage that a flood might cause.

As of November 29, 2005, Louisiana has adopted the 2003 International Building Code (IBC) statewide. This new code requires all residential structures to have hurricane straps at roof and wall connections and requires that the entire structure be tied to the foundation. The code also requires laminated windows or shutters and steel-reinforced garage doors in order to prevent the structure from damage caused by flying debris.

FEMA recommends that all reconstruction and new construction within the revised flood hazard area:

- Elevate buildings higher than they existed before Hurricane Katrina.
- Utilize stronger foundations with continuous load paths and stronger connections.
- Incorporate wind- and water-resistant walls, windows, doors, and roofs.
- Elevate buildings with the bottom of the lowest horizontal structural member supporting the lowest floor above the regulatory flood elevation.
- Use flood-damage resistant building materials above the lowest floor of the structure.
- Design and build structures using methods and materials in: 1) the most recent building codes and standards; 2) FEMA 55, Coastal Construction Manual (revised 2000); 3) FEMA 499, Home Builder's Guide to Coastal Construction, Technical Fact Sheet Series (2005)

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II.E Post-Katrina Historic Preservation Discussions

by Jeffery Harris and Luis Tejada

Introduction:

Preservationists are trying to influence Congress as they try to answer the question of “how, and in what form, the rebuilding will happen, and how [New Orleans’s] historic fabric will be protected for generations to come.”¹ The process of rebuilding New Orleans, one of the richest cities in the nation with regard to its collection of historic buildings, must include a strongly supportive stance on historic preservation. The fear in New Orleans is that the physical devastation caused by Katrina will pale in comparison to the cultural impact of a deficient government response.

Rebuilding Plans:

Months after New Orleans’s tragic encounter with Hurricane Katrina, the flooded city had been drained, and focus began to shift from rescue to reconstruction. As proposals for rebuilding started to materialize, historic preservation emerged as an important issue; most plans contained thoughtful ideas about New Orleans’s future, but many ignored or downplayed important preservation issues affecting the city’s cherished historic heritage.

The Urban Land Institute’s January 2006 proposal “*Green Belts*” called for shrinking the city’s footprint by buying out homeowners in the most flood-prone neighborhoods and converting the land into open green space. Before Katrina, the New Orleans Recreational Department lacked the funding necessary to maintain its existing parks,

¹ Peter Brink (NTHP). Statement before U.S. Senate Committee on Environment and Public Works. October 2006

leading some to suggest selling parks to developers. The “*Green Belts*” plan would protect existing parks and create new ones in places too low for renovation or new construction.

Despite its call for the displacement of entire neighborhoods, the idea of green spaces should not be discarded from the future reconstruction of New Orleans. There are many benefits to the establishment of green areas: they would make neighborhoods more vibrant by creating healthy environments for residents to relax and interact, and they would serve an important floodwater management role by creating areas where water can innocently reside during future flooding. They would also create a place for preservation of the city’s natural landscape. In City Park, there are oak trees from decades before the French arrival, and throughout the city, oak trees were planted in streets and avenues to provide shade and bring nature to the city. Many of these trees were damaged by Katrina, so an effort to restore them would certainly be an act of historic preservation.

The comprehensive Unified New Orleans Plan, created to include all neighborhoods in the planning of the city’s large-scale infrastructure needs at the neighborhood, district, and citywide levels, features the following: incentive grant programs to help residents elevate their homes; rebuilding slab houses using more traditional building styles; relocating residents from abandoned, flood-prone areas to more viable areas on higher ground.

The plan produced by the Bring New Orleans Back Commission, nicknamed “*Green Dots*,” had

many detractors. It also proposed setting aside the hardest hit neighborhoods for parklands, but it focused on predominantly African-American areas like the lower Ninth Ward and required neighborhoods who wished to remain standing to prove the viability of returning residents.

For many, the extreme devastation in certain parts of the city can be read only one way: these places were not meant for human occupancy. Some believe these areas should be given back to nature, either as wetlands or parks. For parts of the city where the majority of residents show little interest in returning, this seems like a fair assessment. The benefit is unambiguous: future disasters will affect fewer properties, saving lives and resources. Many non-residents promptly came to the conclusion that the entire city falls into this “gloom-and-doom” category, and to rebuild it would be wasteful and dangerous. Mounting evidence supporting the continued rise of ocean levels and the increase in the frequency and strength of tropical storms has led many to conclude that New Orleans will eventually disappear.

Preservationists preach long-term thinking, but just how long-term is up for debate. The general consensus in the city, culled from resident statements and planning documents, is to rebuild. One must look at the history of the city for precedence: since its inception, New Orleans has fallen victim to hurricanes, floods, and fires. Every challenge to date has been overcome by New Orleanians intent on preserving the economic and cultural vitality of the *place*. They current generation wants to do the same.

Neighborhood Reaction:

Viewing the rebuilding process through the lens of historic preservation, it is easy to lose sight of the fact that Katrina destroyed not only buildings but also entire neighborhoods, along with bike paths, streetlights, sidewalks, and playgrounds. Historic preservation is normally a building-by-building practice, but when viewed at an urban scale, it clearly plays an important role in setting and securing the urban patterns of a place. This is an important point with regard to post-disaster historic preservation because the scale has radically changed. Now preservationists are trying to save whole neighborhoods, the *tout ensemble*.

There are many examples of grass-roots community efforts demonstrating that citizens value the preservation of their communities. Freret Street residents have organized group efforts to remove mold-infested materials from houses in the Ninth Ward, while in Broadmoor, neighborhood kids have a system where they search for salvageable lumber and mark the pieces with the street name of where they are found.

By early 2007, as a result of resident collaborations, three-quarters of local shops are back in business while more than one half of national chains still remain closed. On Freret Street, pockets of preservation efforts, like the one at the blue block of storefronts, have developed gradually since the storm.

Demolition:

There are many examples of historically significant structures being torn down for less-than-adequate reasons. In the Treme Neighborhood, homes are being torn down with “flood damage” as the only stated reason. This can also be seen in other neighborhoods like northwest Carrollton, where some houses are being torn down with little visible damage. Concerned residents formed the

“Squandered Heritage” group, whose mission is to visit and photograph notable houses that have filed for demolition. In Mid-City a bungalow house with the flood line clearly stopping below the living quarters has been submitted for demolition. Troubling for preservationists, many residents see Katrina’s destruction as the perfect excuse to tear down unwanted houses and build new ones.

Despite the fact that federally funded demolition cannot proceed without a Section 106 review, which requires agencies to “take into account the effects of their decisions and their projects on historic properties,”² there have been instances of permit-less, permission-less demolitions. The Naval Brigade Hall, a New Orleans jazz landmark, was declared uninhabitable by the city and torn down without a review by the state preservation officer and without a Section 106 review.³ Clearly, there are many incentives for demolition—from monetary to emotional to concern for public health and safety.

For some individual homeowners, the memories of Katrina are tied so firmly to their homes that bringing them down is their only way to move on: “[A New Orleans citizen] had her house razed because she wanted no contact with the building where her cats died in the storm.”⁴ Citizens of New Orleans facing the choice of demolition or renovation have many legitimate reasons to choose the demolition.

In some neighborhoods, houses are being torn down at breakneck speed: Lakeview, with more than 7,000 homes listed pre-Katrina, had seen

² Peter Brink (NTHP). Statement before U.S. Senate Committee on Environment and Public Works.

³ Peter Brink (NTHP). Statement before U.S. Senate Committee on Environment and Public Works.

⁴ Warner, Coleman. Times-Picayune (New Orleans). October 26, 2006

585 homes come down as of October 2006, which was less than half of the total number slated for demolition. As with all demolitions in New Orleans, Lakeview residents greet each demolition with a mix of cheers and jeers. The cheers come from those who are excited by “a clear sign of decisive action 13 months [at the time] after the storm.”⁵ The jeers come from those who “fear the death of the quaint, cottage-style living that has marked the middle-class neighborhood for 50 years. They believe too many older homes with “good bones” will disappear, making way for larger, more generic constructions.”⁶

One byproduct of Katrina has been the formation of underground markets in the trade of architectural elements found in debris from destroyed or demolished homes. Ironically, it is this illegal steal-and-sell practice that has saved a great deal of historic architectural materials from the landfill.

Government incentive programs are effective in the everyday course of events when property owners are given the time to make economically sound decisions. But when there is a disaster like Katrina in New Orleans, especially one causing so much property damage, things become muddled. People, property owners, and government representatives, behave irrationally. After a flood of New Orleans’s proportion, demolition of buildings, historic or not, is a matter of public health and well-being. Citizens must be protected. In dealings with past disasters, the NTHP “has learned that often, the first impulse of local officials is to tear down almost every damaged building in the name of public safety. [They] have also learned that this first impulse is almost always wrong. Obviously, some historic buildings—perhaps many of

⁵ Warner, Coleman. Times-Picayune (New Orleans). October 26, 2006

⁶ Warner, Coleman. Times-Picayune (New Orleans). October 26, 2006

them—will necessarily be lost, but we should not lose more than we have to.”⁷

Benefits of Historical Preservation:

City planners must know that historic preservation, when appropriately implemented, is a powerful community development catalyst. As discussed in the section on pre-Katrina preservation history, this was not always the case. Before the National Historic Preservation Act in 1966, historic buildings “were typically saved only as isolated house museums or local “monuments” rescued through the efforts of dedicated volunteers.”⁸ With the 1966 establishment of the Historic Preservation Fund, a grant-matching program that helps to jumpstart private investment in historic preservation, and the 1976 passing of the Tax Reform Act which created the Historic Preservation Tax Incentives Program, historic preservation was given economic clout.

Organizations like the Preservation Resources Center of New Orleans are making it their mission to educate homeowners about the cost of renovation versus the cost of new construction. When it comes to protecting historic structures, preservationists have learned that civic pride alone is not strong enough incentive for property owners. The state and federal government knows this as well: the foundation of their historic preservation initiative is a tax incentive system that makes preservation financially intelligent. Before the Tax Reform Act of 1976 created the Historic Preservation Tax Incentives Program, “the government of the United States, acting through the tax code, actually encouraged property owners to demolish historic buildings and build new ones on their sites, but not to keep historic ones.”⁹

7 Peter Brink (NTHP). Statement before U.S. Senate Committee on Environment and Public Works.

8 Janet Snyder Matthews. CQ Congressional Testimony.

9 Matthews, Janet Snyder. CQ Congressional Testimony.

The World Monuments Fund and the NTHP joined forces to work on three Gulf Coast restoration projects in an effort to create real examples of how the process of renovation actually works. This has proven to be an effective way to educate the public about the benefits of renovation: save money and get a beautiful house.

In What Style Shall We Rebuild?

There is a substantial difference between the rebuilding of New Orleans and the preservation of New Orleans. The former deals with new construction; the latter with extant structures. However, it is important in this discussion to understand how historic preservation affects the debate over reconstruction: how will the overall “style” of rebuilding relate to or draw from the historical fabric of the city? Proponents of New Urbanism favor a rebuilding effort that respects historical vernacular architecture. In Mississippi, with strong local support, New Urbanist representatives quickly surveyed the coastal architecture and created a pattern book from which builders could pull their designs for new construction. In the pattern book there is an emphasis on finding the building style that fits in with the existing urban fabric. Skeptics argue that this will lead to a “Disney-fication” of the city, a mindless recreation of the past that ignores the opportunity to build upon past and create something new and vibrant. In terms of historic preservation, all neighborhood planning groups have stated their strong desire to protect their historical built environment at all costs; their differences lie in how to treat the “infill.”

Post-Katrina Changes in Preservation Policy:

Katrina has not radically changed the preservation policies in effect in New Orleans; it has essentially focused national preservation resources on one

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city. In spring 2005, “Congress appropriated \$43 million from the HPF to the State Preservation Offices in Alabama, Louisiana, and Mississippi. The majority of the funds are to be used for the preservation, stabilization, rehabilitation, and repair of historic properties listed in or eligible for the National Register of Historic Places.”¹⁰

To date, there have been no legal changes regarding historic preservation on a city- or state-wide level. The White House, in particular the First Lady Laura Bush, has made historic preservation a priority. President Bush signed the National Historic Preservation Act Amendments Act of 2006, extending the HPF through 2015 and expanding its fiscal muscle. Whether this trickles down to New Orleans and to what degree remains to be seen.

We are dealing with a city built for its location, by its location, and despite its location. While we are trying to answer questions about preservation, we are also thinking about the fundamental issue of how/whether to rebuild a city that perhaps should not have been built in the first place. In the case of one house in a dangerous location, you move it. What do you do in the case of an entire city?

Historic preservation in New Orleans has always included a combination of restoring damaged historic properties and protecting them from catastrophic storms and flooding. In other words, we have moved beyond simply restoring a building to its original condition into the business of buttressing structures to withstand atmospheric anomalies. Preservationist groups in New Orleans have implored Congress to apportion funds to the Gulf Coast not only for rebuilding the actual historic properties damaged in the flood, but also to rebuild the levees and restore the wetlands, both of which will help to ease fear of future disaster

10 Janet Snyder Matthews. CQ Congressional Testimony.

and reopen channels of private investment. It is not enough to laud the economic and social benefits of preservation; advocates must prove that the city is adequately prepared for future natural disasters.

Preservationist groups in New Orleans, in response to Hurricane Katrina, want three things: 1) a process which limits unnecessary demolitions; 2) funds to educate and hopefully influence the three groups who have the final say on what buildings can—and should—be saved: property owners, city officials, and FEMA; and 3) funds provided to property owners, through tax incentives or grants, help with the actual renovation work. Summarized: protection, education, and money.

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II.F Strategies for Rebuilding/Preserving New Orleans

by Michael Okies

Introduction:

The purpose of this article is to discuss preservation strategies on a large scale, some of which can also be taken as strategies for other cities. Recommendations are broken into four major parts: 1) building appropriately; 2) shifting to pedestrian center oriented development; 3) encouraging flexibility in population migration; and 4) building renewable energy systems. The second part deals with preservation of historic materials in flood-prone areas. Topics discussed will be: mortars, old growth timbers, bricks, plasters, walls, and foundations.

Recommendations:

1) Raise the level of New Orleans wherever possible by adding fill. Calculate sea level rise caused by global warming over a few decades, and add another ten feet of fill, or let it flood. Don't try to restore the parts of the city of New Orleans most severely devastated by floods, those sections of residential wards below sea level that are especially susceptible to flooding. Sinking soils, coupled with rising ocean levels and increased storm activity caused by global climate change, will make existing lowlands even lower and ever more vulnerable to storm induced flooding. Building on coastal land subject to hurricanes and storm surges at the mouth of the Mississippi River makes this scenario even worse.

2) Make the city much more compact and pedestrian friendly, for several reasons. First, reducing the area of land needing protection in flood-prone places like New Orleans will make it easier and

cheaper to defend the city from flood, due to a reduction in the number of necessary levees. Diked areas would include historic districts and existing higher-density areas where many people reside. Second, making the city more compact reduces commuting distances, making transit more efficient and economical. This applies to most cities, but especially to New Orleans. Make suburbs into real towns with their own mix of vital economies and culture, by adding higher density and diversity of uses in their centers. Create car-free areas, and increase them in size to whole districts over time. Remove automobile-dependent development on the periphery.

3) Put in place incentives to reduce population voluntarily in dangerous areas, such as providing grants to people who want to move but cannot afford to do so. Laws could be passed to require insurance companies to pay victims of disasters to rebuild or to simply move anywhere they want. The real estate with destroyed buildings or with vacant lots would then be inexpensive enough to be purchased for open space: bayous, nature preserves, farmlands, open water, etc.

4) Establish a program for renewable energy like solar and wind that fits with the energy conservation structure of New Orleans, rebuilt in a compact mixed-use pattern. Coordinate to reshape the city around pedestrian and transit needs. Connect the city internally mainly with energy-efficient rails, and deemphasize highway use. Build streetcars, which are used in parts of New Orleans already, rather than constructing more streets for cars.

In New Orleans, this strategy — 1.) building appropriately to the location, 2.) shifting to pedestrian center oriented development, 3.) encouraging flexibility in population migration, and 4.) building renewable energy systems and switching from cars to rails — would mean preservation of as much of the part of the city as possible that was above the Katrina floodline, which happens to be much of the historic French Quarter and downtown. The lowest land and land in close proximity to Lake Pontchartrain should be allowed to go back to water and/or bayou, whichever makes the most sense from an ecological and storm buffer point of view. Areas selected for higher density with a particularly high amount of damage should be bulldozed and earth brought in for fill. Venice was built on fill on shallow waters and sandbars that barely broke the waves. But this fill was known to be too soft to support buildings. So, the entirety of Venice is standing on wooden pilings driven into the sand and silt. Submerged under water and deprived of oxygen, this wood is still strong and solid after well over a millennium. Some similar solutions might work well for New Orleans.

What can be done about New Orleans?

Instead of spending billions of dollars on extensive levee reconstruction, help the city's displaced and economically disadvantaged residents to permanently relocate to higher ground. Then, convert the most endangered lowlands of New Orleans into a well-designed system of public parks. Appropriately enough, such parks could include water features, such as lagoons, canals, ponds, fountains, all controlled by pump systems.

Another more radical scenario would propose flooding and allowing some repopulation of perpetually threatened New Orleans real estate. Create communities built over water, not on land. In New Orleans, strongly structured networks of pilings supporting walkways and platforms, well above sea level, could be arrayed over new lagoons. These networks would support equally well-engineered, low-profile homes, along with necessary water and sewer mains. Elevated above storm surge levels, homes and walkways would be designed and built to withstand hurricane-force winds. These structures would be erected after demolition, clearance, and grading of devastated neighborhoods. Then, letting nature have its way, the transformed lowlands would be flooded to form permanent lagoons. Lagoon communities would be accessed only on foot, or

Fig. II.F.1

Flooded historic New Orleans homes.(www.cr.npr.com)



by bike or boat; cars would be parked on higher ground or in garages.

The Dutch, having similar flooding issues, have come up with some ideas for New Orleans. One project, from Dutch firm West 8 group deals with the City Park area where huge trees were torn from their roots, and salt water has seeped deep into the soil, making landscaping difficult. West 8's park would create a mini-Delta water system to help cleanse the earth and would integrate a small group of dwellings into the natural space. One Dutch official notes "Both New Orleans and the Netherlands are really quickly sinking. We are pumping the water out of the soil and this water coming out is also compacting the soil under our cities. We're talking about 2.5 to 3 meters every hundred years. The risk is becoming larger and larger".

Repairs and Preservation of Historic Structures

Historic homes are worth saving because usually they are built better than anything that can be built new. Drastic approaches are not necessary because traditional materials can bounce back from water damage. Old growth timber and lime plaster will dry out and in most cases can be reused and saved. These materials are stronger, more durable and longer lasting than any new materials from a modern hardware store.

Many cases have been noted along the Gulf Coast where lath and plaster were removed when it was not necessary. The plaster would naturally dry out and the self healing properties of lime would have allowed the plaster to endure the moisture damage. It seems that in most cases solid historic wooden windows don't need to be removed. They can be repaired to function just fine. The viewpoint is that if it is historic, it is worth

saving. Many solid historic homes are disappearing unnecessarily in New Orleans due to hasty decisions. Not only are whole buildings being demolished but also superior building material are stripped and hauled to land fills. Most windows, doors, and millwork are made out of old growth timber which is more durable and dense than modern fast growth timber.

Foundations

In New Orleans, shotgun houses and Creole cottages are most often built on masonry piers that raise them above the high water table and loamy soils. This is an ideal situation, because it allows for ventilation under the house, so it can dry out underneath. As a result of the flooding, many houses floated off their piers, so in most situations, these piers need to be lengthened. These houses are still viable structures and can be lifted back onto their foundations and retained.

Roofing

It is best to repair original roof systems, whether metal shingles, slate, or standing seam roofs. These can be repaired as a longer lasting roof than totally removing the traditional materials and replacing them with inferior shingle roofs. In addition to use of proper materials, an emergency roof hatch may be needed in flood-prone areas.

Mortars

Mortars join units of brick and stone while keeping water out of the building. Traditionally, mortars were made from lime and sand. Lime most often came from burning oyster shells from along the coast; limestone provided the source of lime further inland. Proper softer materials for mortar, stucco, and plaster are needed instead of modern harder materials which can irreversibly damage historic materials. They are too hard; do not expand and contract, or let materials breathe.

Bricks

Bricks range in character from soft handmade clay to modern hard fired bricks. The exterior crust of soft, old brick is vulnerable to breakage, flaking, or spalling, which exposes the soft under-fired interior to more rapid deterioration. This happens when water seeps into the soft portion, building pressure inside the porous interior, which causes the brick to spall.

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Chapter III: Urban History of Freret Neighborhood

Introduction:

Thoroughly immersed in New Orleans urban history, the students now attacked their study site of the Freret neighborhood. While the studio's planning, preservation, and design work focuses on the commercial corridor of Freret Street, the extent of our overall neighborhood study includes the surrounding residential neighborhood contained by Napoleon and Jefferson streets (running north-south) and by St. Charles and S. Claiborne streets (running east-west).

Program:

Part A) Drawing from and complementing previous research, compile general site research for the Freret Street Neighborhood (historical AND recent/contemporary (i.e., pre/post-Katrina) information). Analyze and diagram this information.

Include social and demographic, geographic and urban (related to part B), economic, and architectural profiles/histories (building types), and climate and flood data.

Also search for information on preliminary urban renewal plans for Freret Street and for accomplished preservation projects in the neighborhood (this will involve contacting NHS and the architect Greg Ensslen, see contact info below).

Collect all available information, expanding the boundaries of the UTA libraries and Internet by contacting New Orleans historical societies (see several listed in Project 2 Required Readings), Freret neighborhood groups (one residential, one

commercial), New Orleans libraries, and other local expertise.

Part B) Map the neighborhood's urban development through the overlay of Sanborn and other historical and contemporary maps.

Part C) Gather comparable urban renewal plans and programs for other neighborhoods in New Orleans and in other US cities that can serve as examples of what to do and/or what not to do here at Freret Street.

Contacts:

NHS (Neighborhood Housing Services) Editha Amacker, edithaamacker@nhsnola.org, 504-899-5900

Greg Ensslen: architect working in the Freret Street area who has carried out many house renovations, as well as the preservation the big "blue building" on Freret Street, and is now doing infill work. He is also the head of the Freret Street business association. His design firm is Big Yellow Truck, bigyellowtruckinc@yahoo.com, 504-236-5527

Required Readings:

Threshold Criteria for Louisiana Main Street (2006) Neighborhood Housing Services of New Orleans, including residents' and business owners' letters supporting Main Street Program application and voicing their feelings about the neighborhood

Coleman Warner, "Freret's Century: Growth, Identity, and Loss in a New Orleans Neighborhood," masters thesis

Anna Muirine, "The Long Road Back," *US News and*

World Report (online edition 2/27/06)

Anna Muirine, "Freret Street Revisited: Throughout New Orleans residents band together to regroup and rebuild," *US News and World Report* (online edition 8/27/06)

"Freret Neighborhood Study: Restoring Vitality in a 20th Century New Orleans Neighborhood," University of New Orleans College of Urban and Public Affairs (fall 1997)

"A Brief History of Freret Street," Neighborhood Housing Services (NHS) of New Orleans, <http://feretstreet.com/home.htm>

Jana Mackin, "Freret Street Business Revival: A True Cinderella Story," (12/22/06), <http://www.wherestat.net/page.php?id=455>

III.A Social and demographic history of Freret Street

by Miguel Perez

[Editor’s note: the following material was drawn verbatim from the website of the Greater New Orleans Community Data Center: <http://www.gnocdc.org/orleans/3/64/snapshot.html>]

Introduction

“The Freret neighborhood in uptown New Orleans is economically and ethnically diverse and has a wide variety of housing styles from grand mansions to small shotgun houses. It also has a well-known commercial corridor.”

Brief History of Freret Street

“This neighborhood is named for William Freret. The Freret brothers, William and James, operated a huge cotton press that occupied nearly two blocks on St. Charles Avenue between Poydras and Gravier [streets]. This was the first large industry in the American sector of New Orleans.”

1840–1842 and 1843–1844

William Freret was elected mayor. Mr Freret “was considered one of the city’s best mayors of the time because he believed in equality.”

“For over a century Freret Street has been the main street of this neighborhood. Small businesses of all kinds line both sides of Freret Street from Napoleon Avenue to Jefferson Avenue. The Freret Street commercial corridor is situated on the former site of two plantations.”

1920s and 1930s

“Jewish and Italian merchants opened businesses and a streetcar began running down Freret Street.

Most of the merchants lived above or near their businesses creating a very diverse neighborhood.”

Late 20th century

“In 1952, things began to change. A population shift occurred when Merrick Elementary School changed from an all-white school to an all-black school. In addition, the FHA low-interest loans for whites moving to the suburbs attracted residents out of the neighborhood. Larger retailers were beginning to open around town and people had cars to take them shopping outside of the neighborhood. By the early 1970s, Freret Street had lost many businesses. Although Mayor Dutch Mo-

rial tried to help with a Neighborhood Commercial Revitalization Program in the late 1970s, the situation continued to get worse until Neighborhood Housing Service of New Orleans, Inc. (NHS), a non-profit housing corporation, came to Freret Street in the 1990s. Changes have begun and small businesses are rediscovering and relocating to this convenient neighborhood. Freret Street is now designated as a National Trust for Historic Preservation. In 2001, the National Trust for Historic Preservation Main Street Program adopted Freret Street and the City of New Orleans has promised \$300,000 to help revitalize this commercial corridor.”

Comparative demographic data (2000)

	Freret	Orleans Parish	Louisiana	U.S.A.
Population	2,446	484,674	4,468,976	281,421,906
Total households	902	188,251	1,656,053	105,480,101
Family households	546	112,977	156,438	71,787,347
Female Gender	54.0%	53.1%	51.6%	50.9%
Male Gender	46.0%	46.9%	48.4%	49.1%
Age ≤5 years	7.2%	8.4%	8.5%	8.2%
Age 6-11 years	8.7%	9.2%	9.2%	8.9%
Age 12-17 years	9.5%	9.1%	9.5%	8.6%
Age 18-34 years	23.6%	25.9%	24.3%	23.8%
Age 35-49 years	23.3%	21.9%	22.5%	23.2%
Age 50-64 years	15.4%	13.8%	14.5%	14.9%
Age 65-74 years	5.8%	6.0%	6.3%	6.5%
Age 75-84 years	4.9%	4.2%	3.9%	4.4%
Age ≥ 85 years	1.6%	1.5%	1.3%	1.

	Freret	Orleans Parish	Louisiana	U.S.A.
Black/African American	82.6%	66.6%	32.3%	12.1%
White	13.5%	26.6%	62.6%	69.2%
Asian	0.4%	2.3%	1.2%	3.6%
American Indian	0.4%	0.2%	0.5%	0.7%
Other	0.2%	0.2%	0.1%	0.3%
2 race categories	1.1%	1.0%	0.9%	1.6%
Hispanic (any race)	1.8%	3.1%	2.4%	12.5%
Female householder (no husband present) with children under 18	21.0%	17.7%	11.9%	8.4%
Male householder (no wife present) with children under 18	3.2%	2.5%	2.6%	2.4%
Married-couple family, with children under 18	11.1%	14.8%	24.3%	24.9%
Nonfamily households, with children under 18	0.4%	0.3%	0.4%	0.4%
Households with no people under 18 years	64.3%	64.7%	60.8%	63.9%
Population under 18 years in households	587	128,785	1,214,204	71,970,901
Children living as head of household	0.0%	0.1%	0.1%	0.1%
Children living with mother only	40.3%	39.2%	24.6%	18.5%
Children living with father only	5.3%	4.7%	4.8%	4.9%
Children living with married parents	26.1%	35.9%	57.0%	66.2%
Children living with grandparents	20.8%	14.9%	9.7%	6.3%
Children living with other relatives	4.9%	3.7%	2.2%	2.1%
Children living with non-relatives	2.6%	1.5%	1.6%	1.9%
Elderly in households	293	53,375	485,182	32,998,132
Elderly living alone	37.5%	34.2%	30.7%	29.5%
Elderly living in family households	59.1%	62.6%	67.2%	68.0%
Elderly living in nonfamily households	3.4%	3.2%	2.1%	2.5%

Neighborhood street boundary analyzed:
 -North-S.Claiborne Ave
 -South-Lasalle St.
 -East Napoleon Ave.
 -West Jefferson Ave.

Sources:

<http://www.gnocdc.org/orleans/3/64/index.html>
 (April 9, 2007)

<http://www.gnocdc.org/orleans/3/64/snapshot.html>
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U.S. Census Bureau. Census 2000 Full-count Characteristics (SF1). From a compilation by the GNO Community Data Center. <<http://www.gnocdc.org>>

http://factfinder.census.gov/servlet/SAFFFacts?_event=Search&geo_id=86000US70115&_geoContext=01000US%7C86000US70115&_street=&_county=freret&_cityTown=freret&_state=&_zip=&_lang=en&_sse=on&ActiveGeoDiv=geoSelect&_useEV=&pctxt=fph&pgsl=860&_submenuId=factsheet_1&ds_name=DEC_2000_SAFF&_ci_nbr=null&qname=null®=null%3Anull&_keyword=&_industry= (April 9, 2007)

III.B Geography and Urbanization of the Freret Street Neighborhood

by Michael Okies

Freret Street, the surrounding neighborhood, and all of what the city defines as District 3 occupy the full extent of the natural levee of the Mississippi River from the riverfront crest at fifteen to twenty feet above sea level to six feet below sea level. This geography gives the area two desirable advantages: well-drained soils for agriculture and ready access to the river for transportation. In 1718 these river lands near the city were cleared of forest and surveyed into elongated plantations, one of which the Freret Street neighborhood falls into. These plantations extend the river to the interior (Fig. 1) measuring four to six arpents by forty arpents in length (one arpent is equal to 192 feet). Long lots, each one wedge-shaped, allowed for rich soil and river access. From 1720 to 1790, crops such as tobacco and indigo were grown here.

In 1788 a fire destroyed New Orleans, forcing the city to expand into adjacent areas or plantations which comprise today's Central Business District. Expansion of adjacent plantations continued for a century.

Louisiana's next major export was sugar. It was successfully granulated for the first time near the present-day Audubon Zoo, making sugarcane a viable commercial crop. Within a few years, most plantations switched to growing and processing sugar.

In 1803 the Louisiana Purchase led to an influx of Anglo-Americans who settled upriver from the old city, encouraging further urbanization.

At this time, New Orleans started to envelop more and more sugar plantations, spreading urbanization into the limits of the narrow long lots but still retaining their geometry in the growing street system. It was only a matter of time before most of these crop lands transitioned to a street grid between the 1830s and 1850s.

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Fig. III.B.1

Historical plantation lines. Source: (<http://willdoo-storage.com/Plans/D3.pdf>).

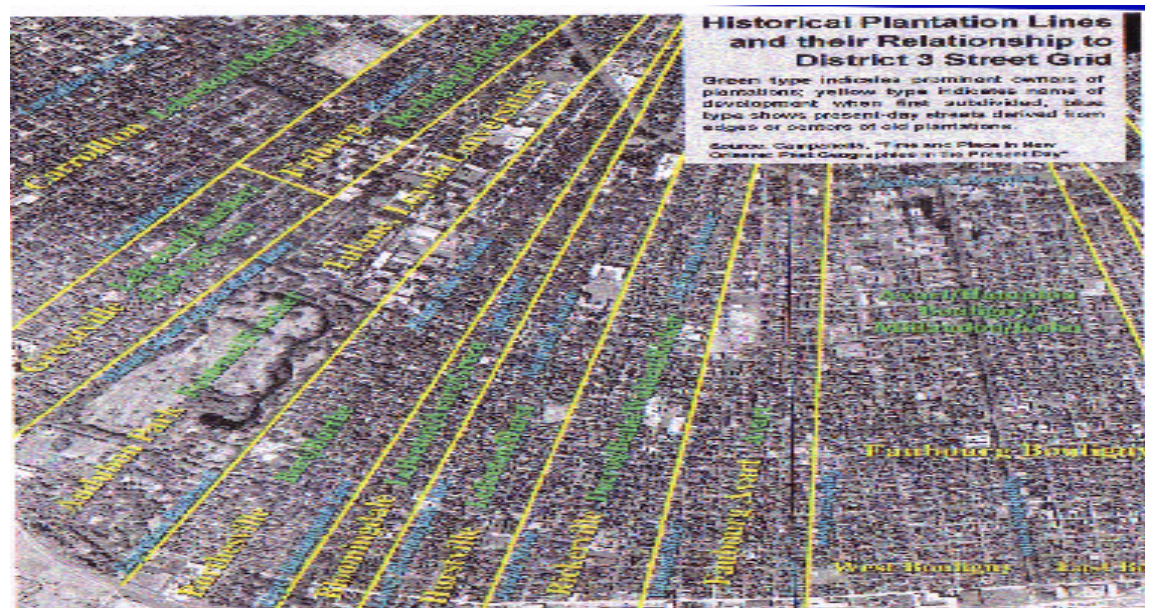
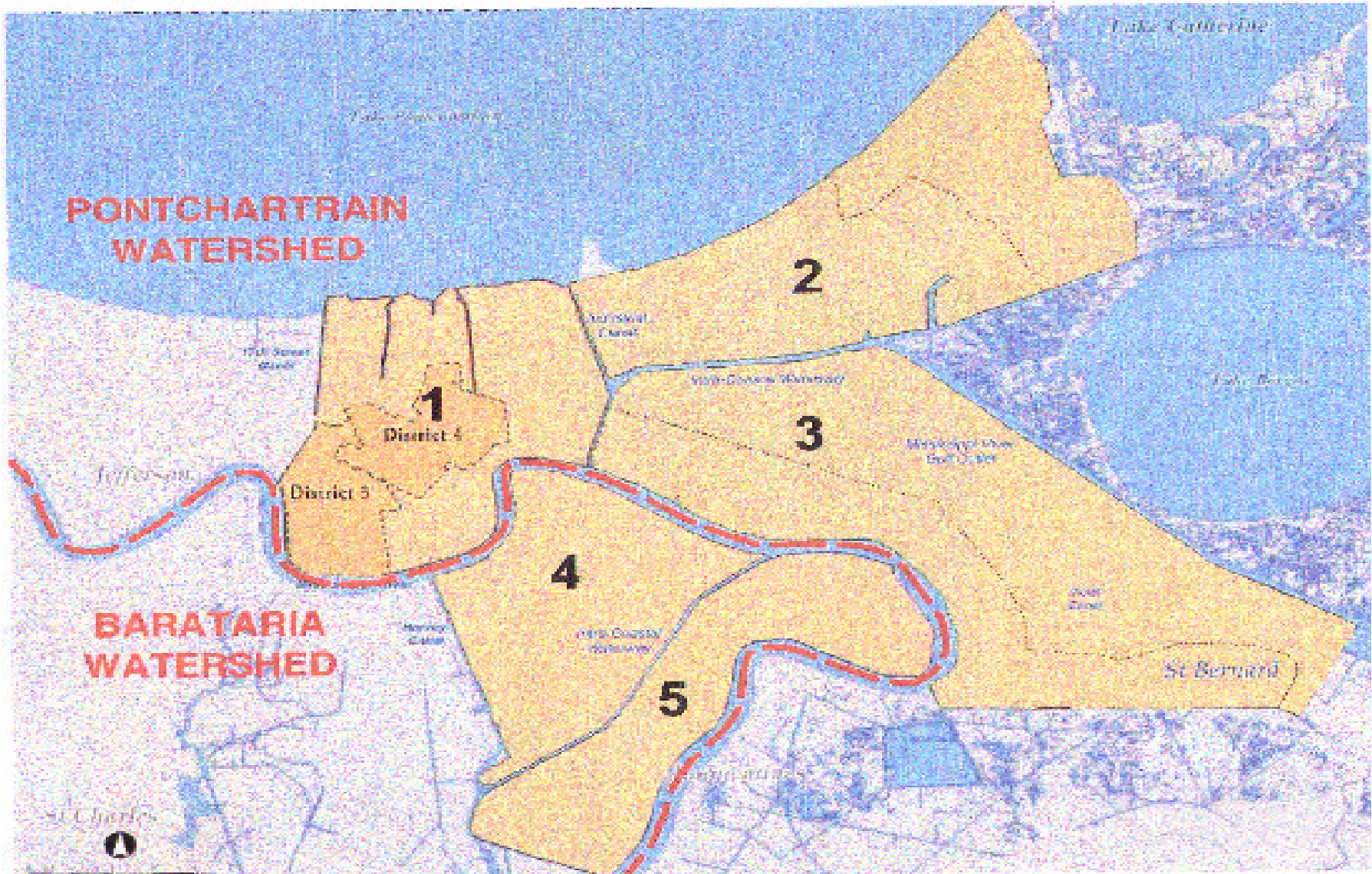


Fig. III.B.2

New Orleans is in two watersheds and five basins
(Source: <http://willdoo-storage.com/Plans/D3.pdf>).
Feb. 13, 2007).



III.C Economic History of Freret Neighborhood

by Jeffrey Harris

Pre-Katrina Freret Economy:

Freret has experienced several economic swings in its short history as an Uptown New Orleans neighborhood. At one time it was the commercial darling of Uptown, potentially the “biggest shopping center [west of] Canal Street.”¹ This promising state of affairs failed to materialize thanks to, among other things, a significant population exodus fueled by racial tensions and an increasing reliance on the automobile. Before Katrina, Freret’s economy was not healthy; after the storm, it is most definitely sick.

Freret Street follows what was once the estate lines of the Boulogny and Avart plantations: “their plantation lines served as drainage canals and levees for the area, which today define the boundaries of the neighborhood—Napoleon, Claiborne and Jefferson Avenues.”² By 1870 the land of today’s Freret neighborhood had been integrated into the city of New Orleans. Freret’s historic economic conditions reflect its four major cultural periods: “the settlement period and consolidation of a business-residential mix between 1900 and 1940; the strengthening of the neighborhood fabric during the 1940s and ‘50s, with tremors of change in the racial order and in transportation; the era of upheaval and population decline between 1960 and 1990, associated with white flight and new retailing patterns; and the period of uncertainty and hope in recent years, as urban planners and organizations have struggled to

bring new life to the area.”³

New Orleans hit the ground running in the 20th century. “The economy gained momentum as a result of major port and railroad improvements and the establishment of myriad small industries involved in printing, baking, and manufacturing of machine shop products.”⁴ Pressure from overpopulation near the river pushed developers to look uptown, and apparently they liked what they saw. Before the turn of the century, a rail transit line providing access to Uptown was established, the World’s Fair and Cotton Centennial Exposition of 1884–1885 was held in Uptown, garnering positive reviews, and Uptown land was set aside for Loyola and Tulane Universities.⁵ The Wood Pump technology, which created prime real-estate where before there was uninhabitable swamp, was the final piece of the puzzle: Uptown, and in it, Freret, boomed. By 1919 “more than 2,000 houses had been built in the Freret area; another 1,000 would be added in the next decade, filling out most of the neighborhood’s available land.”⁶

Businesses in Freret were attracted to Freret Street for its proximity to schools and churches and its central location making it easily accessible on foot from all parts of the neighborhood. Small businesses flourished: “shoe repair shops, groceries, clothing stores, a bicycle shop, clothing cleaners, bakeries, meat shops, bars, barbershops and

a telegraph office opened for business.”⁷ Freret’s growing economy did not go unnoticed by the city, and in 1924 the New Orleans Public Service established a streetcar line on Freret Street, connecting the universities to the central business district.

The Depression had its effect on Freret with struggling businesses, a lull in new construction, and the closing of a major bank. But by the mid 1930s, Freret had rebounded: “Freret Street boasted nearly eighty businesses and rivaled Dryades Street Central City shopping district in popularity.”⁸ The neighborhood’s economy remained strong throughout the 1940s and into the early 1950s, despite a dip during World War II.

Racial conflict in Freret, beginning with the 1952 conversion of the traditionally white Merrick Elementary into a black school, marked the beginning of the area’s economic decline. Freret’s overall population declined; Freret’s white population nose-dived. The neighborhood began to change: “with the beginning of a white migration away from Freret, the racial diversity and social equilibrium that had marked the “walking city” lost ground.”⁹ The automobile, which had proliferated rapidly throughout the city during the first half of the century, had led to a separate but equally devastating urban exodus: i.e. suburbanization. Freret’s enterprising businessmen tried to adapt their neighborhood to appeal to drivers, but “automobile travel

1 “Freret’s Century.” 347

2 NHS Freret Street Website

3 “Freret’s Century.” 325

4 “Freret’s Century.” 328

5 “Freret’s Century.” 328

6 “Freret’s Century.” 329

7 “Freret’s Century.” 334

8 “Freret’s Century.” 335

9 “Freret’s Century.” 346

clashed with the design of neighborhoods such as Freret, where homes erected mostly before 1920 lacked garages and the densely built business district grew up on the notion of shoppers walking from nearby residences or stepping off a street-car."¹⁰ In 1946, the Freret streetcar ceased operations, replaced by new "trolley buses" which were hailed as the missing ingredient for Freret's jump into the category of premier shopping destination. This optimism proved to be mistaken.

After 1960, the combination of white revolt, suburbanization and automobile travel, changing retail patterns, and rising crime "combined to rend the fabric of Freret neighborhood life."¹¹ Between 1960 and 1990, Freret's population, black and white, dropped dramatically, and business suffered accordingly. The combination of residents leaving and high-volume retailers arriving elsewhere led to a sharp economic decline: "While the Freret district's business count had fluctuated between 70 and 80 for many years, it fell by 20 between 1952 and 1972, and building vacancies, never before an issue, began to proliferate."¹² In 1978, Freret was selected for New Orleans's Neighborhood Commercial Revitalization Program, bringing in a million federal dollars to create a plan for Freret's economic resuscitation. The project's early success created momentum that ultimately was not sustained; many residents believed there was too much emphasis on physical intervention, and not enough effort made toward rebuilding Freret's residential base.

Freret entered the 1990s with rising crime rates and falling business activity: business listings hovered around thirty. Recent efforts to revitalize the neighborhood have been spearheaded by Neighborhood Housing Services. Their focus on stemming the erosion of the residential base makes

10 "Freret's Century." 346
11 "Freret's Century." 348
12 "Freret's Century." 351

sense in light of the earlier unsuccessful plans. Even so, residents still worry that government intervention, if too successful, could drive property prices beyond the means of longtime residents.

Post-Katrina Freret Economy:

Freret neighborhood has suffered as a result of Katrina and the subsequent flooding. In terms of population: "Freret and Marlyville/Fountainebleau neighborhoods are slowly recuperating with 46% and 60% of their populations back, respectively. Over 90% of the housing stock in these communities endured four or more feet of water."¹³ In terms of floodwater: 28.21% of businesses, which represents 18.86% of total employees in the district, were affected by more than 4 feet of flooding. These businesses are concentrated in the Broadmoor, Freret, Hollygrove and Dixon neighborhoods."¹⁴ Businesses have been slow to come back: Eight of the nineteen businesses in the corridor were open. The corridor experienced damage from Katrina and had been repaired or was in the process of being repaired. Business decreased for those businesses that reopened."¹⁵

13 UNOP Plan. 25
14 UNOP Plan. 31-2
15 UNOP Plan. 43

Sources:

Warner, Coleman. "Freret's Century: Growth, Identity, and Loss in a New Orleans Neighborhood," Masters Thesis. University of New Orleans: Fall 1997.

The Unified New Orleans Plan

NHS Freret Street Website: <http://www.freretstreet.com/about.htm>

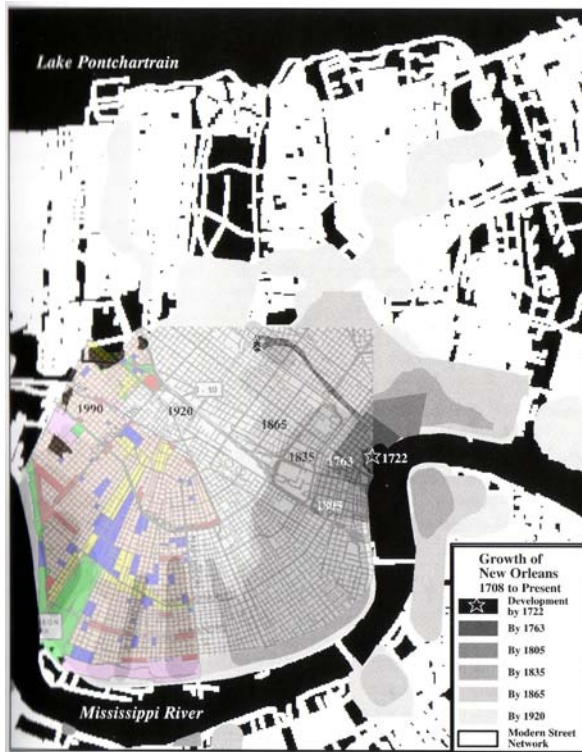
III.D Freret Neighborhood Urban History and Housing Types

by Mariam Bennani

The Freret neighborhood in Uptown New Orleans is known for its economical and ethnical diversity, as well as its architectural diversity. The Freret neighborhood developed in the early twentieth century from 1900 to 1940. It is known as a residential and commercial district. The residential area consists of single and two-family houses,

Fig. III.D.1

Growth of the Freret Street Neighborhood from 1708 to present (Source: Lost New Orleans, by Mary Cable)



and the commercial area has a well-known commercial corridor, which brings together the people of Freret neighborhood.

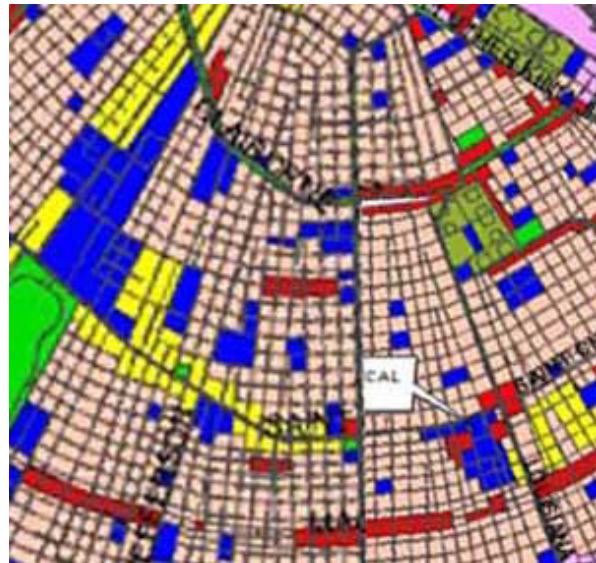
Most houses in the Freret neighborhood are single or double shotguns (one to two stories) and bungalows.

Fig. III.D.2 (below)

Residential, commercial, and industrial areas in the Freret Street Neighborhood (Source: "Preface to a Plan: Reinhabiting New Orleans")

Figs. III.D.3–5 (right)

Single shotgun houses (above); double shotgun (center); bungalow (below) in Freret neighborhood (Sources: 1) <www.urbanreviewstl.com/new-orleans5.jpg>; 2) <bywater.org/Arch/Doubleshotgun3a.jpg>; 3) <bywater.org/Arch/bungalow>)



In the first half of the twentieth century, the area of Freret was known as a “walking city.” It was a family-oriented, friendly, walkable neighborhood. This can be seen in the homes, which are built close together and are located a short walk from the commercial area. Many merchants used to live in, or nearby, the buildings that housed their businesses, and sidewalks and streets were used as public gathering spaces.

Around the neighborhood, large mansions were built with different architectural forms, from double gallery houses and plantation homes to American townhouses.

Most of the mansions around the Freret neighborhood have a mixture of different styles that developed in the early 20th century during the development of the area. The styles that are mostly found are Georgian Colonial revival, Neoclassical revival, Bungalow, Spanish colonial revival.

Sources:

Cable, Mary. *Lost New Orleans*

Preface to a Plan: Reinhabiting New Orleans (UCLA, Department of Planning, 2006)

<http://www.gnocdc.org/orleans/3/64/char.html> (February 13, 2007)

<http://www.ericbouler.com/PageManager/Default.aspx/PageID=1627297&NF=1> (February 13, 2007)

Fig. III.D.6

Freret Street commercial corridor



Figs. III.D.7–8

Fine homes surrounding the borders of the Freret neighborhood (Sources: <www.gnocdc.org/orleans/3/64/char.html> and <www.ericbouler.com/PageManager/Default.aspx>)



III.E Freret Neighborhood Climate and Flood Data

by Nancy Edwards Greene

Climate:

The climate of New Orleans is considered to be humid and subtropical. Humid subtropical climates have short, mild winters and hot, humid summers. These climates also usually have significant rainfall or precipitation of some variety in all seasons. The humid subtropical climates can be found in the southeastern parts of every continent except Antarctica. These climates lie roughly between 24 degrees and 40 degrees latitude. The average temperatures in humid subtropical climates can range from 10 to 110 degrees Fahrenheit, but in New Orleans the range is much less extreme at 43 to 91 degrees Fahrenheit (excluding extremes).

The average yearly precipitation for New Orleans is 64.2 inches. The summer months are generally the wettest, where precipitation comes mainly with thunderstorms. October is usually the driest month of the year in New Orleans. New Orleans does on rare occasions get snowfall in the winter, but most winter precipitation is rain, freezing rain, or sleet.

Analyzing New Orleans climate data for the spring, summer, fall and winter solstice months reveals the following monthly results (National Weather Service: New Orleans, LA www.nws.noaa.gov).

Spring Solstice (March)

Normal Average Temperature: 62.4° F
Normal Maximum Temperature: 72.1° F
Normal Minimum Temperature: 52.7° F
Highest Temperature Extreme: 89° F in 1982
Lowest Temperature Extreme: 25° F in 1980
Average Monthly Precipitation: 5.24 inches

Summer Solstice (June)

Normal Average Temperature: 80.7° F
Normal Maximum Temperature: 89.4° F
Normal Minimum Temperature: 72° F
Highest Temperature Extreme: 100° F in 1954
Lowest Temperature Extreme: 50° F in 1984
Average Monthly Precipitation: 6.83 inches

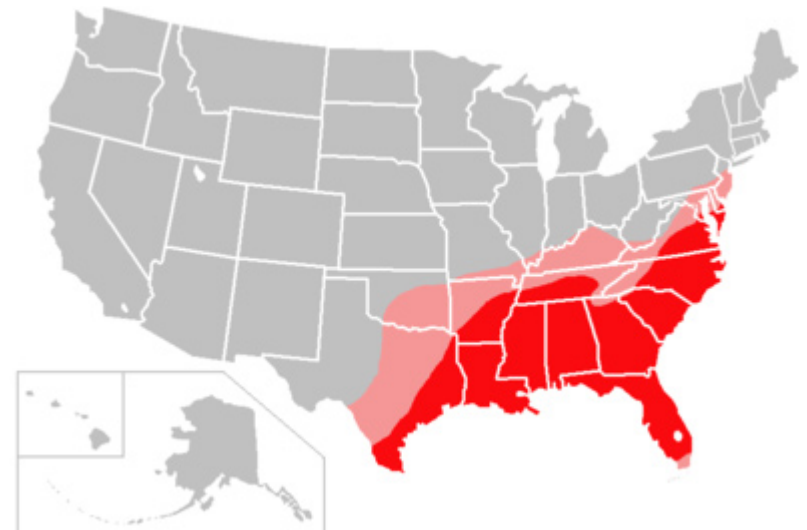
Fall Solstice (September)

Normal Average Temperature: 78.9° F
Normal Maximum Temperature: 87.1° F
Normal Minimum Temperature: 70.6° F
Highest Temperature Extreme: 101° F in 1980
Lowest Temperature Extreme: 42° F in 1967
Average Monthly Precipitation: 5.55 inches

Winter Solstice (December)

Normal Average Temperature: 55.1° F
Normal Maximum Temperature: 64.5° F
Normal Minimum Temperature: 45.6° F
Highest Temperature Extreme: 84° F in 1978
Lowest Temperature Extreme: 11° F in 1989
Average Monthly Precipitation: 5.07 inches

Fig. III.E.1
Humid subtropical climates in North America; areas shaded red denote humid subtropical zone; areas shaded pink denote transitional/borderline humid subtropical zone (Wikipedia: Humid subtropical climates in North America <http://en.wikipedia.org/wiki/Humid_subtropical_climate>)



These numbers may be misleading. They may lead one to believe that the summers are not too hot and the winters are not too cold. However, because of the high humidity levels, the wet air makes the summers seem much hotter and the winters much colder than their respective mercury levels indicate.

Flood:

For the most part, the city New Orleans lies between the Mississippi River and Lake Ponchartrain. The majority of the city is one to ten feet below sea level. The only portion of the city that is not below sea level is that which is adjacent to the Mississippi River.

As a result of the low lying location of the city, it almost entirely lies within the 100 year flood plain. A 100 year flood plain is, “an area of land that would be inundated by a flood having a 1-percent chance of occurring in any given year – also referred to as the base or 100-year flood.” (http://www.dced.state.ak.us/dca/nfip/pub/NFIP_Flood_Defined.pdf).

The city has set up a system of levees and also has a pump system to control the levels of the water and to pump the water out of the city and into Lake Ponchartrain. As evident by the results of Hurricane Katrina, however, we see that some of the levees do not function properly, and the pump system is not sufficient to handle any precipitation or precipitous event any more significant than a typical thunderstorm. That is to say, at least not in a timely manner that would prevent property damage due to high flood waters.

Fig. III.E.2
Comparison of average monthly temperatures of several North American humid subtropical cities (Wikipedia: New Orleans, Louisiana Climate http://en.wikipedia.org/wiki/Image:Average_Monthly_Temperatures_-_NO%2C_BR%2C_HOUS.jpg)

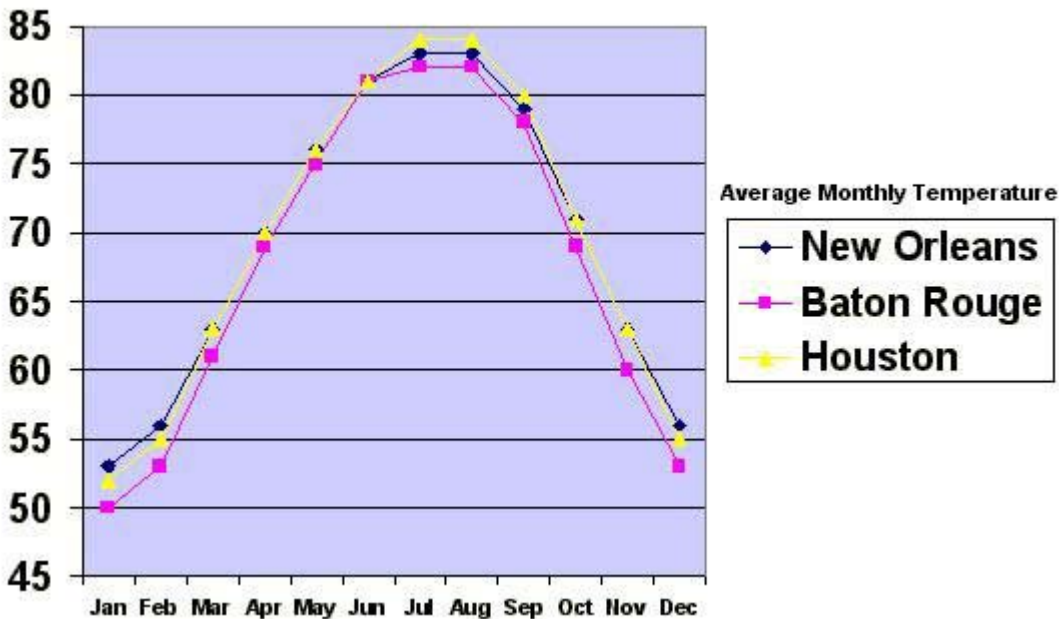
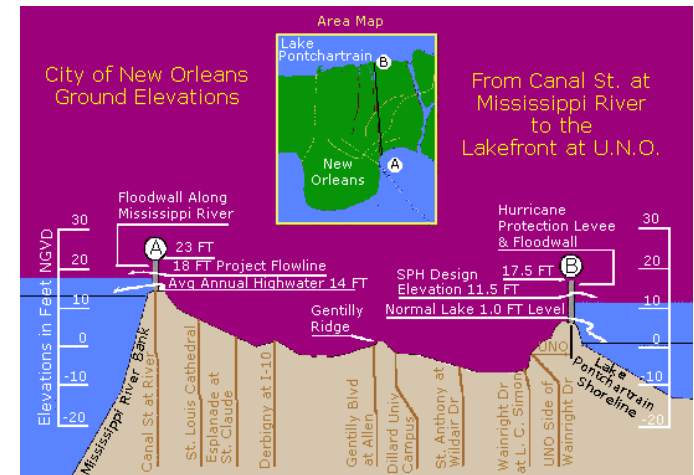


Fig. III.E.3
Profile of the city's ground levels Source: Wikipedia: New Orleans, LA (http://en.wikipedia.org/wiki/Image:New_Orleans_Levee_System.gif)



Freret and the 2005 Flooding:

The Freret neighborhood is no exception to the flooding tendencies of the city.

The Southern part of the neighborhood lies about 3 to 4 feet above sea level. This portion of the neighborhood, bordering St. Charles Avenue, rarely floods and did not flood during Hurricane Katrina. The middle portion of the neighborhood, along Freret Street, is just at sea level and slopes to about 1 foot below sea level at the northern border of Claiborne Avenue. This portion of the neighborhood was flooded with about 3 feet of water at high tide during Hurricane Katrina.

Sources:

National Weather Service: New Orleans, LA. www.nws.noaa.gov (February 9, 2007)

Weather Underground: History of New Orleans, LA. www.wunderground.com/history/airport/KMSY/2004/1/1/CustomHistory.html (February 9, 2007)

Wikipedia: New Orleans, LA. http://en.wikipedia.org/wiki/New_Orleans (February 6, 2007)

NOWData – NOAA Online Weather Data. http://nowdata.rcc-acis.org/LIX/pubACIS_results (February 8, 2007)

TopoZone. <http://www.topozone.com/map.asp?lat=29.93705&lon=-90.10972&datum=nad27&u=4&layer=DRG&size=l&s=50> (February 9, 2007)

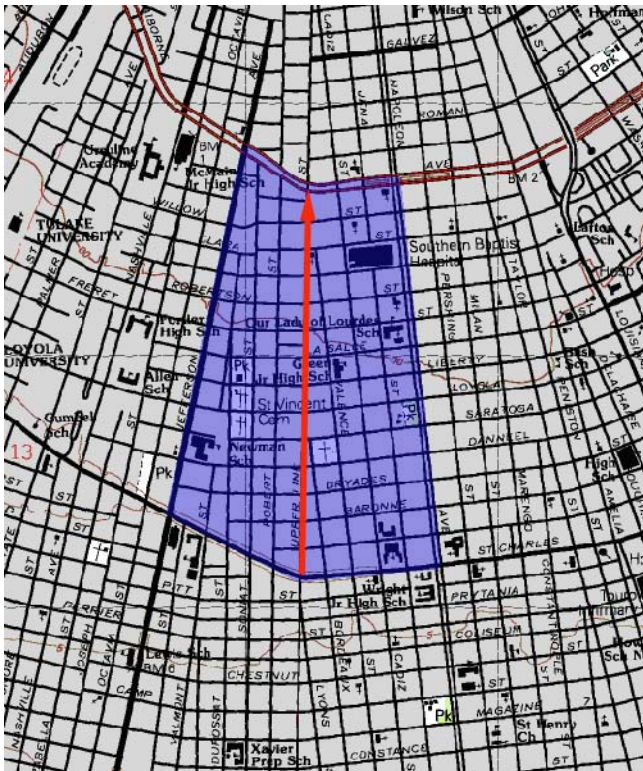


Fig. III.E.4

Freret Neighborhood and direction of slope from South to North (TopoZone <http://www.topozone.com/map.asp?lat=29.93705&lon=-90.10972&datum=nad27&u=4&layer=DRG&size=l&s=50>)

III.F Pre-Katrina Revitalization Plans for the Freret Neighborhood

by Lyndsay Wright

Introduction:

The Freret Street neighborhood's heyday was during the 1940s and 1950s. Since then, Freret has seen a decline in the health and vitality of the neighborhood. Many plans for the revitalization of the Freret Street neighborhood have been designed previously. Outlined below are some of these plans.

The Freret Main Street Program:

- Sponsored by Neighborhood Housing Services of New Orleans (NHS)
- Sponsored by the Mayor's Office of Neighborhood Commercial Revitalization (NCR)
- Goal: to revitalize the Freret Street business corridor
- Goal: to serve as a resource for small businesses, merchants, and property owners in the area
- Geographical Focus: Freret Street between Napoleon & Jefferson avenues
- Façade Program: Provides low-interest loans, financing plans, & architectural assistance to businesses wishing to improve the aesthetics of the street & building façade
- Business & Property Owner Association: Organization to promote alliances with other organizations, such as community organizations, banking & financial institutions, corporations, schools, and universities
- Take a Second Look campaign: to market Freret Street and to help individual businesses to develop marketing plans
- Economic Restructuring: to find ways in which to raise funds for the community

Preliminary Post-Katrina Urban Re-

newal Plans for the Freret Neighborhood:

The Unified New Orleans Plan (District 3 – Recovery Assessment Overview)

- As the Freret Main Street Program was not successful, other sources of revitalization funding must be pursued.
- Streets need to be resurfaced.
- Street signs and signals need to be restored.
- Bus service must be restored to pre-Katrina levels.
- There is a lack of grocery stores in the neighborhood, helping to create a traffic congestion problem, since residents are more reliant on their vehicles.
- One-way streets in the area need to be studied, in order to determine whether they impede circulation.
- The neighborhood would be improved by the addition of bike and pedestrian paths.
- Ways to increase the effectiveness of the police force need to be examined, such as better neighborhood lighting or the construction of a small police substation in the area.
- Educational facilities in the neighborhood need to be updated and improved.
- More access to emergency care and pharmacies is needed in the area.
- Parks and green spaces must be replanted.
- Ongoing funds must be secured for the maintenance of existing and new green spaces.
- A community center is recommended for the neighborhood.
- Provide affordable and rental housing for a vari-

ety of income levels.

- Reconstruct buildings, following FEMA flood recommendations.
- Use community facilities, such as schools, to serve multiple public functions.
- Improve signage, landscape, and street conditions on Freret Street.
- Repair streets, sidewalks, lighting, and drainage on Freret Street.

Short Term Goals (District 3):

- Heighten canal levee walls including at 17th Street, Plametto, and Monticello Canal.
- Close the Mississippi River Gulf Outlet.
- Improve pumping station capacities.
- Create drainage capacity on streets lacking storm drains.
- Assess and improve utility conditions for gas, electricity, and water services.
- Coordinate capital improvement utility projects with repaving.
- Cap LP&L pipe at Airline Highway.
- Reduce energy costs.
- Provide regular waste collection, recycling, and green space maintenance.
- Remove all home and business gutting debris.
- Provide emergency medical services.
- Remediate all environmental contamination.
- Promote community policing programs.
- Increase water pressure to protect structures and neighborhoods from fire.
- Reopen closed fire stations.

- Promote federally funded, school-based medical clinics (3:30 funds).
- Construct neighborhood police substations.
- Better lighting throughout parks.
- Provide shelter, seating, crosswalks, and waste receptacles for pedestrians and public transit riders along streetcar routes.
- Promote expansion of the Priestly School for Architecture and Construction.
- Prioritize need for street paving.
- Enforce vehicle weight restrictions and truck routes on neighborhood streets.
- Install speed limit signs and more stop signs on neighborhood streets.
- Redevelop and beautify major intersections, commercial corridors, and shopping centers.
- Promote local neighborhood business development along smaller scaled, historically commercial streets like Oak and Leonidas.
- Promote neighborhood grocery stores.
- Establish a zoning overlay for the Claiborne Avenue Corridor.
- Buffer residential uses from commercial uses.
- Develop a regional transit plan.
- Increase the frequency of transit services using smaller buses (shuttles).
- Bring back the Nashville Street bus line.
- Fix the existing St. Charles Streetcar line.
- Demolish structures that pose health hazards, and restore structures that do not.
- Encourage historic design for redevelopment, while utilizing flood resistant and energy efficient building materials and practices.
- Salvage restorable building materials.
- Provide creative financing strategies for first-time and lower income home-buyers.
- Introduce more mixed income and mixed use development.

- Create a one-stop center for neighborhood redevelopment resources.

Long Term Goals (District 3):

- Renovate existing school buildings and grounds for education, park space, community, and/or cultural needs.
- Develop neighborhood museums.
- Restore and maintain historic cemeteries.
- Implement city-wide wireless internet service.
- Upgrade Palmer Park.
- Improve all public play spots, playgrounds, parks, and gyms.
- Create park space for small children (tot lots).
- Develop green space and pocket parks within ¼ mile of every home.
- Cover the Palmetto Canal for alternative walking/biking use.
- Establish walking paths.
- Designate bike lanes.
- Extend St. Charles Streetcar line along Carrollton Avenue to Canal Street.
- Implement regional transit lines.
- Paint lines identifying parking lanes on neighborhood streets.
- Study options to address traffic issues at Leake and Broadway avenues.
- Identify Historic Carrollton neighborhood.
- Establish gateways into Orleans Parish.
- Landscape major streets and intersections.
- Preserve and restore tree canopy.
- Enable collaboration among neighborhood organizations to create connectivity.

Revitalize Freret St. Commercial Corridor:

- Geographical Focus: Freret Street between Napoleon & Jefferson avenues
- Urgently needed improvements:

- Pedestrian amenities, such as crosswalks, crossing signals, lighting, benches, waste receptacles, landscaping, and trees
- A bike path
- Façade improvements to existing buildings

- Tax incentives and rebuilding grants for businesses that cannot afford to reopen weekly farmer's market in the public parking lot at Cadiz and Valence
- Cater to the nearby universities, Tulane and Loyola.
- Provide commercial and retail services to Ochsner Hospital.

Freret Neighborhood Planning District 3 Neighborhood Rebuilding Plan

- Developed by Billes Architecture, LLC
- Mostly well-received by the neighborhood

Freret Project List for the Freret Neighborhood Recovery Plan:

- Address blighted housing: Create a program to help repair blighted houses and sell them, if necessary.
- Street improvements:
 - Resurface streets in moderate to poor condition
 - Replace curbs and street signs where necessary
 - Repair drainage system
 - Clean storm drains
 - Analyze and assess damage to drainage system and recommend solutions
- Increase police patrols
- Flood mitigation: Provide adequate flood protection through levees, floodwalls, and pumps/pumping stations.

- Camera surveillance in hot spots: in conjunction with the New Orleans Police Department or with a private vendor
- Zoning and permitting enforcement: Lack of enforcement has resulted in poorly maintained properties and strain on parking availability.
- Intervention projects/programs: to reduce crime
- Grocery store: Residents desire a grocery store within the neighborhood.
- Infrastructure improvements:
 - o Organize power lines overhead or underground
 - o Must be done by utility service providers
- Street lighting: Replace damaged or absent fixtures.
- Main Street program for Freret
- Reinstate recycling program
- Redevelop Samuel Square Playground:
 - o Develop one side of the playground with play equipment and landscaping for small children.
 - o Develop the other side for older children, including fixing the basketball court.
 - o Technically, the Samuel Square Playground is outside the Freret area, but was included in this study.
- Redevelop Evans Playground:
 - o New play equipment
 - o Complete the existing metal canopy structure.
 - o Technically, the Evans Playground is outside the Freret area, but was included in this study.
- Block captain system/neighborhood watch: to be developed by the neighborhood association
- New community policing center: Central location where a few police officers could make a

- regular physical presence, in order to deter crime
- Add trash barrels on Freret: between Jefferson and Napoleon avenues, to keep the street clean
 - Sidewalk improvements: Sidewalks have been damaged by flooding, overturned trees, tree root systems, and maintenance vehicles, and are therefore in need of repair.
 - Farmer's market: Proposed location on Freret
 - Preserve and maintain cemeteries: This falls under the city's jurisdiction.
 - Soil testing of flooded areas and abatement: to test for toxins that may have been dispersed by flood waters from Katrina
 - Add streetcar service to Napoleon
 - Community center: Proposal to renovate Our Lady of Lourdes school, which is currently closed
 - Increase mixed-use zoning along thoroughfares: Proposed zoning change along Jefferson and South Claiborne avenues
 - Street landscaping: Plant and/or replace trees along Jefferson and Napoleon avenues.
 - Provide housing for first responders: to be further developed by a neighborhood association
 - Limit medical uses in zoning to existing areas: Proposed zoning will not allow for new medical uses in the neighborhood.
 - Bike paths: Proposed on Napoleon Avenue, Valence Street, and South Claiborne Avenue
 - Special signage: Many traffic signs were damaged by Katrina and must be replaced.
 - Neighborhood gateways: Proposed gateway into the Freret neighborhood at the intersection of Napoleon and South Claiborne avenues
 - Speed bumps on Valence Street: Traffic calming is needed.
 - Change existing zoning to allow residential uses only
 - New public elementary school:
 - o This was requested by very few people.

- o There is not a suitable site for a new elementary school in the neighborhood.
- o Therefore, this is not a priority.

Sources:

< <http://www.freretstreet.com/mainstreet.htm>>. February 2007.

< <http://willdoo-storage.com/Plans/D3.pdf>>. February 2007.

< <http://unifiedneworleansplan.com/home2/districts/3/>>. February 2007.

III.G Comparable Urban Renewal Plans and Programs for Neighborhoods in New Orleans and other U.S. Cities

by Hank Dow and Jadey James

Introduction:

The following examples provide comparisons for the Freret Street revitalization plans that we are developing within the context of urban preservation for this neighborhood. These examples illustrate how an urban fabric's integrity can be maintained while the retail and social communities are revitalized.

Musicians' Village, New Orleans

Musicians' Village is a new neighborhood built around a music center where musicians can teach and perform. Musicians [Harry Connick Jr.](#) and [Branford Marsalis](#) teamed up with [Habitat for Humanity International](#) and [New Orleans Area Habitat for Humanity](#) to create the village for New Orleans musicians who lost their homes to [Hurricane Katrina](#). According to [The Village Voice](#), on May 5th 2006, the Musicians' Village is "the largest-scale, highest-profile, and biggest-budget rebuilding project to have gotten underway in the eight months post-Katrina."

New Orleans Area Habitat for Humanity (NOAHH) plans to build 70 single-family homes, as well as five two-family homes for older musicians and a music center in the core area of the Musicians' Village. NOAHH hopes to build as many as 250 to 300 houses in the neighborhood surrounding the core site, if enough land is acquired. The houses are designed with two, three, and four bedrooms. Homes are being built one foot above the flood level in the area, 5-feet, 7-inches off the ground. Habitat will use a total of seven different traditional New Orleans facades that will sometimes be flipped left to right.

Musicians Village will be located in the Upper [Ninth Ward, New Orleans, Louisiana](#). The governing board for New Orleans public schools approved the sale of eight acres of surplus property in the Upper 9th Ward to the New Orleans Area Habitat for Humanity. New Orleans Area Habitat for Humanity was the only bidder for the advertised property. The board unanimously approved the \$676,500 sale. The core property was a residential area for decades and the former site of Kohn Junior High School, which was razed. The land covers two city blocks bounded by North Roman, Alvar, and North Johnson streets. It also includes parts of three other blocks along what once was Bartholomew Street—the stretch between North Johnson and North Derbigny streets.

Habitat is an equal opportunity housing organization, and non-musicians will also live in the village. However, musicians who lived in New Orleans prior to Hurricane Katrina and are in need of safe, affordable housing are encouraged to apply for the program. The selection process is based on three basic criteria: Need for Shelter, Ability to Pay, and Willingness to Partner. (http://www.habitat-nola.org/projects/musicians_village.php)

Plans in other U.S. Cities:

Pascagoula, Mississippi

Also ravaged by Hurricane Katrina, this neighboring city has undergone a similar rebuilding program. One area that is similar to New Orleans is the Chipley District in Pascagoula, Mississippi.

Historically the Chipley District was built as naval rental housing after World War II, and the area is

relatively low and repeatedly floods. The houses are slab-on-grade, and the city has recommended that the neighborhood be rebuilt and the residents be relocated elsewhere while this occurs. The new plan will be to incorporate the same number of dwellings (275) and in addition create a new park serving the neighborhood and the surrounding city. The new dwellings would be built at a higher elevation than the existing to prevent future flooding. (Source: http://www.mississippirenewal.com/documents/Rep_Pascagoula.pdf)

Nashville, Tennessee

Renovation has several positive traits, such as the possibility of an economic boost, and the community can be brought closer together through the removal of bad areas. There can also be a wider selection of products when a neighborhood expands.

The cons of urban renewal can be devastating. Jobs can be changed or lost, resulting in families being moved or torn apart. There can be a loss of intrinsic value and of overall individuality in a community. Sometimes, when a business is taken over, so are the jobs, and in many positions, the places are filled with people who know little or nothing about the customers or community. In the original businesses, the employees were familiar with the people they served and knew them by name. This bond between the community and those who serve it is hard to replace. (www.urbanrenewal/prosandcons.htm)

Clifton Heights, Ohio (near Cincinnati)

The Clifton Heights urban renewal plan encompasses a twenty-block area from Vine to Ravine Street (east-west) and from Calhoun to Lyon Street (north-south). This study was divided into two parts. Part one establishes guidelines for re-development; part two establishes guidelines for streetscape improvements.

This six-block district is also by design a business district that is bordered by residential and institutional uses. The district is dominated by fast food drive-throughs, parking, and deteriorated housing stock. It has limited green space, cultural institutions, places for street events to happen, or important generators of night activity, such as hotel, cinema, and entertainment. Retail activity *lacks vigor and critical mass*. Except for certain long established small shops, the district is no longer a major destination shopping area. (Clifton Heights/ UC Joint Urban Renewal Plan April 2001)

What is urban renewal?

The main purpose of an urban renewal plan is to help stimulate economic growth; to create a climate and opportunity for private investment; and to improve and expand housing opportunities in the urban renewal area.

How long does the planning process take?

The undertaking of an urban renewal plan is a twelve to fifteen month process during which time opportunities and constraints will present themselves. (Gardner Redevelopment Authority-urban renewal information sheet)

Sources:

Clifton Heights/UC Joint Urban Renewal Plan April 2001

Gardner Redevelopment Authority-urban renewal information sheet

http://www.habitat-nola.org/projects/musicians_village.php

http://www.mississippirenewal.com/documents/Rep_Pascagoula.pdf

<http://www.urbanrenewal/prosandcons.htm>

Chapter IV: Preliminary Urban Preservation Plans for Freret Street and Surrounding Neighborhood

Introduction:

The class was at this point fully prepared to visit the study site of Freret and carry out field research. Due to the Mardi Gras festivities going on at this time and the elevated travel costs, the students used this time hone their building measurement and structural analysis skills, which they would need in New Orleans, on a shotgun house in poor physical condition in north Fort Worth. They measured, studied, and drew this house and its various physical problems.

They also developed preliminary urban preservation plans and revitalization recommendations for the Freret neighborhood, knowing that these would change and require greater development following their site visit.

Program:

Using and sharing the materials collected and developed in Project 3 (Chapter 3), carry out the following steps to develop an urban preservation plan.

Part A) Define a neighborhood identity for Freret Street that can be supported and developed through preservation and urban renewal/revitalization. (You will have the opportunity to modify and refine this after visiting the site.)

Part B) Make preliminary recommendations for an urban renewal plan. Begin to think about the commercial corridor's parking limitations and about how these can be overcome or avoided in the event of successful urban renewal. What

is the relationship between historic preservation and urban renewal? How can urban renewal and architectural preservation take place while at the same time preserving the social fabric of the neighborhood? What is "urban preservation"?

Part C) Make preliminary recommendations for preservation strategies for the commercial and residential areas. What is the neighborhood's history of preservation intervention? How does your plan respond to this? How does your plan relate to the urban renewal plan?

Part D) Based on available data (Sanborn maps, Google Earth, other sources, e.g., Greg Ensslen's R&D materials), develop a digital base map of the commercial corridor in Sketchup and CAD.

Required Readings:

Secretary of Interior's Standards for Rehabilitation
<http://www.cr.nps.gov/hps/TPS/tax/rhb/>

HABS/HAER Standards

[-http://www.cr.nps.gov/hdp/standards/standards.htm](http://www.cr.nps.gov/hdp/standards/standards.htm)

[-http://www.cr.nps.gov/hdp/standards/standards_regs.pdf](http://www.cr.nps.gov/hdp/standards/standards_regs.pdf)

[-http://www.cr.nps.gov/hdp/standards/HABS/graphics/h-genguide.PDF](http://www.cr.nps.gov/hdp/standards/HABS/graphics/h-genguide.PDF)

[-http://www.cr.nps.gov/hdp/standards/HABS/graphics/HABS_DWGS_GUIDE_2005.pdf](http://www.cr.nps.gov/hdp/standards/HABS/graphics/HABS_DWGS_GUIDE_2005.pdf)

See also HABS/HAER Sample Projects:

[-http://www.cr.nps.gov/hdp/samples/index.htm](http://www.cr.nps.gov/hdp/samples/index.htm)

Online preservation education:

[-http://www.cr.nps.gov/hps/TPS/online_ed.htm](http://www.cr.nps.gov/hps/TPS/online_ed.htm)

HABS/HAER Photographs: Specifications and Guidelines. HABS/HAER, National Park Service, Washington, D.C., Draft 2001
[-http://www.cr.nps.gov/local-law/arch_stnds_6.htm](http://www.cr.nps.gov/local-law/arch_stnds_6.htm)

[-http://www.cr.nps.gov/local-law/arch_stnds_1.htm](http://www.cr.nps.gov/local-law/arch_stnds_1.htm)

Recording Structures and Sites with HABS Measured Drawings. HABS/HAER, National Park Service, Washington, D.C., 2001.

[-http://www.cr.nps.gov/hdp/standards/HABS/HABSrecording.htm](http://www.cr.nps.gov/hdp/standards/HABS/HABSrecording.htm)

[-http://www.cr.nps.gov/hdp/standards/HABS/arch-2.htm](http://www.cr.nps.gov/hdp/standards/HABS/arch-2.htm)

[-http://www.cr.nps.gov/hdp/standards/HABS/arch-3.htm](http://www.cr.nps.gov/hdp/standards/HABS/arch-3.htm)
etc.—see the rest of this site

Recording Historic Sites and Structures Using Computer-aided Drafting (CAD). HABS/HAER, National Park Service, Washington, D.C., 2000.

[-http://www.cr.nps.gov/hdp/standards/cadguide.pdf](http://www.cr.nps.gov/hdp/standards/cadguide.pdf)

John A. Burns, ed. *Recording Historic Structures*. Washington, D.C.: The American Institute of Architects Press, 1989.

Thomas Carter and Elizabeth Cromley, *Invitation to Vernacular Architecture*, (Knoxville: Univ. of Tennessee Press, 2005).

Mary L. Oehrlein, *Vieux Carré Masonry Maintenance Guidelines*. New Orleans, LA: Vieux Carré Commission, 1980.

Briefs relating to conservation of historic wooden structures and other pertinent materials:

[-http://www.cr.nps.gov/hps/TPS/briefs/presbhom.htm](http://www.cr.nps.gov/hps/TPS/briefs/presbhom.htm)

For example:

[-http://www.cr.nps.gov/hps/TPS/briefs/brief39.htm](http://www.cr.nps.gov/hps/TPS/briefs/brief39.htm)

[-http://www.cr.nps.gov/hps/TPS/briefs/brief43.htm](http://www.cr.nps.gov/hps/TPS/briefs/brief43.htm)

[-http://www.cr.nps.gov/hps/TPS/briefs/brief37.htm](http://www.cr.nps.gov/hps/TPS/briefs/brief37.htm)

-<http://www.cr.nps.gov/hps/TPS/briefs/brief32.htm>
-<http://www.cr.nps.gov/hps/TPS/briefs/brief29.htm>
-<http://www.cr.nps.gov/hps/TPS/briefs/brief25.htm>
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-Art Conservation <www2.lib.udel.edu/subj/artc/internet.htm>

-Association for Preservation Technology (APT) <www.apti.org>

-Bayerische Landesamt für Denkmalpflege <www.blfd.bayern.de>

-Bibliographic Database of the Conservation Information Network – BCIN <www.bcin.ca>

-Building Conservation <www.buildingconservation.com>

-CAMEO <www.mfa.org/conservation/cameo.htm>

-Canadian Conservation Institute – CCI <www.cci-icc.gc.ca>

-CoOL <<http://palimpsest.stanford.edu>>

-Conservation Link <www.museion.net/kl1/kons/cl.htm>

-Cultural Heritage Search Engine <www.culturalheritage.net>

-English Heritage <www.english-heritage.org.uk>

-The Getty Conservation Institute <www.getty.edu/research>

-Historic Scotland <www.historic-scotland.gov.uk>

-The Hornemann Institut <www.hornemann-institut.de>

-International Center for the study of preservation and restoration of cultural property (ICCROM) <www.iccrom.org>

-ICOM – International Council of Museums <www.icom.org>

-International Institute for Conservation (IIC) <www.iiconservation.org>

-ICOMOS <www.icomos.org>

-Laboratoire de recherche des monuments historiques (LRMH) <www.lrmh.culture.fr>

-Masonry Conservation Research Group <www2.rgu.ac.uk/schools/mcrg/stinfo.htm>

-National Center for Preservation Technology and Training (NCPTT) <www.ncptt.nps.gov/pir>

-National Institute for Standards and Technology (NIST) <www.nist.gov>

-Opificio delle Pietre Dure (OPD) <www.opificio.artibeniculturali.it>

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Journals

APT Bulletin <<http://www.apti.org/publications/bulletin.cfm>>

Common Bond <<http://www.e-guana.net/organizations.php3?orgid=79&action=printContentTypeHome&typeID=651&sortField=alpha>>

Journal of the American Institute for Conservation (JAIC) <<http://aic.stanford.edu/jaic/>>

Journal of Architectural Conservation Online abstracts available at: <<http://www.donhead.com/Journal%20of%20Architectural%20Conservation.htm>>

Journal of Cultural Heritage

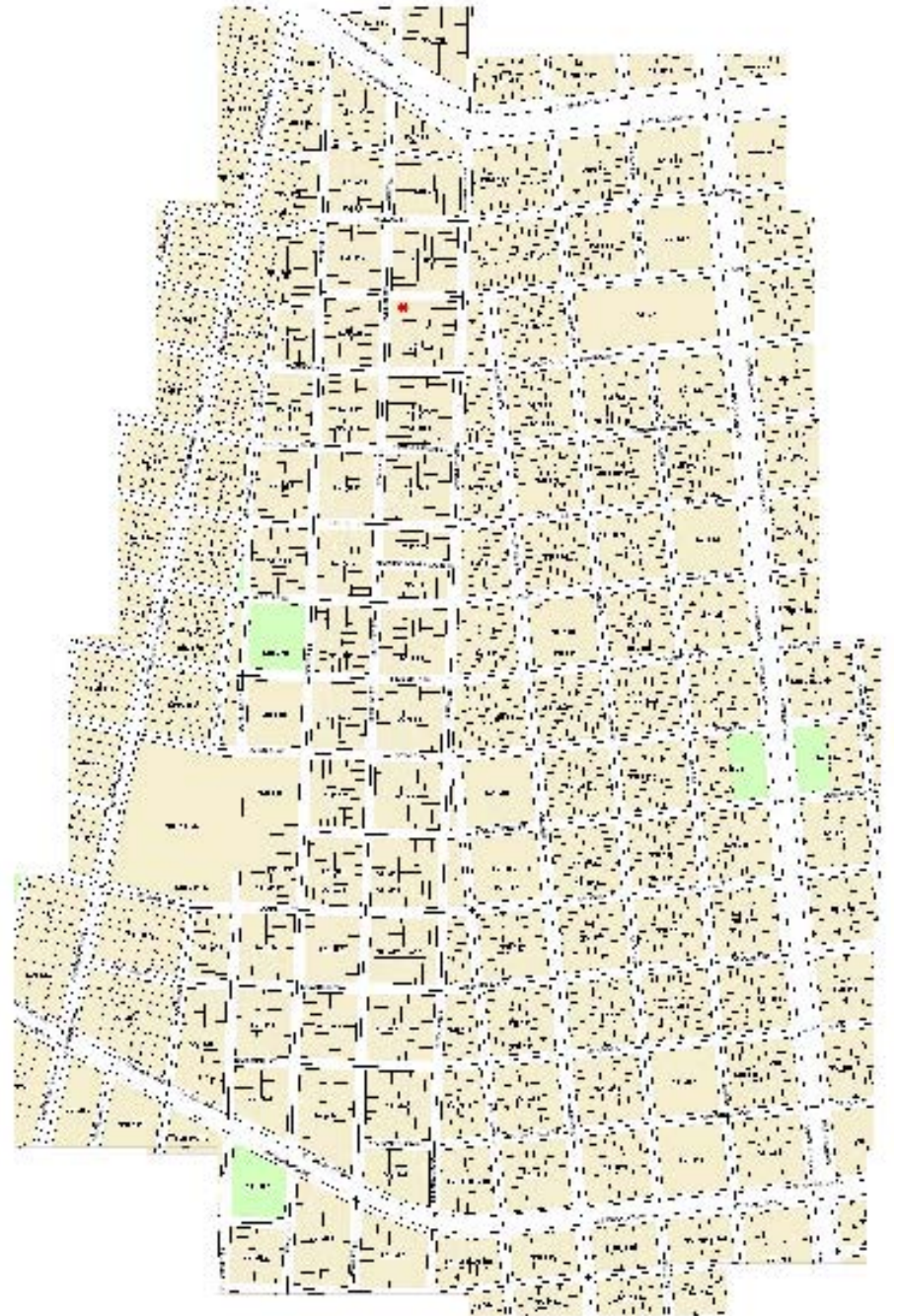
Science and Technology for Cultural Heritage

Studies in Conservation

Fig. IV.1
Freret neighborhood as defined
and studied by the class
(map developed by Luis Tejeda)



Fig. IV.2
Freret neighborhood studied by class



IV.A Preliminary Recommendations

by Hank Dow and Jadey James

Neighborhood Identity

We have defined the Freret Street neighborhood roughly as the area a person can walk in five minutes at a brisk pace. This boundary extends from Jefferson Avenue (to the west) to Napoleon Avenue (to the east) and has a radius of approximately one-quarter mile long.

Our proposal for the area known as Freret Street would newly be identified as "Uptown Theatre District". This name change is two fold. First, it provides new name recognition for a neighborhood that has been ravished by Katrina, and now by slow reconstruction and drug activity. Second, it gives the neighborhood a jump start for new businesses related to theatre and entertainment.

This new identity concept would improve retail quality and density within the community and throughout the district, to better serve residents, Tulane University, and employers. It would also attract shoppers and visitors to the area in off-peak hours.

Recommendations for Urban Renewal

Emphasize pedestrian circulation along storefronts and intersecting blocks, by providing well-paved and well-lit sidewalks. Denser planting and street amenities to be maintained through a neighborhood maintenance program.

Promote open spaces by means of an outdoor amphitheatre that would enrich the lives of those

who live and work in the community.

Strengthen the identity of the area surrounding the district by physical and visual associations with the surrounding environment.

Give the area a "sense of place" by providing nighttime vistas alive with people, movement, and a feeling of security.

Preliminary Recommendations for Strategies

- Create incentives for economic expansion to build in the area, possibly accomplished by imposing tax penalties or tax breaks which would help jump-start the local economy. Economic expansion would include coffee houses, restaurants, bookstores, laundromats, and ice cream parlors.
- Create improved relations between local university (such as Loyola and Tulane) theatre programs, as well as local theatrical entities.
- Use of proposed light rail system for easy access to said neighborhood.
- Coordinate an open air amphitheatre with the proposed park system plan.
- Address parking issues for economic developments.
- Maintain annual street festivals with change of name coordination.
- Create a mixed-use development by means of transforming current structures into housing above with retail below.
- Slow traffic flow on Freret Street by the use of parking spaces (varying widths).
- Expand green spaces, with possible wa-

ter features.

- Integrate new design schemes for the following:
 - o park benches
 - o trash bins
 - o street signs
 - o tree grates and guards
 - o port-a-potty
 - o speed bumps

Conceptual Idea of Street Lamp:

<<Hank and Jadey's Lamp Post Drawing>>
Freddie Freret™

IV.B Preliminary Recommendations

by Brian David and Lyndsay Wright

Identity of the Freret Neighborhood:

- Family- and locally-owned businesses
- Ethnic diversity
- Pedestrian neighborhood
- Possible integration of theater companies to create a “Theater District”.

Transportation:

- Add bike lanes and bike racks/storage to public streets.
- Bring back “vintage” New Orleans feel (recalling Freret’s heyday) with the addition of a streetcar on Freret Street, and connect it to nearby lines. (Similar to McKinney Avenue in Dallas, Tx)
- If a streetcar proves to be improbable, design for light rail.
- Create bus stops at the perimeter of the neighborhood, so that people can get be transported to the area and then walk within the neighborhood.

Parking:

Figs. IV.B.1–2

ADD Captions (and sources!)



- Use metered parking or parking lots, and use the revenue as a fundraiser for the neighborhood.
- Offer parallel parking along sidewalks to buffer pedestrians from vehicular traffic.
- One garage only? So that existing empty lots could be turned into pocket parks, or those lots could be filled in order to densify the neighborhood.
- Keep all lot parking behind Freret Street buildings.

Parks & Green Spaces:

- Turn wide median on Napoleon into a long park or sculpture garden.
- Landscape this park, and provide safe means to

arrive at the park, such as parallel parking along the perimeter and well-marked pedestrian crosswalks.

- Identify vacated lots with potential for small, dispersed green spaces and community playgrounds.

Design Code:

- Plant trees along existing sidewalks on Freret Street.
- Determine standards for storefront signage.
- Reduce size of storefront windows, or divide into series of smaller panes. Introduction of human scale to existing and new facades.

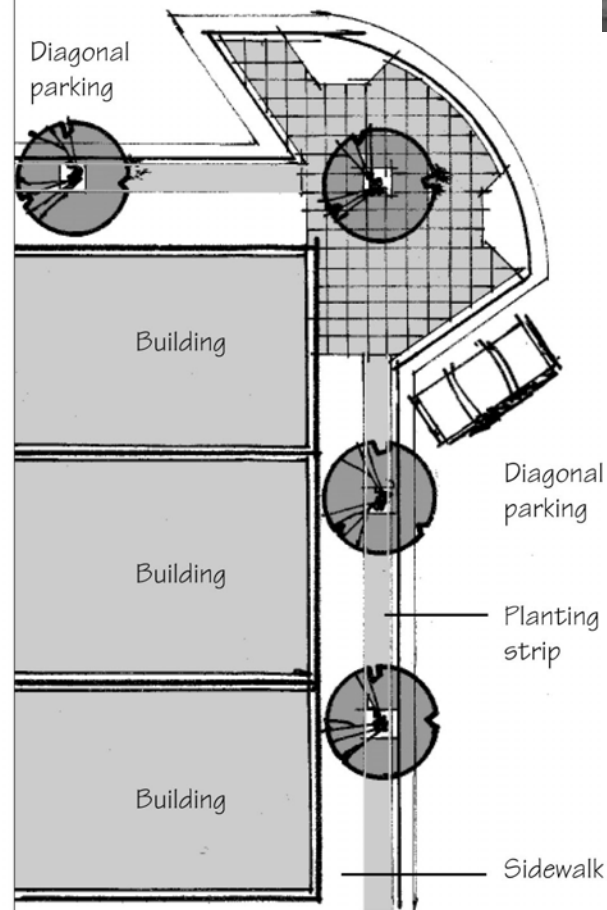
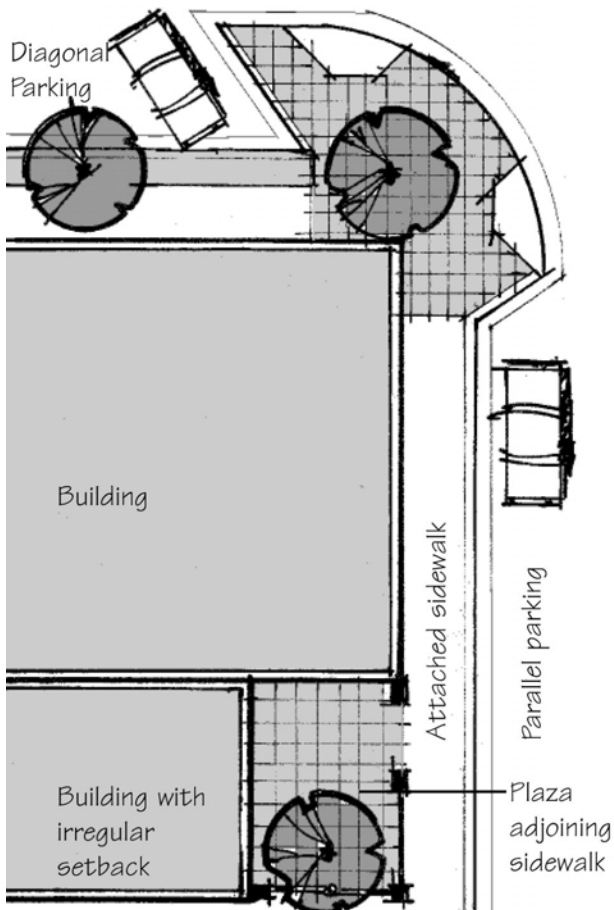


- Do not allow burglar bars on residences or businesses. Promote the use of break-free laminates on window panes instead. (3M Scotchshield Window Security Film)
- Increase street lighting through use of street lamps with incandescent bulbs, rather than fluorescent bulbs.
- Consistent and unique design of street lamps. Built on a pedestrian scale.
- Add benches and trash receptacles along Freret Street.
- Standardize address numbers on buildings and curbs, to make finding buildings much easier.

- Possibly tile mosaic in the curb or sidewalk, or stone plaque with building number on the side of the building, or a backlit address, so that one can easily locate a building at night.
- Business signs required to gain approval from business district committee.
- Street signs consistent in design along the Freret Street commercial corridor.
- Street signs along perimeter residential streets retain same design principles.
- Maintain a pedestrian friendly environment.
- Design crosswalks with unique pavers.
- Enhance sidewalks to establish a sense of hier-



Figs. IV.B. 3-6
ADD captions (and sources!)



archy in pedestrian routes.

Commerce:

- Establish a grocery store within the neighborhood. Possibly a co-op?
- Offer tax incentives and/or free rent for a certain amount of time to tenants who are willing to fix up a structure.
- Pharmacy needed on Freret Street.
- Encourage influx of restaurants and theater companies.

Zoning:

- Discourage 'bleed' of medical facilities into neighborhood beyond what already exists in order to promote and maintain residential feel.
- Keep Freret Street a mixed use corridor.
- Maintain residential areas, both single and multi-family residences outside of commercial corridor.

Social Planning:

- Establish a community center on Freret Street.
 - Recreational activities for all ages.
 - After-school and day care for small children.
 - Tutoring for all children.
 - College counseling for high school kids.
 - Emotional support and counseling for all ages.

- Establish a new elementary school along Freret Street.

Education:

- Provide documentation at NHS for façade guidelines and design suggestions.
- Hold design and community planning meetings to educate residents and business owners.

Preservation:

- Encourage residents to salvage what can be saved.
- To deal with absentee property owners who won't fix up their properties:
 - Set a time limit under which they must commence or complete work on their property.
 - If the time limit passes and no progress has been made, the city or NHS or whoever, has the right to begin restoration and renovation on the property for whatever the current zoning is.
 - The cost of fixing up the property will be garnished from the wages of the owner, or from the income of the property, until the costs are covered.
 - The property owner would be made aware of

this plan before it goes into effect, and would be given a fair period of time in which to begin work.

- Give tax breaks or other "rewards" to those property owners who have already fixed up their properties, or to those who restore their property within a certain time frame.
- Prevent McMansions:
 - How do we do this?
 - Establish a Conservation District within the boundaries of Jefferson, St. Charles, South Claiborne, and Napoleon?

Gateway:

- Creation of a neighborhood 'gateway' at key entrances to the Freret Street business corridor.
- Design consistent with other urban furniture and signage.
- Design to emphasize identity of neighborhood.



Figs. IV.B.7–8

Walkway through multi-family buildings to parking, which is located in the interior of the block (Boulder, CO) (SOURCE?) (left); an automobile parking court located in the interior of a multi-family residential development (SOURCE?) (right)



IV.C Freret Neighborhood Identity: Urban Renewal, Revitalization, and Preservation Strategies

by Mariem Bennani and Nancy Greene

Neighborhood Identity:

The Walking City

Revitalize the commercial corridor in Freret Street as well as the Freret Neighborhood, by bringing back the “Walking City,” and by celebrating the diversity of the architecture in the area. These things will motivate the residents to return to their beloved neighborhood and encourage businesses to return to the Freret Street commercial corridor.

Goals:

- Bring back the residents
- Discourage the use of cars
- Use the street as a walking/biking and entertainment space
- Attract the residents, surrounding university personnel and students, and visitors to the commercial corridor
- Create social gatherings for the local residents
- Creating a small city within a city
- Make it a safe and friendly environment

What the area needs to create a “Walking City” environment:

• Garden squares

- Parks/Recreational areas
- Community Gardens: open green areas as gathering spaces for residents, where people can participate in planting, growing and maintaining the garden. The community gardens can be inserted into park areas and/or in empty lots that need to be “dressed up.”

• Social business

- Café/ restaurants
- Shops
- Grocery store or possible open food market
- Pharmacy
- Bookstore
- University related businesses
- Art galleries
- Museum of Freret history
- Visitor’s information center for walking tours of homes and the neighborhood, park information, possible walk/bike trails, commercial business directory

• Landscape the walkways

- Narrow the street to create ample sidewalks for more pedestrian traffic, landscaping, benches lighting and bicycle paths, which will also discourage the use of cars in the area. The walkways will have four trees, three benches; located between the trees, and two street lights per block.
- Landscape the walkways on Freret Street and the streets perpendicular to it for one block to attract and establish a sense of connection between the residential area the commercial corridor.
- Use similar landscaping, lighting and signage throughout the neighborhood to give it a sense of continuity.
- Use the same style and material for the gateway and the lighting posts. Both will be made of wrought iron.
- Use the lighting posts are the same style that was used in Freret Street in the 1920s.

• Gateways

- Used at the intersections of Freret St. and Napoleon Ave., and Freret St. and Jefferson Ave. to denote the “entrance” to the neighborhood.
- The theme of gateway will be such that it will market the “Walking City” to Freret Neighborhood residents and visitors. This theme can be carried throughout the neighborhood through signage, plaques, light posts, benches, planters, etc.

• Parking

- Allow for limited parking in the commercial corridor
- Create small parking structures on the outskirts of the commercial corridor (near the gateways)
- Utilize existing parking near outskirts of the commercial corridor
- Create street car/trolley, light rail or bus line to connect commercial corridor to nearby universities and existing transportation lines.

What the area needs to celebrate the architectural diversity:

• Marketing house/building types

- Use educational plaques posted in front of each house/building type
- Create architecture walking tours in the neighborhood to educate people about the architectural types in the area

• Refurbish/Preserve homes/buildings

- Consider tax incentives and/or tax penalties to help motivate residents to refurbish and preserve their homes’ and buildings’ architectural heritage

- Find local, state and federal aid programs for preservation funding
- Create community outreach program to help each other preserve the community through hands on assistance and/or financial assistance

Drawings:

- Layering of trees and benches
- Layering of square gardens, gateway
- Layering of lights



- Design of lamps and gateway
- Picture of walkways, square gardens, social environment

*Figs. IV.C.1-5
Samples of recommendations in use elsewhere*



Fig. IV.C.6
Proposed pedestrian features and amenities



Fig. IV.C.7
Location of green spaces in Freret area

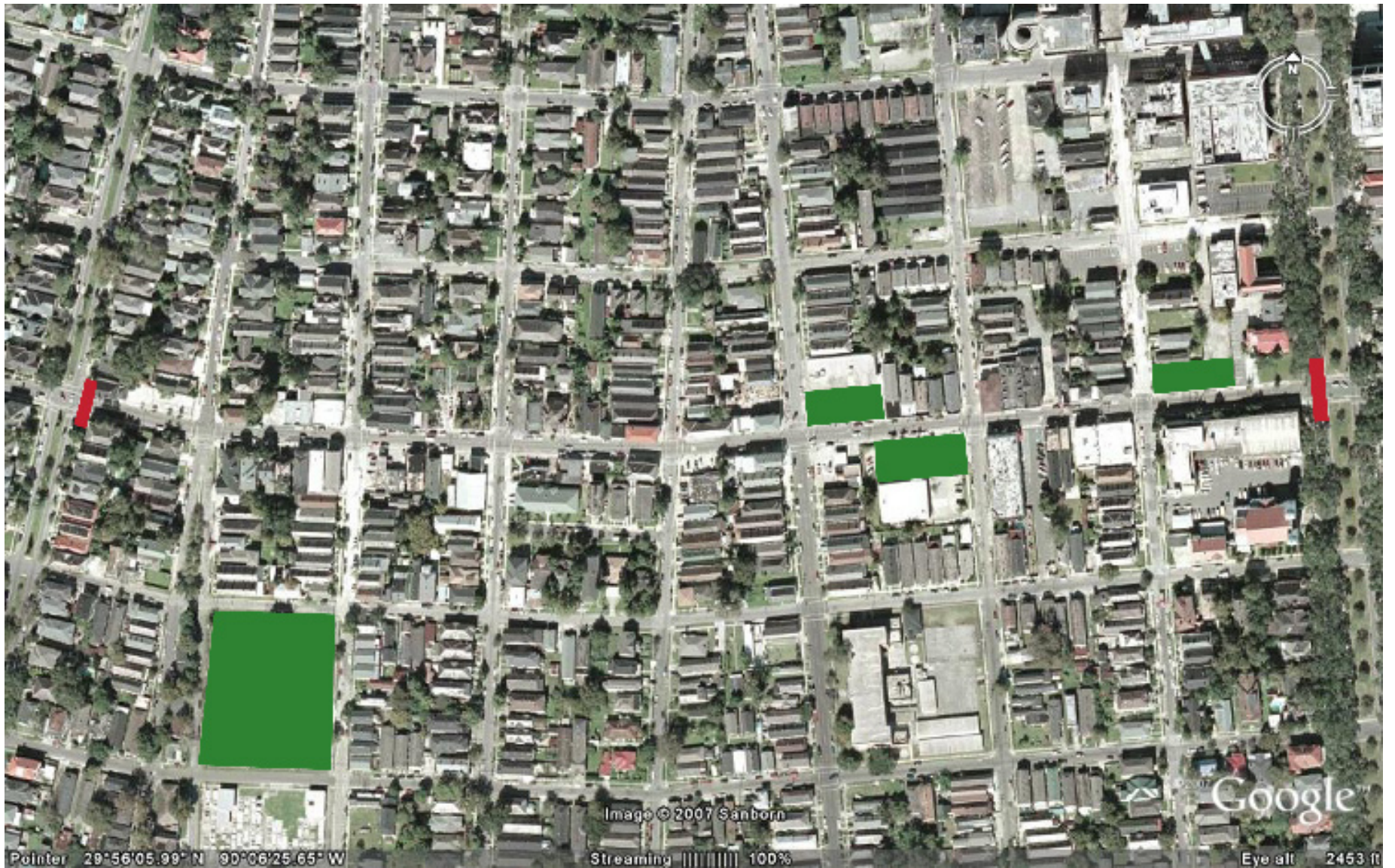


Fig. IV.C.8
Paths



IV.D Preliminary Recommendations

by Jeffrey Harris

Introduction:

Freret's identity is difficult to pin down; there are too many characters, too many events, too many places, and too many stories to pick just one as most important. And it does no good to pick them all because it serves no purpose. In order to define a neighborhood's identity, there are many questions that must be asked, and they must be answered thoughtfully by Freret residents and Freret stakeholders. Is the neighborhood identity more important for residents or visitors? Is economic revitalization the goal, or the byproduct of changing something deeper? For now, with only secondary sources to guide us, we must make an academic guess, and see how it plays in Freret.

Recommendations:

Freret as Walking City

In the conclusion to his essay, "Freret's Century," Coleman Warner identifies the "walking city" concept as the identifying characteristic of Freret: "This pedestrian way of life influenced how businesses and homes were erected and how neighborhood stores and churches were sustained. It allowed for close associations among ethnic and racial groups, even though some forms of social contact were restricted by Jim Crow practices. Until the mid-twentieth century, Freret residents exuded pride, and the neighborhood's population base was strong." For Coleman, Freret's identity came from what made it a good place in the past. Visitors to Freret, "New Orleans' Walking City," would relive a time when cars were scarce and human interaction and physical contact were the norm, not the exception.

Freret as African American Historical Landmark

Wouldn't it also be fair to draw its identity from its past struggles? Freret is the site of the first major white school conversion in New Orleans, perhaps the U.S., predating the Brown v. Board of Education ruling by two years. The "walking city" began to fall apart with the advent of the "white migration," a direct result of the Merrick Elementary conversion. So here we have a conflict between two legitimate contenders for Freret's identity. Another question for residents: if you don't agree with the choice for 'neighborhood identity,' will that have an effect on your view of Freret?"

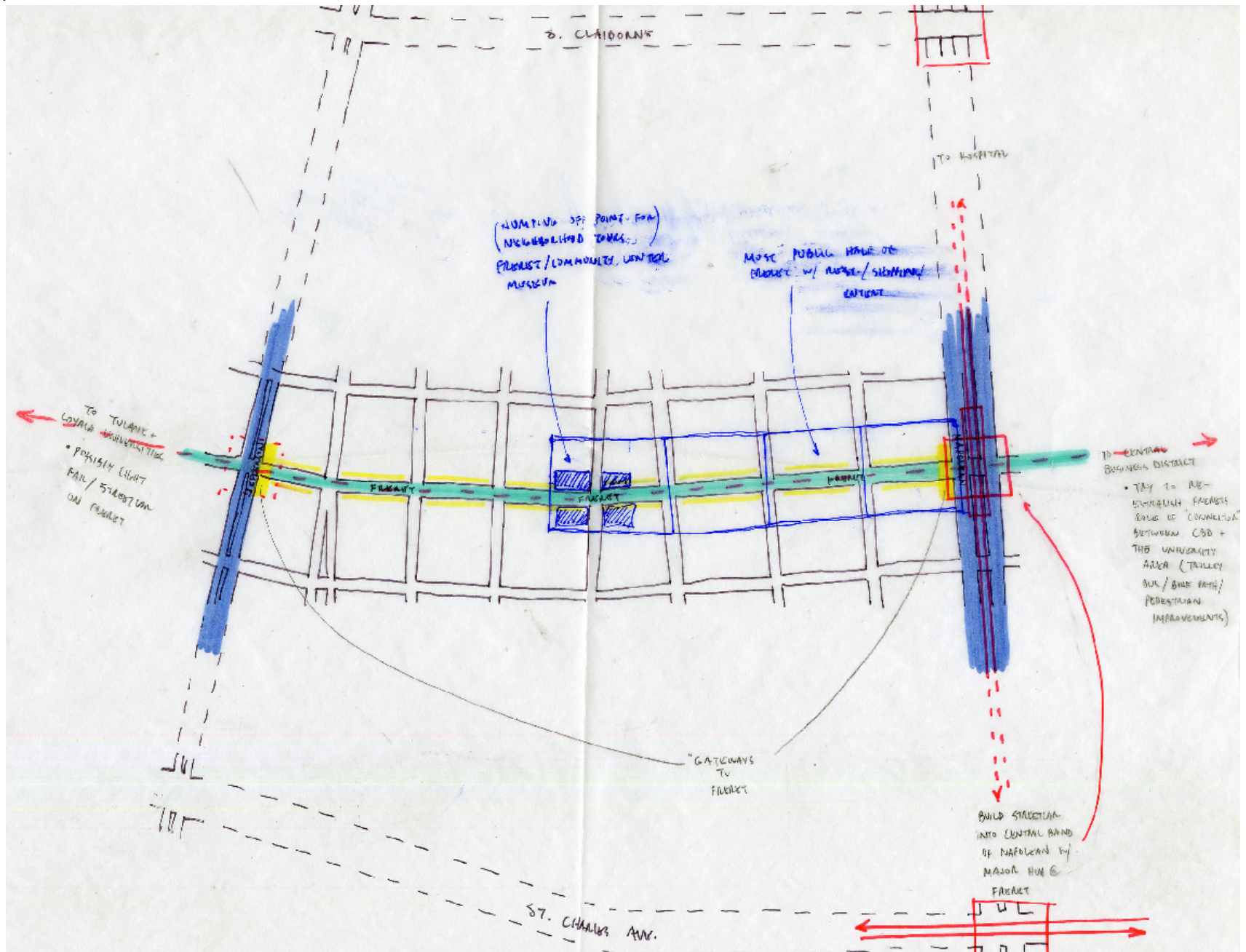
Freret as Rich Collection of Historic Buildings

This being an architectural historic preservation course, another Freret identifier could be its built environment, and its complementary tout ensemble. Freret has an important collection of historic properties, and preserving them and offering them for public appreciation would go a long way toward restoring residents' pride of place, and resolve to rejuvenate the neighborhood. The preservation of Freret's scale and the "bringing out" of long ago hidden elements of the "walking city" would improve street life and attract visitors and customers for the struggling local businesses. The problem with this "identity" is the possibility it will be too general; the entire city of New Orleans, it seems, is a collection of historic buildings, so what's so special about Freret?

Freret as "_____"

Freret, lacking in clear identifiers like its cousins Vieux Carre and the Lower Garden District, and having failed so many past attempts at revitalization, could invent a brand new identity. Build a flood museum. Subsidize a community of buildings raised on palfitti and connected by rope-bridges. Drill a deep hole and be New Orleans' only coastal soil observatory. Erect an observation tower. Build a casino. Joking aside, Freret has the opportunity to reinvent itself, while still holding on to its original principles.

Fig. IV.C.1
ADD caption



IV.E Freret Urban Renewal Plan (pre-New Orleans visit)

by Michael Okies

Introduction:

The overall approach to this urban renewal plan was based on bringing a cohesiveness to Freret Street by enhancing what features already exist and encouraging new features to support them.

Recommendations:

General

- Gateways
- Towers at one or both entrances to Freret District
- Community projects such as mural walls at entrances
- Preserve residential aspects of Freret Street
- Commercial/residential corridor
- Strengthen connections of open spaces.
- Cemeteries and parks connecting to Freret
- Noticeable direction signs on Freret to cemeteries
- Create a new yearly event
- Hand crafted goods vendors
- Re-establish parade and krewe
- Creation of a north/south axis

Safety issues

These are numerous and the most important. Two suggestions are:

- Improved lighting: ground-directed
- Community safety groups/police involvement

Land/Urbanscaping

- Bike path linked to universities
- More trees, planters, benches, trash receptacles

- Larger “no parking” zones at corners
- Alternative material for street paving
- Vine screens near benches
- Utility pole signage

Re-use of vacant/destroyed lots

- Community gardens - produce can be taken to proposed farmers market/bazaar on Freret
- Playgrounds

Goods and Services

- Variety of goods and services to draw shoppers from other sectors
- Stores that reference history of area: tobacco, indigo, sugar, music

Promote Freret Street Festival

- As a musical/other identity
- Encourage one big name musician each year

Fig. IV.F.1

Drawing by Michael Okies



Chapter V: Field Research Trip to New Orleans, February 22–25, 2007

Introduction:

This chapter describes the final project, which culminates Part I, and the class field trip to New Orleans in which the research for this project was conducted.

Program:

The objectives of this project are: 1) to conduct intensive on-site analysis of Freret Street (for which we have been preparing since the beginning of term in order to understand the urban development and history of this neighborhood within the context of New Orleans), 2) to learn how to measure, document, and analyze buildings, and 3) to apply these experiences to our developing urban preservation and revitalization plans for the neighborhood (which will generally benefit the neighborhood by providing a vision and a plan), as well as 4) to provide tangible preservation and design guidance to the owners of the buildings that we analyze.

This project breaks into three sections: I) a continuation of our group research to break down the larger neighborhood analysis into smaller team efforts (comprised of parts A–D); II) measurement, analysis, and documentation of the five selected buildings by pairs or triplets and the design of renovation proposals (drawings based upon the measured drawings) for these buildings (comprised of parts E–J); III) application of this combined research and analysis to the students' previous urban preservation and revitalization plans (covered in Chapters III and IV) .

Section I: Freret group research

Part A) Conduct a “windshield survey” of existing building fabric of a defined area of the Freret Street residential neighborhood and commercial corridor (we will work together to define the study area). To carry this out, first develop a survey form, which, among other things, applies the New Orleans building typologies. Map and chart collected data. (Mariem and Luis)

Part B) Supply information for the base model that Brian is developing for the Freret Street commercial corridor: 1) systematically collect (dimensionable) photographs of the study area that we defined in class (Freret Street between Freret Hardware and Chester Electric, with possible extension west to Valmont St. and east to Valence St or farther) (Michael and Nancy); 2) measure building heights and other massing information for this stretch of the commercial corridor (Hank, Jadey, and Jeff).

Part C) Expand upon our understanding of the neighborhood needs and wants by interviewing local business owners and residents (including interviewing Greg Ensslen, the head of the Freret business association, by telephone or email since he will be out of town during our visit). To do this, please develop an interview format, a list of questions to ask, and a signature sheet for your interviewees' permission. Then, synthesize and present the results of this exercise in a usable format. (Miguel)

Part D) Analyze preservation issues within the neighborhood, comparing flooded to non-flooded

areas, the success of different types of buildings to withstand the storms/floods, and the influence of other factors on the interest or success of preservation, e.g., home ownership (as far as you can judge). Document types of building problems and failures (e.g., mold, wood rot, termites, insufficient foundations, rusted metal attachments (nails), etc.). Document residents' and owners' responses to these problems. (Lyndsay and Brian)

Section II: Freret commercial building analysis, documentation, and renovation design

Part E) Do measured drawings (exterior and interior sketches, measurements, and CAD-drafted drawings), of the five selected commercial buildings by teams. This process should follow the HABS/HAER guidelines and standards outlined in class on 2/16/07. Take note of construction systems, materials, etc.

-Freret Hardware (two adjacent buildings): Jadey, Hank, and Jeff
-Freret Paint (building no. 1): Nancy and Mariem
-Freret Paint (building no. 2): Lyndsay and Brian
-Chester Electric: Michael, Luis, and Miguel

Part F) Dovetailing with your up-close measurement and documentation of your structure, study and analyze the building's conditions, looking for problems and their causes: e.g., structural fissures, sinking or settling foundations, sloping walls, termite damage, wood rot, spalling stone or brick, missing mortar, stone deterioration,

damaged roof, etc. Look for culprits of structural problems: poor soil drainage, rusted gutters, dysfunctional downspouts, holes in roof, insufficient foundations, warped or deteriorated wood, inundation, etc. Look for cosmetic problems, both benign and those that may lead to structural problems: molds, fungi, lichens, missing paint, non-structural fissures, loose shutters, broken glass, etc. You may want to take samples of materials (molds, paint, plaster, mortar, wallpaper, nails, wood, ...), though analysis of these is beyond the scope of this class. Use the moisture meter to determine moisture content of walls and to help determine reasons for damage (e.g., peeling paint, deteriorated mortar, presence of mold or termites). Photograph all conditions and map your analysis onto your measured (CAD) drawings of the building.

Section III: Data collection and final recommendations for urban preservation and revitalization plan

Part K) Expanding upon previous research, as we drive and walk around the Freret neighborhood, casually survey neighborhood for significant architectural and cultural resources that can influence your perception of the neighborhood's identity and your ideas for revitalization (Project 3 Parts D–E).

Part L) To the same end, spend some time getting the feel of the place and its occupants. Our group research in Part I will also inform this picture.

Part M) Based on field analysis, revisit Project 3 Parts D–F and refine your recommendations for an urban preservation and revitalization plan. At this stage, we are looking for an overall vision and general design directives. While it is useful to address such design considerations as colors, materials, signage limits, awning limits, and setback and scale of new structures, detailed requirements for these design issues are beyond

the scope of this (pre-spring break) project but may be carried forward in part II of the course (after spring break) should you so chose.

Please do, however, consider—and try to incorporate into your plan—answers to the following questions:

How appropriate or effective for the conditions found on Freret Street are current New Orleans preservation policies (from Project 2)?

How would you recommend that these be changed to meet the challenges of post-flood Freret neighborhood?

How can “green” building technologies be incorporated into the preservation, rehabilitation, and infill aspects of this project?

Would you recommend proposing the Freret Street neighborhood or commercial corridor as a defined historic district?

Field trip Overview and Itinerary:

In order to conduct on-site research and building analyses, the entire class assembled in New Orleans for four days of intensive work. Following the outline of the course, we began with a driving tour overview of the city to see its different neighborhoods as well as the flood and hurricane damage and the rebuilding and preservation efforts being made. We also met with the city's municipal and non-profit preservation groups to learn more about their work and their approaches to preservation—both pre- and post-Katrina. Most significantly, however, we met with Neighborhood Housing Services and with Freret residents and business owners while conducting our research there. These insiders opened our eyes to the needs, desires, and challenges that they face—and to the urgency if these issues.

Day 1

We spent the full day driving around the city with Professor Doug Harmon (Tulane University School of Architecture and head of the CITYbuild consortium) and Mr. del Cid (former long-time resident of New Orleans) as our wonderful guides. We visited the Lakeview site (preparatory research for part two of the course), the repaired levees, and several design/build projects that Professor Harmon showed us, including the Mardi Gras Indians museum in the Lower Ninth Ward. After a soul-food lunch at Two Sisters, we toured the Destrahan plantation house and were invited to red beans and rice that evening at the home of Peggy Messina.

Day 2

Our Freret field work began today with a walk-through analysis of Freret Hardware (one of our study sites) with structural engineer Ashton Avegno (who had family connections to the building). We also visited with representatives from the Historic Landmark Preservation office and the Preservation Resources Center. After lunch at the displaced Dunbars' Restaurant (which was an institution on Freret Street before the flood), we interviewed staff at Neighborhood Housing Services, also located on Freret Street and guiding the rebuilding efforts there and elsewhere in the city. In the afternoon, students studied their buildings and conducted field work within the neighborhood.

Days 3–4

Day 3 was dedicated to measurement and analysis of the three commercial buildings on Freret Street. At the end of the day, Mr del Cid joined us for a tour through recent tornado damage near Tulane, the Tulane campus, and the Garden District. Before departing on Day 4, a few hardy souls returned to Freret Street to measure the slope of the street for our site model and analyses.

V.A Freret Windshield Survey

by Mariem Bennani and Luis Tejeda

Introduction:

The following pages provide some of the conclusions from an extensive windshield survey conducted on the six blocks central to our study area.

- Commercial buildings
- Residential buildings



Fig. V.A.1
Commercial/residential building survey

Building Typology:

Eight building types were identified within the six-block study area. Examples of each are pictured here.



Figs. V.A.2-5

Commercial (upper left); single shotgun (upper right), double shotgun (lower left); raised cottage (lower right)



Figs. V.A.6–9
Bungalow (upper left); double gallery (upper right), apartments (lower left); ranch (lower right)



Fig. V.A.10
Building typology survey

- Shotgun
- Commercial
- Ranch
- Double gallery
- Apartments
- Bungalow





Best/Worst Cases:

Of the buildings documented within the six-block windshield study area, the house pictured above was in the best condition and the house to the left displayed the worst damage, visible from the street.



Chapter VI: Freret Street Commercial Buildings: Documentation, Analysis, Preservation Plans, and Renovation Proposals

Introduction:

Based upon their field research in New Orleans, the students produced the following drawings and plans for their Freret Street commercial building sites. These were presented at a mid-term review on March 9, 2007, and are being displayed at the Neighborhood Housing Services offices on Freret Street. They also serve the specific building owners as tangible ideas and recommendations for preserving or renovating their structures.

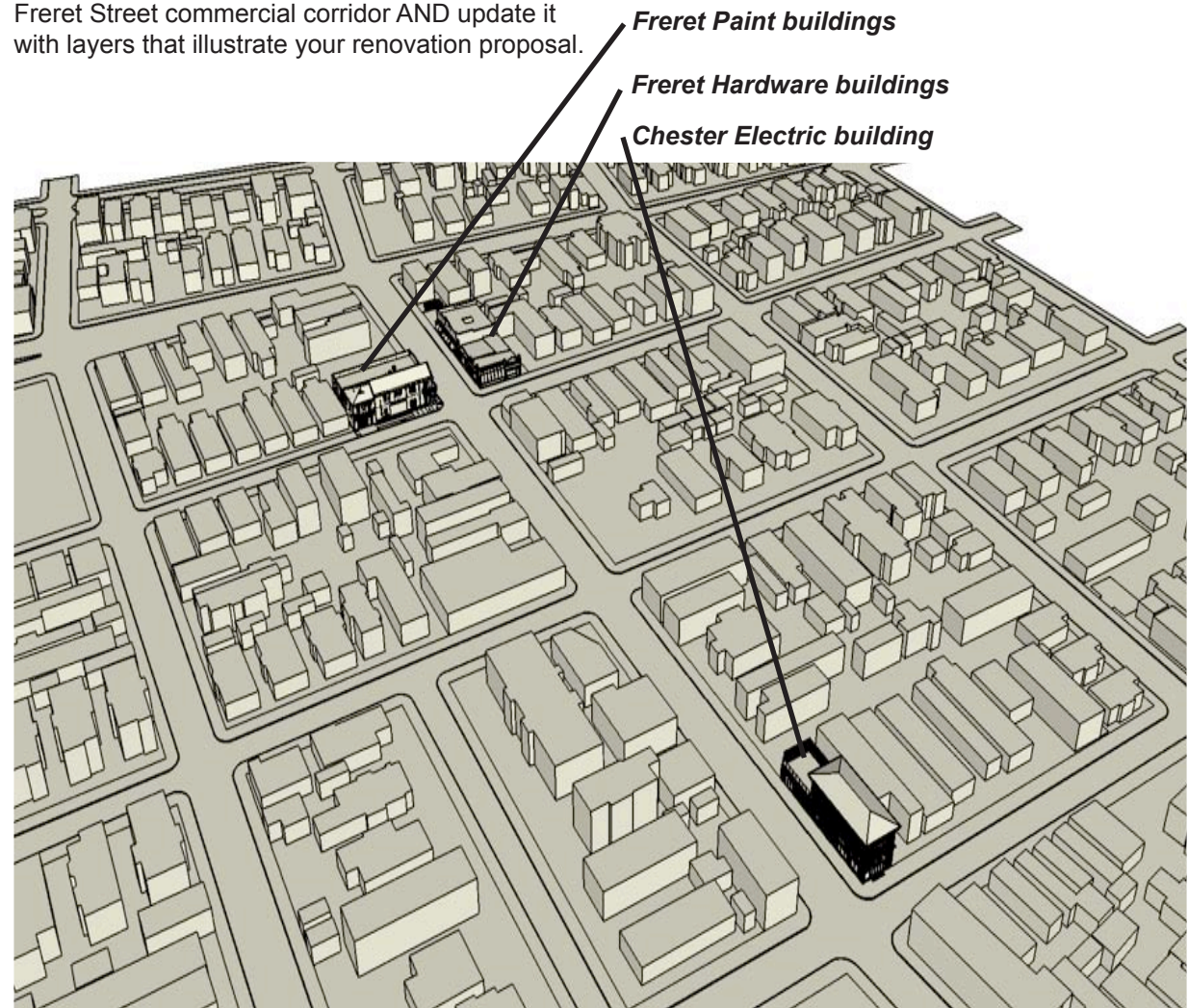
Program:

Part A) Using your sketches and measurements taken of Freret Street commercial buildings, develop measured drawings of the existing structures in CAD. Layer onto these drawings your analysis of existing problems and conditions.

Part B) Based on this analysis, make a Preservation Proposal for your structure (i.e., propose solutions for structural problems and their causes and make maintenance and repair recommendations—even obvious ones). This will serve the owner as a road map for making his/her building sound.

Part C) Create a design proposal for the renovation of your structure. This may be done individually or with your measurement/analysis group. The drawings and 2D images of the model that you create (Part D) will provide guidance for the building owner. Keep in mind your overall urban preservation plan for the neighborhood when designing the renovation proposal for this building.

Part D) Using your measured drawings of the building, create a Sketchup model of the existing structure to include in the class base model of Freret Street commercial corridor AND update it with layers that illustrate your renovation proposal.



VI.A Freret Hardware Buildings: 5109 and 5105 Freret Street

by Hank Dow, Jadey James, and Jeff Harris

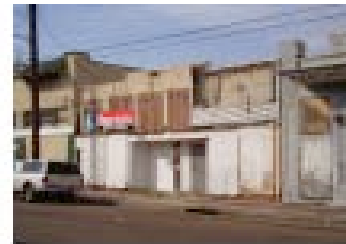
Project Description: The Freret Hardware Buildings, located at 5109 and 5105 Freret Street, are two-story commercial buildings that have been identified for potential adaptive reuse. The buildings are currently vacant and in need of restoration.

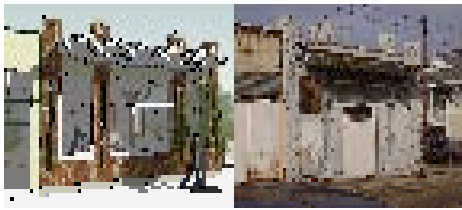
Project Goals: The goal of this project is to restore the Freret Hardware Buildings to their original architectural character and provide a new, high-quality residential or commercial space. The project will focus on preserving the building's historic facade and structural elements while updating the interior to meet modern standards.

Project Scope: The project scope includes the exterior restoration of the buildings, including the facade, roof, and windows. It also includes the interior renovation, including the removal of existing partitions, installation of new flooring, and updating of the plumbing and electrical systems.

Project Budget: The estimated budget for the project is \$1.5 million. This includes the cost of materials, labor, and professional fees. The project is currently seeking funding from private investors and grants.

Project Timeline: The project is currently in the planning phase and is expected to start construction in the fall of 2024. The estimated completion date is the end of 2025.





Proposal 1 Details

Building 2

- Preserve and restore existing wall fabric
- Replace existing windows with new double-pane insulated units
- Replace existing doors with new double-pane insulated units
- Replace existing roof with new asphalt shingles
- Replace existing gutters and downspouts with new
- Replace existing paint with new

Proposal 2

- Preserve and restore existing wall fabric
- Replace existing windows with new double-pane insulated units
- Replace existing doors with new double-pane insulated units
- Replace existing roof with new asphalt shingles
- Replace existing gutters and downspouts with new
- Replace existing paint with new



Proposal 3

- Preserve and restore existing wall fabric
- Replace existing windows with new double-pane insulated units
- Replace existing doors with new double-pane insulated units
- Replace existing roof with new asphalt shingles
- Replace existing gutters and downspouts with new
- Replace existing paint with new

Building 2 with Proposal 1 and 2

Building 3

- Preserve and restore existing wall fabric
- Replace existing windows with new double-pane insulated units
- Replace existing doors with new double-pane insulated units
- Replace existing roof with new asphalt shingles
- Replace existing gutters and downspouts with new
- Replace existing paint with new





PLASTER MISSING



WATER DAMAGE



TERMITE DAMAGE



PLASTER REPAIR



WATER DAMAGE



WATER DAMAGE



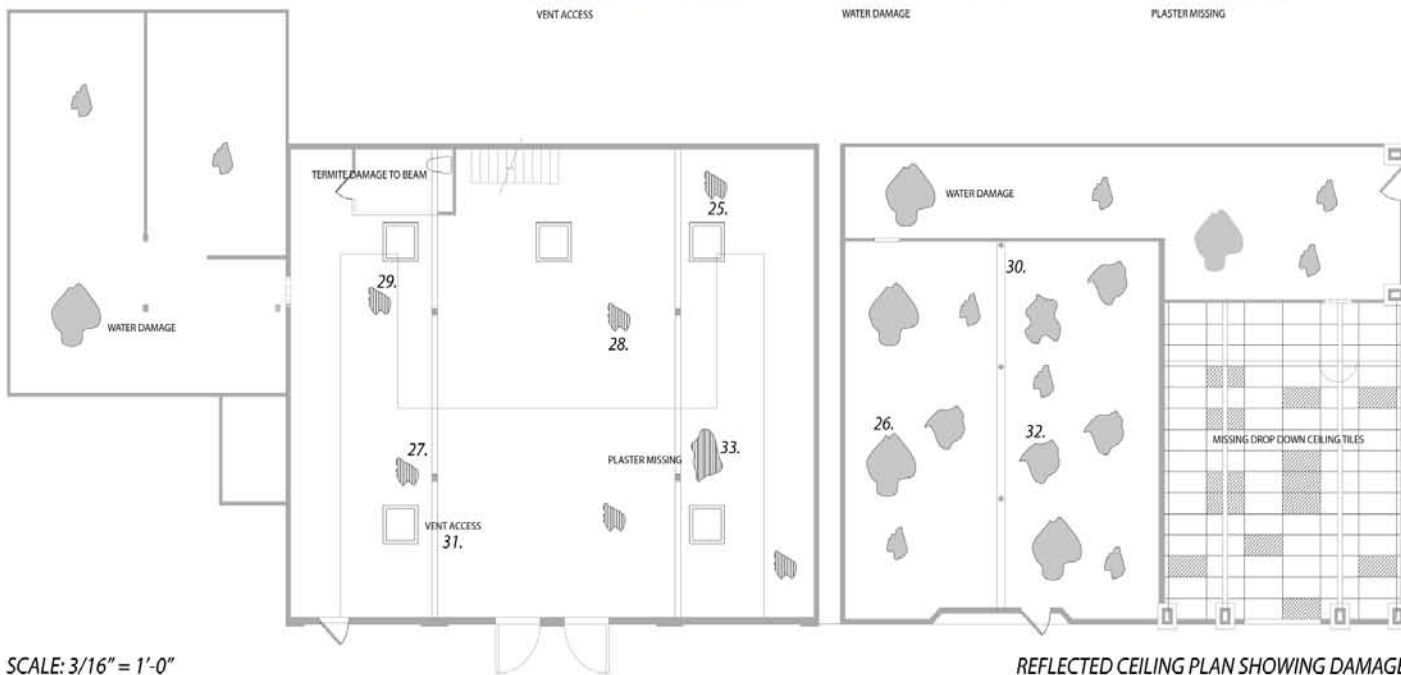
VENT ACCESS



WATER DAMAGE

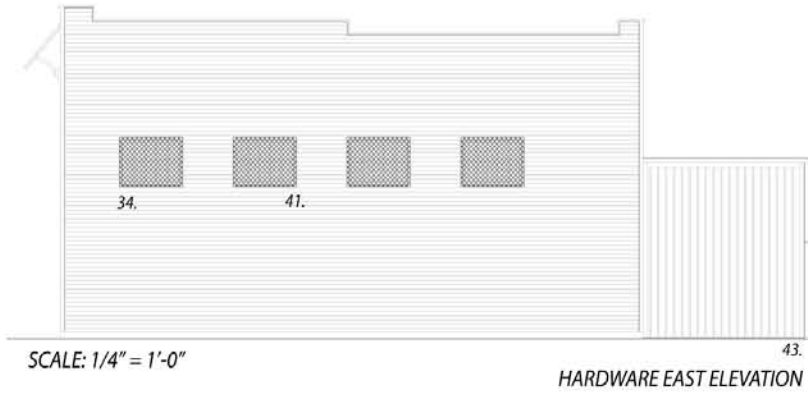


PLASTER MISSING



SCALE: 3/16" = 1'-0"

REFLECTED CEILING PLAN SHOWING DAMAGE



Original/Temporary siding, chain link fence over windows.
Remove metal siding, restore wood clapboard, remove fencing.



Cracks in stucco, off-center signage support, dissimilar stucco.
Repair cracks and resurface stucco, remove sign support.



Bow of front facade.
Consult with structural engineer for reasonable solutions.



Temporary plywood doors.
Replace with operable door system.



Spanish tile eyebrows, missing awning, wood damage.
Repair tile eyebrows, replace awning and wood window trim.



Chain link fence over window, rotting wood.
Remove fencing, replace rotting wood, scrape and paint.



Rotted wood siding and paint on tile.
Replace siding and damaged framing, clean tiles.



Cracks in stucco and multiple textures, rotting trim.
Repair and resurface stucco, replace rotting trim.



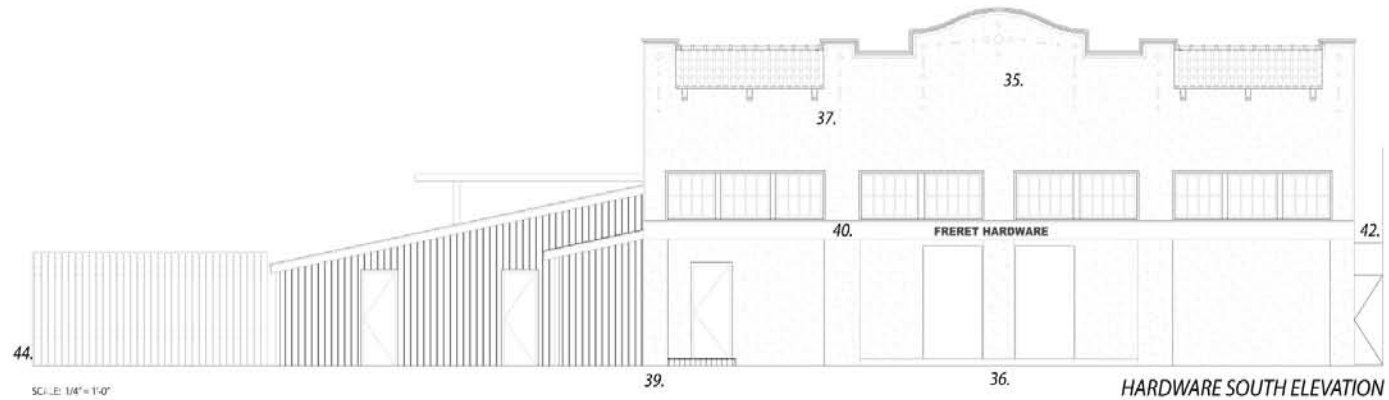
Temporary storage unit.
Remove storage unit, and manage inventory better.

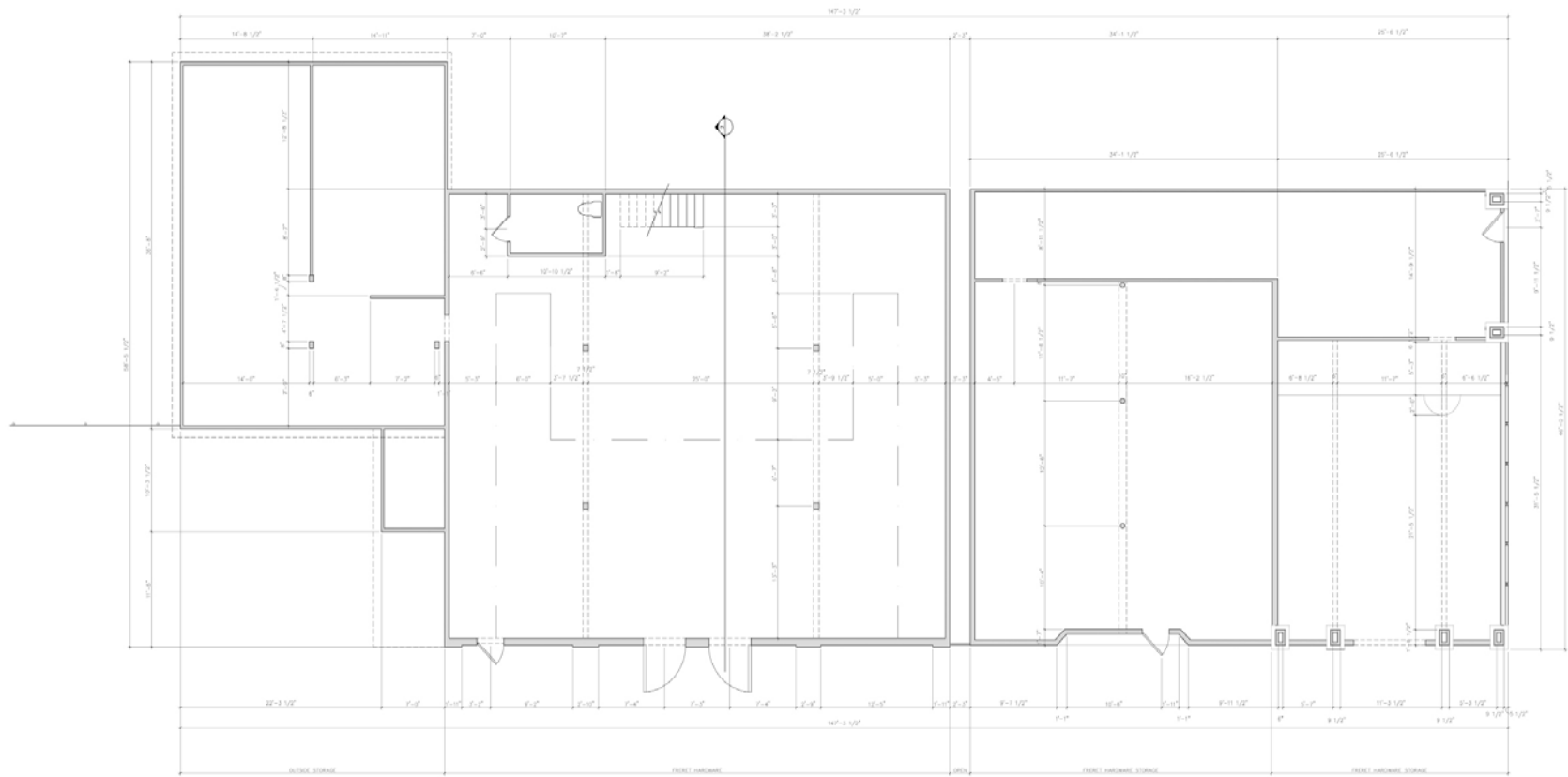


Metal siding, damaged clapboard, and rotting trim boards.
Remove metal siding, repair and paint clapboard and trim.



Evasive plant life, deteriorating gutter system, metal siding.
Remove vegetation, metal siding and replace gutter system.





SCALE: 3/16" = 1'-0"

FRERET HARDWARE AND STORAGE PLANS



SCALE: 3/16" = 1'-0"

FRERET HARDWARE AND STORAGE FACADE

EXISTING CONDITIONS ANALYSIS

Exterior

Roof
New foam roof added approximately 1 year ago
Soft and spongy when walked on
Skylight covered with roofing material
Gutter sections missing and not functional
Flashing missing

Foundation
Slab on grade has cracks showing under tiles
Floor has water stains
Flooring missing tiles in many areas

Walls
Wood rotten near ground
Wall "bowed in" at front of store
Galvanized sheathing and clagboard heavily weathered
Paint is peeling and cracked
Stucco has multiple textures and cracks allowing moisture to penetrate

Doors and Windows
Temporary unpainted plywood doors
Sills and window wood is deteriorating
Windows have rusted chain link fence guards and glass is cracked

Decorative Elements
Tiles on eyebrow are chipped

Mechanical and Miscellaneous
Mechanical system had no visible problems
Moss and fungus surround building at footings

Interior

Attic/Upper Floor
Rafters and ceiling joists drooping
Sheathing deteriorated
Floor spongy

Floors and Stairways
Stairs sloped and springy
Steps deteriorated
Floor Spongy

Columns
Wood Columns have hairline cracks
Paint chipping

Ceilings and Walls
Walls have water stains and mold growth
Areas of plaster coating cracked and missing
Cracks in ceiling sheathing

Electrical Systems
No inspection was made

Moisture Level Readings
Moisture levels ranged from 2.1-6.4 to 9.5-10+
Wood, gypsum board and masonry had most moisture

BACKGROUND:

Freret Hardware and the adjoining buildings are located in New Orleans, Louisiana in the Freret neighborhood near St. Charles avenue. These buildings were constructed approximately 50+ years ago and have been recently flooded with three (3) feet of water by Hurricane Katrina.

Information collected for this research was a culmination of efforts by UTA's studio members on February 23rd thru February 25th 2007. Weather conditions during the survey were sunny with temperatures ranging from between 70 and 75 degrees F.

RESTORATION

Exterior

Roof
Flashing, Gutters and Downspouts:
Patch small holes in flashing with solder or roofing cement;
patch large holes with metal patches of original material
Re-nail/re-cement loose flashing
Clean, prime and repaint gutters and downspouts; replace damaged missing gutters
Built-up Asphalt Roofing: fill small cracks with roofing cement remove and patch large cracks
Foam Roof: inspect for holes and repair where needed

Foundation
May require stabilization or redistribution of heavy equipment to equalize loads

Walls
Remove metal siding (danger of trapping moisture, insects)
Existing wood siding: scrape and sand peeling and blistered paint; treat wood with water repellent solution; repaint
Fill and repair cracked stucco
Repaint (consider a cement-based waterproof coating)
Replace excessively rotted, decayed or faulty wood pieces
Install external temporary support system to facade in order to repair compromised structural elements
Pay special attention to wall-to foundation joint (below 3' flood level):
Remove damaged wood; replace with treated wood
Replace moisture barrier
Replace siding

Doors and Windows
Remove wooden windows and inspect for damaged members; repair if necessary, treat with water-repellent solution, and repaint, recaulk
Remove temporary plywood doors and install framed entry system

Decorative Elements
Repaint moldings and stucco patterns

Landscape and Sidewalk
Remove invasive plant life
Replant trees in sidewalk planters getting local youth involved

Interior

Floors and Stairways
Where tiling has deteriorated, resal concrete floor and re-lay tile

Ceilings and Walls
Remove and replace damaged plaster; repaint
Scrape peeling and repaint all wall surfaces

DESIGN PROPOSAL

It is the desire of the following design proposals to maintain the urban fabric or "tout ensemble" of the neighborhood.

Proposal 1:

One of the most repeated requests from freret residents, many of whom are living in FEMA trailers that are not equipped with washers and dryers, was a laundry facility. Our first proposal places a laundromat in building C. The laundromat would satisfy a strong need for the neighborhood, as well as provide a boost to foot traffic on the street. Further the need for neighborhood, as well as provide a boost to foot-traffic on the street. Its 24-hour presence would be an effective crime deterrent. Changes include:

Building A

- Remove tile "eyebrow" awnings (believed to have been added after original construction).
- Hang new awnings from lower hooks-establish a pedestrian friendly scale
- Install storefront windows in two outer bays
- Install sliding walls w/doors in front of currently open bays for option of open-air-closed.
- Hang new sign from existing (but unused cable).

Building B

- Install new storefront windows on two outer bays and square off obtuse display windows; no entry.
- Build brick pillar of same scale and style as the western most brick pillar of Building C between buildings A and B, giving building B the visual context it currently lacks.

Building C

- Restore mural and hang on wall inside.
- Bring the brick "base panel" established on the eastern facade onto the south facade.
- Install storefront windows between pilasters on south facade.
- Move main entry to eastern most bay of facade to invigorate the overtly symmetrical composition and keep circulation against the brightly lit east em wall.
- Bring the elegant "X window" motif established on the east facade to the south facade; this will act as a symbolic "glazed cornice," continuing the strong horizontal line leading the eye from building to building.

Proposal 2:

This proposal makes the same physical changes to the buildings, but envisions a different function for Building C: Ice Cream Parlor. We believe that the location is perfect for a "hang-out," a place where residents can congregate, as opposed to the get-in, get-out transactions that take place at the current retail offerings in the street.

Proposal 3:

Another frequent request of residents was a place to eat on Freret Street. We propose the insertion of a coffee-shop/light cafe' into Building C. Our experience in the city made it clear that well ventilated, well shaded outdoor spaces made for very enjoyable dining/socializing experience (e.g. Cafe due Monde). In the same manner this cafe would be open air, providing the ultimate in inviting transparency to the exceedingly introverted streetscape. The coffee shop would work well in tandem with the comedy club- La Nuit across the street. Changes to the building include:

Building A and B

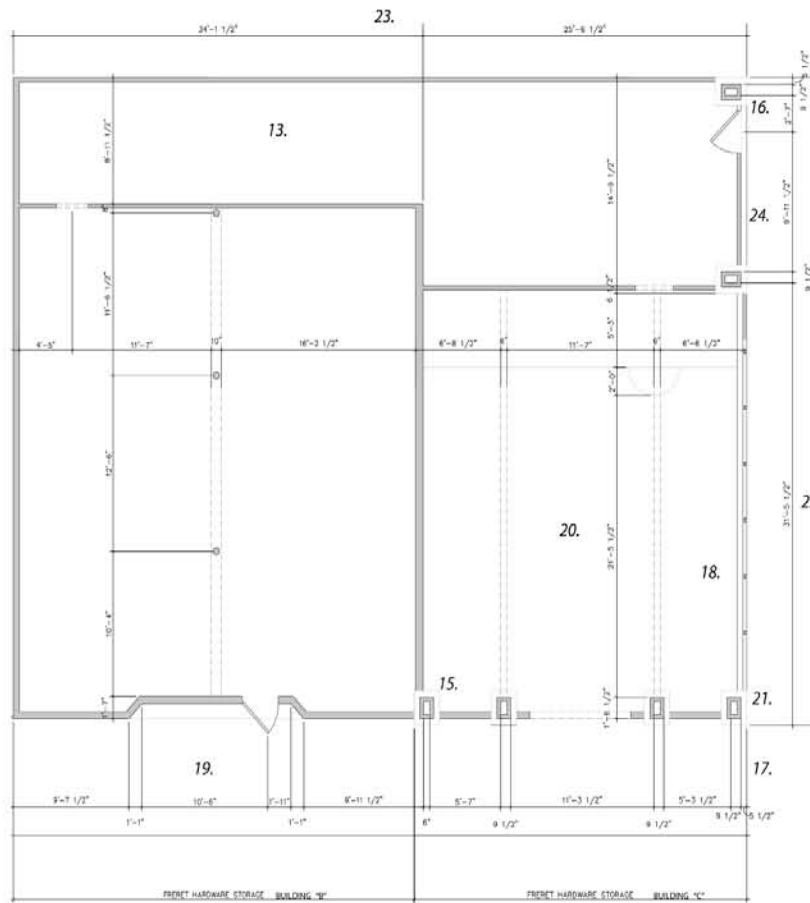
Same as Proposals 1 and 2.

Building C

- Remove mural and hang on wall inside.
- Remove large storefront window on eastern facade.
- Remove infill wall/windows on south facade leaving 2'x 2' brick pillars.
- Install awnings that could be raised during the day, and lowered at night to secure the building.
- Install ceiling fans to aid in air circulation.

"...ferret street corridor has been on the verge of success for the past 20 years"

Dean Gatzke -March 7, 2007



SCALE: 3/16" = 1'-0"

STORAGE BUILDINGS "B" AND "C" PLANS



13. Storage room windows covered and wood trim rotting. Replace rotting wood and uncover windows.



14. Damaged flashing roof recently replaced. Inspect and replace damaged flashing.



15. Painted brick and missing tile and window covered. Replace missing tile, open windows remove paint from tile.



16. Metal gutter deteriorating and wrong lighting. Replace gutter and install appropriate lighting.



17. Plywood door, transom and window covered. Replace door, uncover transom and windows.



18. Store front glass covered, missing ceiling tile. Uncover glass and replace missing ceiling tile.



19. Windows covered, wood rotting and stucco damage. Uncover windows, replace rotted wood and repair stucco.



20. Missing ceiling tiles, water damage to ceiling. Repair water leaks and replace ceiling tiles.



21. Missing downspout, rusted gutter and peeling paint. Replace downspout and gutter, scrape and repaint.



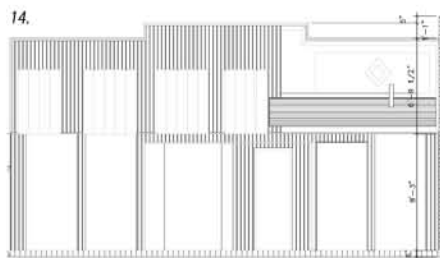
22. Windows covered, gutter rusting, evasive plant growth. Remove and save mural, repair gutter and remove vegetation.



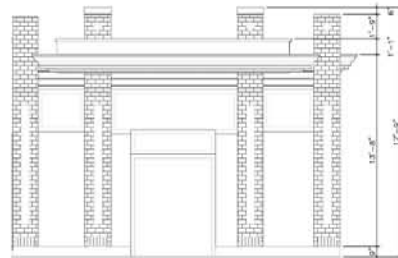
23. Window covered, rotting wood, paint peeling. Repair windows, replace siding and repaint.



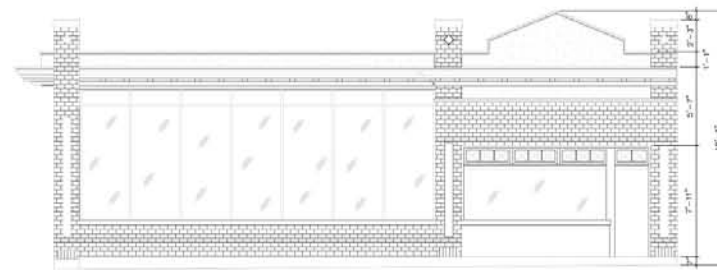
24. Painted windows and trim. Remove paint from windows and repaint trim.



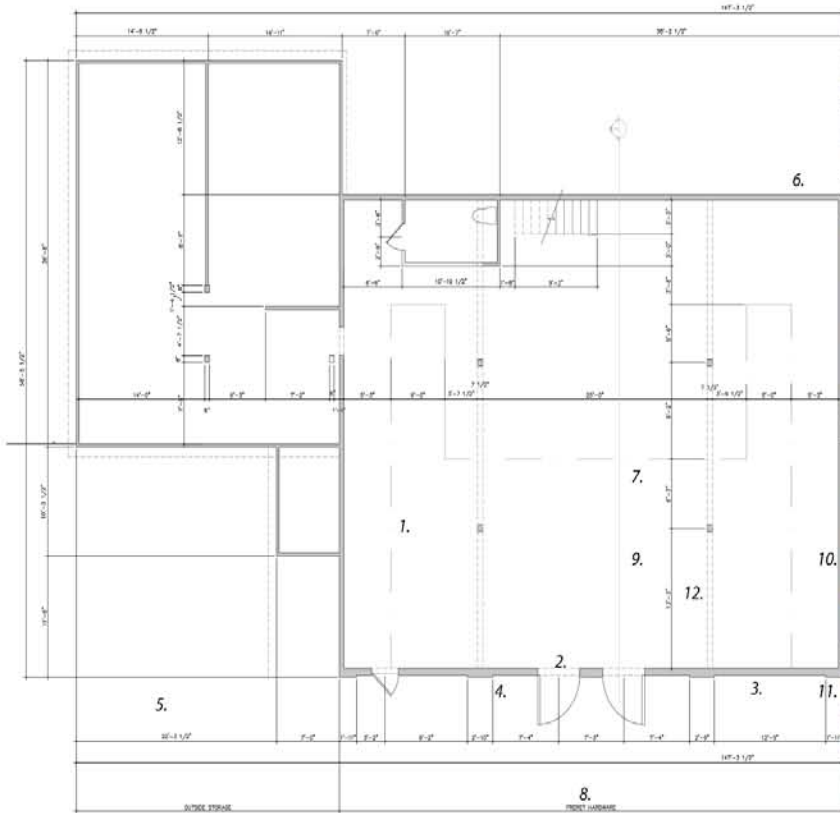
SCALE: 3/16" = 1'-0" "B" SOUTH FACADE



SCALE: 3/16" = 1'-0" "C" SOUTH FACADE

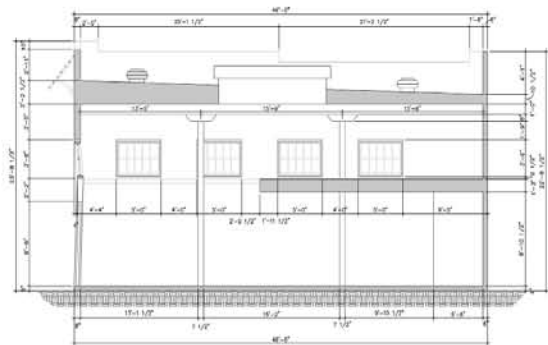


SCALE: 3/16" = 1'-0" "C" EAST FACADE



SCALE: 3/16" = 1'-0"

HARDWARE PLAN



SCALE: 3/16" = 1'-0"

HARDWARE SECTION



1. Ceiling damage created by water leak.
Repair water leak and repair damage.



4. Temporary plywood door, stucco damage.
Install new operable doors and repair stucco.



7. Water damage created by roof leaks, cracks in plaster.
Repair roof leak, cracks in plaster and repair.



10. Peeling paint and rotted wood.
Replace rotted wood, scrape and paint.



2. Structural damage and window degradation.
Consult with engineer for solution to structure damage, repair window.



5. Temporary storage unit, water damage at corner of building.
Remove storage unit, manage inventory, repair corner of building.



8. Temporary plywood doors, chipped eyebrow tiles.
Replace with operable door and replace tile.



11. Wood rot and stucco damage.
Replace rotted wood and patch stucco.



3. Showing bow of front facade and condition of stucco.
Consult with engineer for bow, repair stucco and wood.



6. Broken gutter system and evasive vegetation, rotted siding.
Install new gutter system, remove vegetation, metal siding and repair chip-board siding.



9. Missing broken tile and water stains.
Replace tile and clean, disinfect and seal floor.



12. Evidence of flooding and standing waters.
Clean and disinfect to prevent further mold and bacteria growth.

SYNOPSIS:

Due to the lack of preventive maintenance over the years, this building has encountered severe material and structure damage.

Damage such as rot created from water leaks, mold, bacteria, fungus, evasive vegetation and termites.

The flood caused by Hurricane Katrina did not help matters, it just simply compounded existing conditions.

VI.B Freret Paint Buildings: 5104 and 5100 Freret Street

by Mariem Bennani, Nancy Greene, Lyndsay Wright, and Brian David

Freret Paint Store

The Freret Paint store building was built in the early 1900's and is located at 5104 Freret Street, New Orleans, LA 70115. It sits on the south side of Freret Street and is the second building west of Soniat Street. It is connected with the corner building, which serves as storage and supplies for the paint business. We visited the buildings and neighborhood on February 24, 2007. At that time, we were able to take measurements of the buildings and make assessments of their conditions. We also had the opportunity to converse with the owner about the buildings' history, how they were affected by Hurricane Katrina, and about their future.

According to the current owner, Mike Brechtel, the paint store structure was originally a grocery and hardware store. It has since been used for various other retail purposes. Mr. Brechtel bought the building in 1994, renovated it in 1995, and opened it as a paint store.

Mr. Brechtel described the affects of Hurricane Katrina to us in great detail. He said there were about three feet of water in the building for a few months. When he was finally allowed to return to his building, he found merchandise floating everywhere. Things that were originally displayed on shelves in the front of the store could be found floating all the way in the back of the store. Mr. Brechtel said that with his first return to the building, he was so overwhelmed with the mess that he made his way to the office in the back of the building, retrieved some papers he needed, and went back to his home in Algiers across the

Mississippi River. He mentioned that when he left the building, he left all of the doors open, to allow the water to escape and hopefully allow the building to air out. Mr. Brechtel was lucky that his store was not looted during that time. His brother-in-law, Rick Torres, who owns Freret Hardware across the street, was not so lucky.

As previously stated, the building is currently in use as a paint store. The owner is looking to sell the building so he can retire. His wish is that it will be sold as a paint store so he doesn't have to sell his massive inventory separately. This would also be good for the community because the paint store is a good resource for the neighborhood since so much renovation is taking place and will continue to occur. The nearest place to obtain paint other than Freret Paint is too far to walk and therefore only reachable by car or bus. Having the paint store remain in the neighborhood helps keep the economy of the neighborhood local.

Our analysis and following suggestions for this building are two fold. One approach is to simply restore the health of the building, so it can function properly. The second approach is to suggest renovation ideas that will go above and beyond just simply restoring the health of the building. Our renovation approach will also help the building become more sustainable, improve the commercial viability of the building, and improve the streetscape of the Freret Street commercial corridor.

This building is in relatively good condition, but does have some issues that need to be

addressed, such as structural cracks, moisture in the walls (moisture measurements were taken with a moisture meter: levels of moisture are from 0-10 where 0-2 is safe, 2.1 - 7.9 is attention, and 8 – 10 is action), rust, plant growth, spalling of plaster, and several others conditions. The following pages provide details of the issues and possible solutions. Restoring the health of the building will be addressed first, and then the renovation suggestions will be addressed.

Freret Paint Storage Building

The paint storage building was built in the 1930s, and is located in 5100 Freret Street, New Orleans, LA, 70115. It sits on the south side of Freret Street at the southwest corner of Freret and Soniat streets. Mr. Brechtel also bought this building in 1994 and renovated it in 1995. Previously, the building served as a pharmacy on the ground floor and apartments on the second floor. Between Hurricane Katrina and the present time, the building has served as a warehouse for the paint store. Some Freret neighborhood residents are also using it as a temporary shop for repairing and refinishing furniture.

During Hurricane Katrina, the buildings had about three feet of water for a few months. Even though the paint storage building is among a few buildings that survived well after the storm in the Freret commercial corridor and it did not suffer much from the structural damage, it still experiences some moisture damage in the building components.

This building is fairly sound in its structure.

However, because it is built of old construction methods, it has many issues that need to be addressed, such as moisture, cracks, and rust, in order to bring this building back to a healthy status. The moisture in the building was measured by a moisture meter; moisture level from 0 to 2 means safe, from 2.1 to 7.9 means attention, and from 8 to 10 means action is needed. The issues to be addressed in the building are as follows:

Renovation Plan: Freret Paint Storage Building

The Freret Paint storage building is in fairly decent condition. However, because it was built using old and inefficient methods, there are many things that can be done to the building to make it a more aesthetically pleasing and energy efficient building. Following is a plan to bring this building back to life in a pleasing and sustainable way. These steps are assumed to take place after the building is returned to health as stated previously.

North Façade:

- Insert storefront glazing on ground level
- line glass with protective coating from 3M that prevents breakage from wind, theft and vandalism
- Replace doors on 2nd level with more aesthetically pleasing doors
- Repaint entire building with a more vibrant color

East Façade:

- Insert storefront glazing on ground level from the entrance southward to just under the existing balcony
- Possibly extend and connect both balconies to create a more cohesive nature between the original building and the addition
- Replace the windows with more energy efficient glazing such as low-e glass

East Façade Addition:

- Repaint the façade in the same vibrant color as

the original building

- Possibly replace cement block around door with glass or cover cement block with same plaster coating as the rest of the addition
- Possibly consider putting a clapboard veneer on addition to match the original building
- If the ground floor space of the addition is to be used as additional retail space, consider the following options:
 - Replace garage door with a more pleasing door with wood and glass panels
 - Replace garage door with storefront glazing
 - Replace garage door with French style doors

West Façade:

- Replace the windows with more energy efficient glazing such as low-e glass

South Façade:

- Replace windows that were filled in with brick; use low-e glass for better energy efficiency; replacing the windows will allow for more natural light and ventilation, thus increasing the energy efficiency of the building
- Reinforce lentsals to prevent further cracking
- Replace the window infill bricks with ones that match the existing brick of the south façade if windows are not to be added

Interior: 2nd Floor

- Apply moisture barrier to all walls (including ground floor) to prevent walls from collecting and maintaining moisture
- Insulate walls for better energy efficiency
- Apply moisture barrier to roof rafters (allow for proper air space for ventilation)
- Insulate roof rafters
- Apply drywall to finish out the interior and assist in energy efficiency



Preservation: Restoring the Health of the Building

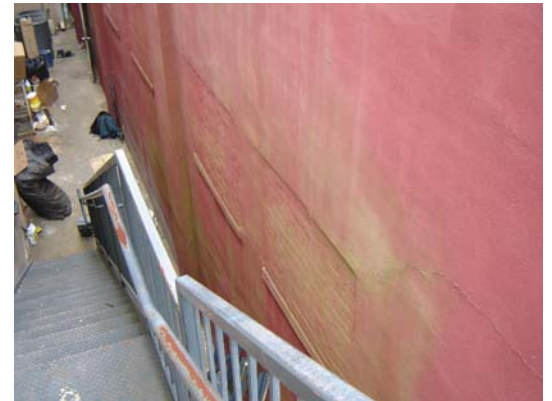


North Façade:

- Plant growth in mortar: possibly from poor drainage off the parapet, carrying spores down the façade and depositing spores into crevices in the mortar. Could also be from wind spread of spores depositing into crevices in the mortar.
- Remove plant growth from the mortar
- Clean entire façade with a pressure wash (this may or may not require bleach or some other cleaning agent)
- Treat brick and mortar with herbicide to prevent future growth
- Scrape and repoint mortar
- Rust on capped pipe and storm door: appears to be from poor drainage where water splashes onto the ground and back onto the pipe and door
- Remove rust from capped pipe and repaint with a rust resistant paint
- Remove rust from storm door and treat for rust resistance
- Rust and moss on coping: possible causes: acid rain and/or UV degradation leading to degradation of metal coping thus causing pitting and poor drainage from coping; airborne spores deposited and grown in dirt of coping; spores deposited from bird droppings
- Remove rust from coping
- Repaint and treat for rust resistance

East Façade:

- Vent cover damage: possibly damaged from hurricane debris
- Replace vent cover
- Moss on façade: probably due to poor roof drainage and lack of gutter, scupper or downspout; moisture content of wall: measurements taken from bottom of wall up with a moisture meter : 8"=7, 2'=3, 4'=2, 6'=0.5
- Remove moss from facade
- Clean entire façade with a pressure wash (this may or may not require bleach or some other cleaning agent)



- Facilitate moisture removal from wall by clearing alley to allow
- For more air flow; possibly bring in fans to help with airflow
- Affix appropriate scupper or downspout
- Possibly add gutter system
- Consider placing weep holes in wall to facilitate water drainage
- Treat wall with herbicide to prevent future growth
- Cracks in façade: appear to be structural; may have already been halted by infilling windows, but need further analysis by structural engineer
- Temporary fix will be to repaint the cracks
- Spalling plaster at base of façade: most likely from softening of plaster due to moisture retention in the wall
- Repair spalling plaster on base of facade
- Repaint façade if needed
- Damaged door: door is scraping concrete as it is opened and closed
- Replace damaged door; possibly with a shorter door and higher threshold to prevent future damage of the door and concrete
- Could also cut a divot in concrete for door movement

West Façade:

- Moss on façade: probably due to poor roof drainage and lack of gutter, scupper or downspout; moisture content of wall: measurements taken from bottom of wall up with a moisture meter – 8"=6, 2'=3, 4'=2, 6'=0.5
- Remove moss from facade
- Clean entire façade with a pressure wash (this may or may not require bleach or some other cleaning agent)
- Facilitate moisture removal from wall by clearing alley to allow for more air flow; possibly bring in fans to help with airflow
- Affix appropriate scupper or downspout
- Possibly add gutter system
- Consider placing weep holes in wall to facilitate water drainage



- Treat wall with herbicide to prevent future growth
- Cracks in façade: appear to be structural; may have already been halted by infilling windows, but need further analysis by structural engineer
- Temporary fix will be to repaint the cracks
- Spalling plaster at base of façade: most likely from softening of plaster due to moisture retention in the wall
- Repair spalling plaster on base of facade
- Repaint façade if needed

South Façade:

- Moss on façade: probably due to poor roof drainage and lack of gutter, scupper or downspout
- Remove moss from facade
- Clean entire façade with a pressure wash (this may or may not require bleach or some other cleaning agent)
- Facilitate moisture removal from wall by clearing alley to allow for more air flow; possibly bring in fans to help with airflow
- Consider placing weep holes in wall to facilitate water drainage
- Treat wall with herbicide to prevent future growth
- Cracks in façade: appear to be structural; may have already been halted by infilling windows, but need further analysis by structural engineer
- Temporary fix will be to repaint the cracks
- Spalling plaster at base of façade: most likely

from softening of plaster due to moisture retention in the wall

- Repair spalling plaster on base of facade
- Repaint façade if needed

Roof:

- Tiles on perimeter of roof are dirty and damaged from normal wear and tear from the elements
- Clean tiles
- Replace damaged tiles
- Re-adhere tiles; tiles should be adhered to perimeter to prevent damage during high winds
- Remove all hanging wires



Interior:

- Tile floors are still somewhat dirty, stained and damaged because of flooding and regular wear and tear.
- Clean floors; replace damaged and missing tiles
- Replace water-damaged tiles in the dropped ceiling (owner says leaks have already been fixed, so should not incur any more damage)

- Drywall is still holding moisture from the flood because the building has not had a chance to completely dry out. Moisture measurements for drywall: 2"=10, 1'=7, 3'=7, 4'=5, 6'=0.5
- Replace drywall at 4 feet and below because of water damage in the drywall.

Renovation: Suggestions for sustainability and Commercial Viability

North Façade:

- Repaint the Freret Paint sign
- Keep light fixtures to preserve character, but replace bulbs with energy efficient bulbs
- Options for storm doors on storefront
- Clean storm doors and possibly have neighborhood group paint murals on them to prevent future graffiti
- Remove storm doors and line glass with protective coating from 3M that prevents breakage from wind, theft and vandalism
 - if this option is taken, consider placing awnings above windows

East, West and South Facades:

- Replace windows that were bricked in. This will allow for more natural light into the store which helps the energy efficiency of the building
- Studies have shown (Wal-Mart) that customers are more likely to buy products in well lit areas, so this may increase the stores profitability
- Possibly use frosted glass to avert view of neighboring buildings
- Windows must be operational to allow for better ventilation of building
- Safety bars or 3M coating may be used to help prevent damage to glass
- If the fire code is an issue and was the reason for bricking the windows, the consider using fire-rated glass
- Reinforce lintels to prevent further structural cracking if that was indeed the cause of the cracking
- Repaint in a color that is more cohesive with the North facade

MOISTURE DAMAGE



1

Remove moss from brick and plaster
 Re-point the mortar
 Replace brick and flashing
 Re-plaster damaged area.
 The moisture is still in the building because the building was not cleaned and aired out properly after the storm.
 The moisture level of brick is .70, the wood siding above the brick is .8.5, and the wood siding above the brick is .8.5.



2

Replace balcony due to complete disrepair.
 It is extremely unsafe in current condition



3

Clean walls and floors from flood residue
 Clean storm door and garage door



4

Replace drywall from about 4 feet and below because of water damage.
 Clean walls and floors from flood residue
 The reason for moisture in the walls because the building was not cleaned and aired out properly after the storm, so the moisture stayed trapped in the walls. The building needs to be cleaned, dried out and a moisture barrier needs to be inserted in the walls.
 The moisture level at the lower portion of the interior walls is .7.

STRUCTURAL DAMAGE



5



6

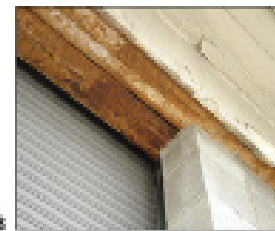


7

**Freret Paint Storage Building
 5100 Freret Street, New Orleans, LA, 70115**

Restoring the Health of the building

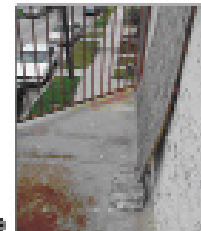
RUST



8

Repair settlement cracks in south wall
 Reinforce lintel on south wall
 Re-point the mortar above window on south wall

Remove rust from door lintel
 Repaint with rust-resistant paint or coating

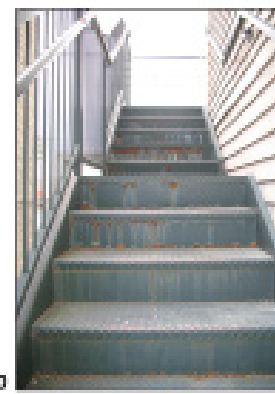


9

Scrape off peeling paint and repaint.
 The cracks might be due to the high level of moisture in that area.

The moisture level in those wall corners is .5 and at lower portions of the wall it is .25

Remove rust from balcony floor
 Repaint with rust-resistant paint or coating



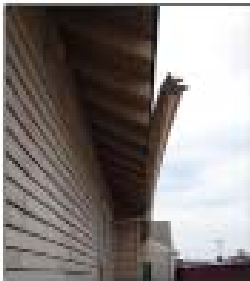
10

Replace wood around frame of door because of rot and breakage
 Damage in the door is related to moisture.
 Clean storm door

Remove rust from stairs and railings caused from normal wear and tear from the elements
 Repaint with rust-resistant paint or coating

Freret Paint Storage Building 5100 Freret Street, New Orleans, LA, 70115

Restoring the Health of the building



11

Repair and re-attach gutter
Replace damaged clapboards
Re-nail uprooted clapboards
Scrape off peeling paint and repaint entire façade



12

Scrape off flaking paint on entire façade
Repaint damaged clapboards
Replace damaged clapboards
Re-nail uprooted clapboards
Replace and/or repair damaged windows
Reseal around windows and repair or replace window frames
The moisture level at the lower portion of the east wall is .5 and on the entire wall is .29



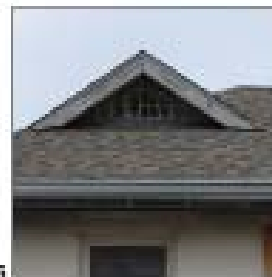
15

Repaint the mortar
Repair casing around ground floor door; moisture damage
Repair plaster at foot of building; spalling from moisture
Remove rust from door frame of garage door and recoat/repaint with rust-resistant coating/paint
Replace 2nd floor balcony door
Repair or replace windows



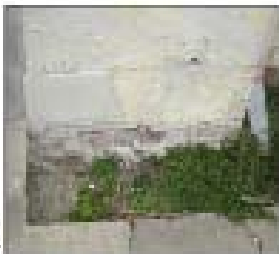
13

Replace water damaged portion of cap board on eave
Seemingly caused by poor drainage



16

Repair and replace wooden slats on attic vent
Add screen behind wood slats to enhance protection of attic from animals/rodents, debris, etc
Clean and repaint entire façade



14

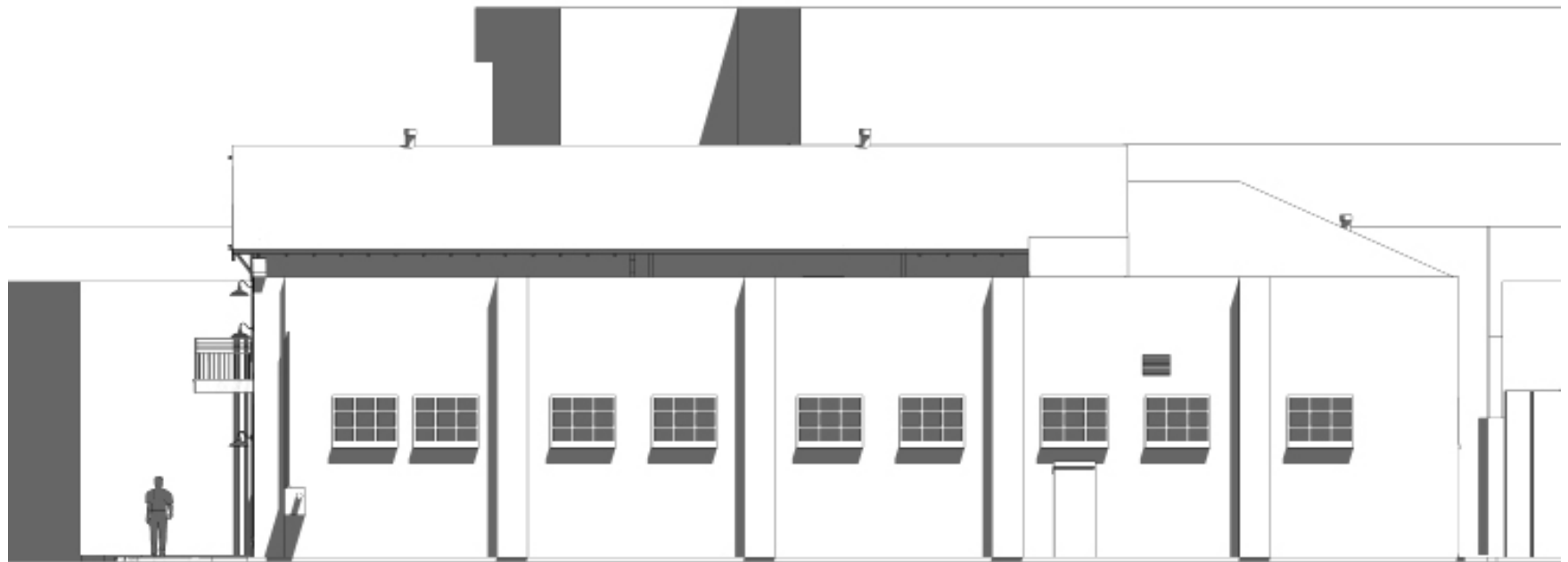
Repaint the mortar
Repair plaster at foot of building; spalling from moisture



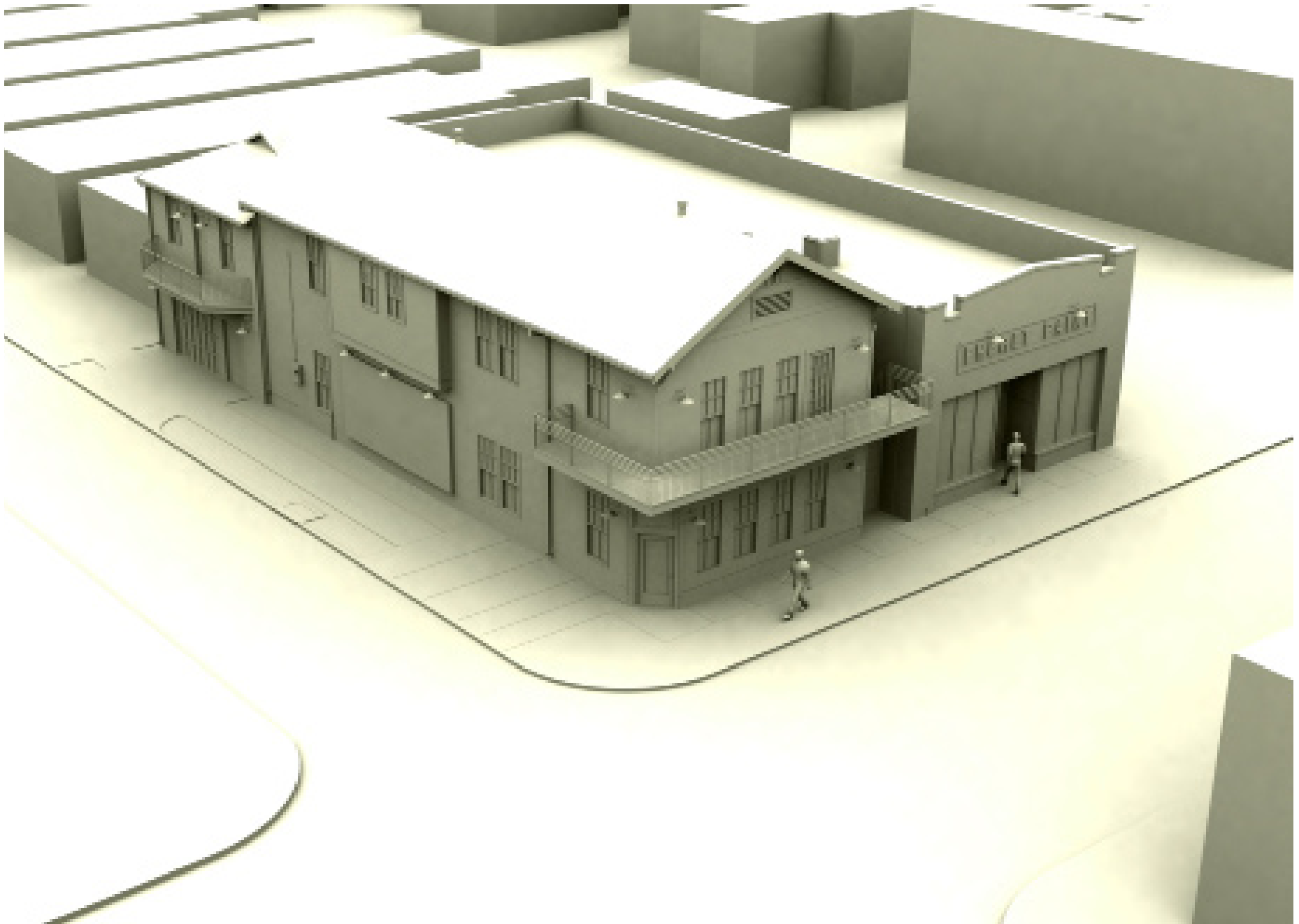
17

Clean entire façade with a pressure wash (this may or may not require bleach or some other cleaning agent)
Repair cap board at eave

Proposed renovation study of Freret Paint store and storage building: north elevation (above); east elevation (below)



Proposed renovation study of Freret Paint store and stroage building: bird's-eye view of model looking southeast



VI.C Chester Electric Building: 4905 Freret Street

by Michael Okies, Luis Tejeda, and Miguel Perez

Chester Electric Inc. 4905 Freret St. New Orleans, LA

Background History

This building was used as Chester Electric, Inc. and owned by Chester Williams. It is currently owned by Kara Williams and used by her as an attorney rotary office pre-Katrina.

Mrs. Williams noted that it may have been used as a firehouse in the past. Survey of the building revealed the existence of fire poles openings on two locations on the second floor. Through research on historic firehouses design openings and comparing it to surveyed measurements of sealed arch openings; it reinforces the idea that this building at one point it used to be a firehouse. In addition based on actual images of historic firehouses it appears that the facade elements seen in the building clearly resembles actual fire houses of the past.

Surveyed measurement: 10' - 9" X 12' - 4"
Design measurements: 10' X 12'

Exact date of when Chester Electric Building was built was uncertain, but an approximate years was reached thanks to Greg Ensselen, owner of the blue buildings directly across Upperline St., claims the construction date to be around 1905 - 1909.

Building Construction Data

Construction Type: In the first level the perimeter walls are loadbearing CMU blocks with brick veneer on the exterior. The second floor is wood frame construction with two layers of siding; original wood siding and vinyl siding as the present visible layer. The type of bond used in the building is the American common bond, consisting of a course of headers separated by five courses of stretchers.

The type of roof tiles used on the building are called French inter locking clay tiles, reflective of classic national French architecture.

Width: 8-3/4"
Width: 7-7/8"
Length: 16-3/4"
Exposed Length: 13-3/8"

Based on survey conducted on February 24, 2007.



American common bond

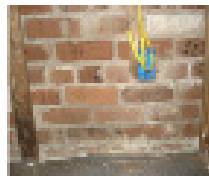
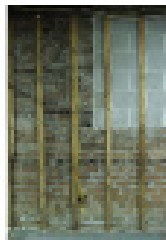
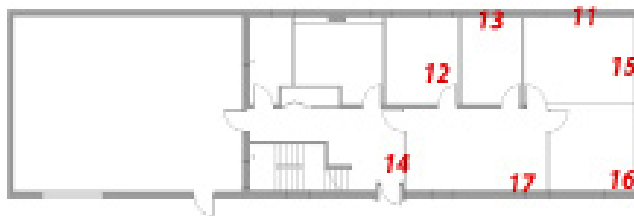


French interlocking clay tile



B. Plan for Preservation

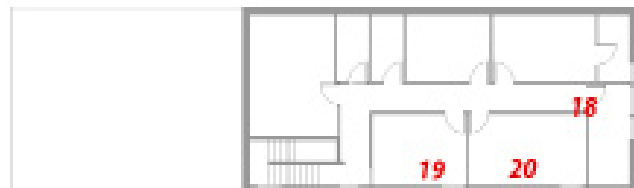
Interior (Ground floor)



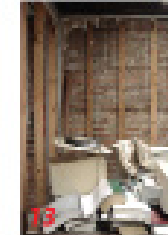
Mortar joints and masonry need to be repaired especially below the flood line (2). Any material used to repoint historic masonry must be compatible with (softer than) the material it is binding. The repair should be reversible, meaning it can be removed without harm to the original material. Hairline cracks and open joints should be closed with mortar that is softer than the brick. Old mortar should be removed by hand to a minimum depth of two inches times the width of the joint in inches. Any loose mortar beyond the minimum depth should be removed by hand. Avoid power grinders because they can cause irreversible damage to the masonry units.

Interior (second floor)

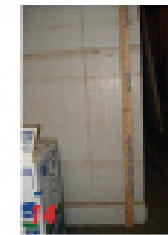
The easiest way to ventilate this structure is to open windows, particularly across the house from each other to create cross ventilation. It may be necessary to construct heavy wire lath over openings for security reasons.



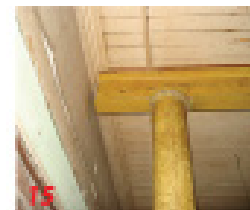
Ground floor carpeting is still moist. Because of the risk of contamination, carpeting touched by flood water should be discarded.



There are no openings in the ground floor walls except the front door so mechanical ventilation will need to be used.



Peeling drywall and insulation need to be removed 2' above the moisture level. These materials will never dry out, and the surrounding areas need to be treated with bleach.



Steel columns and beams are rusting. They need to be sanded and sealed. The wood plank ceiling needs to be stripped of peeling paint and treated with bleach due to moisture exposure.



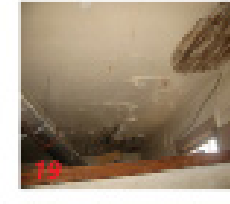
The majority of plaster and lath have been removed from brick walls but roughly 2' from ceiling down still exists. Preserve this remaining wall condition.



Electrical outlets and mechanical chases need to be opened and rinsed thoroughly. Wiring and connections need to be checked for damage and repaired as required.



Cracks in the plaster are found throughout the ceiling and walls. Repoint the cracks to help prevent plaster from breaking loose.

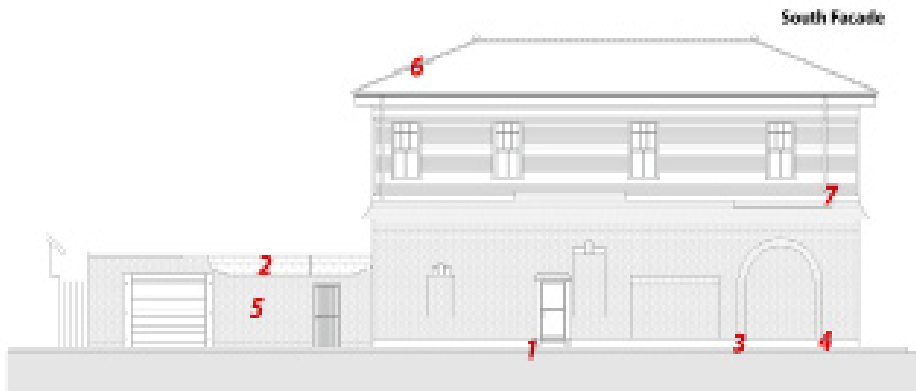


Paint is peeling from the ceiling and walls. Interior paint surfaces cannot be painted until they are completely dry and the interior humidity has returned to normal levels.



Plaster on ceiling is damaged and needs to be patched to prevent further moisture from entering the building.

A. Plan for Preservation



Vertical cracks have formed where the base the arch and concrete foundation meet and need to be repainted with proper mortar.



Extend downspouts to the pvc drainage pipe in the sidewalk. Gutters at the southeast corner are damaged and need to be repaired.



Paint is peeling from the brick at the storage area revealing a blue-ish color underneath. The storage facade needs to be scraped, mortared, and repainted.



Brick around the base of the front door is missing and damaged. The brick frame needs to be finished out with similar type brick and mortar.

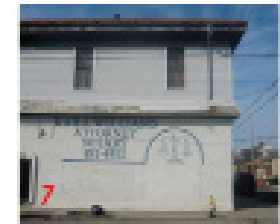
brick and mortar.



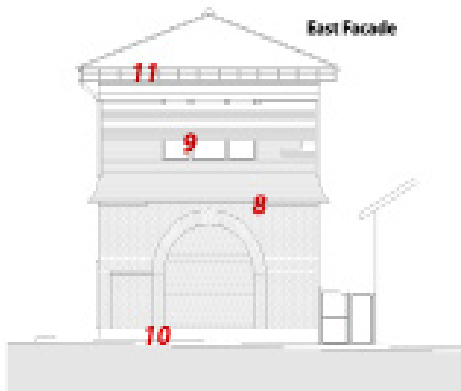
Brick veneer of the storage area is missing exposing the concrete masonry block. Tiebacks are needed to secure the veneer to the concrete block.



Terra Cotta tiles are damaged and missing. Replace terra cotta tiles and properly secure them to the roof to prevent further moisture from entering the building.



Vinyl siding is missing likely do to high winds. Finish out vinyl siding to protect the wood siding underneath. Portions of both downspouts are missing and siding segments need to be sealed to prevent rusting. Rainwater and rust cannot flow onto the lower skirt causing discoloration and erosion of the wood siding.



Paint under the skirt is flaking and siding is missing in certain areas. Scrape the paint and seal the wood. Finish out the siding to protect from moisture.



Counter weights for the second floor windows appear to be loose and need to be removed for safety concerns. Vinyl siding is missing likely do to high winds. Finish out vinyl siding to protect the wood siding and cover damaged windows underneath.

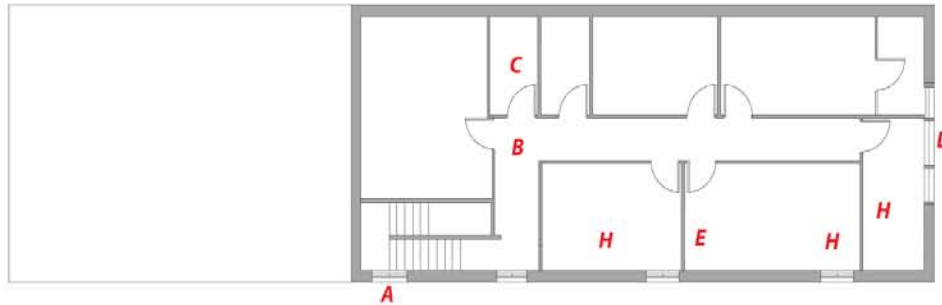


Vertical cracks have also formed at the base of this larger arch and need to be repointed to prevent moisture intake.



Cornice face is missing and needs to be replaced so rain cannot enter the attic.

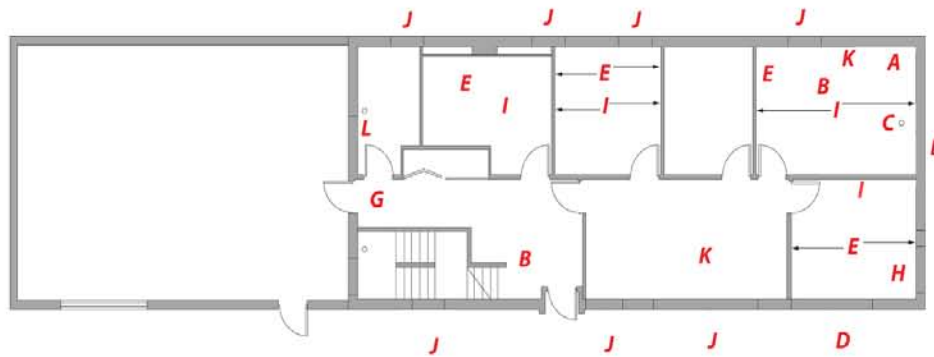
A. Survey Analysis



Second Floor



- A** MISSING WINDOW PANE
- B** CARPET IN VERY BAD CONDITION
- C** INSULATION EXPOSED (CEILING)
- D** DAMAGED WINDOWS (COVERED WITH PLYWOOD)
- E** EXPOSED WOOD FRAME
- F** DAMAGED CARPET
- G** DAMAGED DOOR
- H** ORIGINAL CEILING PAINT DETERIORATING
- I** ORIGINAL WALL PLASTER DETERIORATING

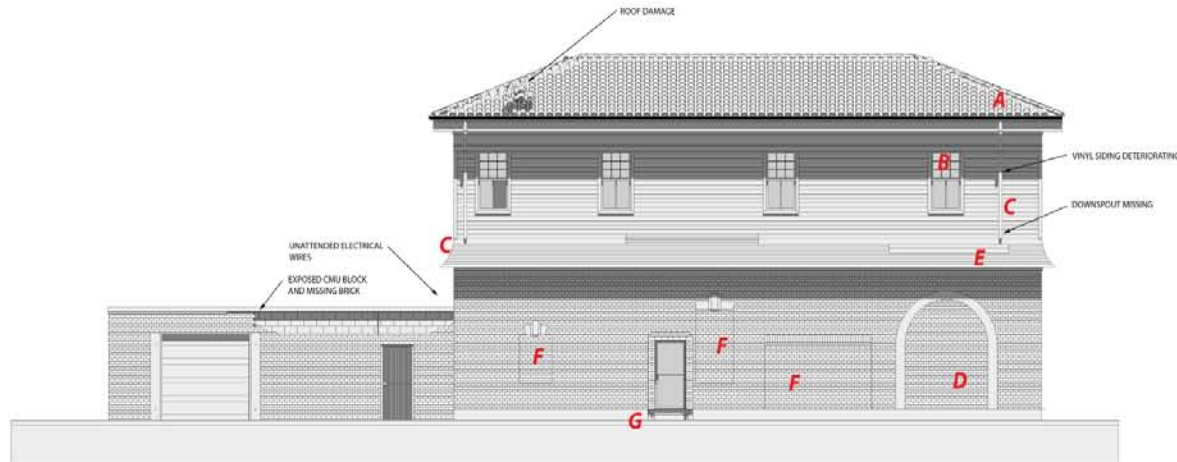


First Floor



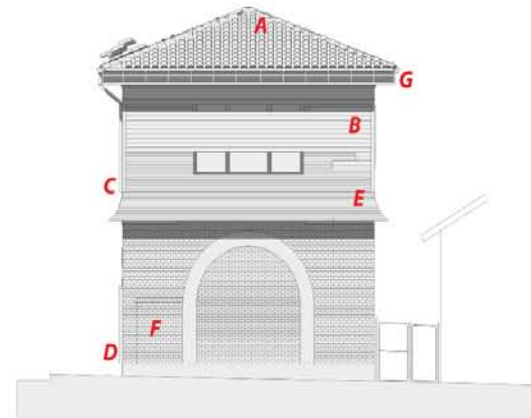
- A** OPENING/PENETRATION FROM THE INSIDE TO THE OUTSIDE
- B** CARPET IN VERY BAD CONDITION
- C** WOOD FRAME COVERS STEEL STRUCTURE
- D** ARCH WAY IS INFILLED WITH CMU BLOCK AND BRICK CLADDING ON THE EXTERIOR
- E** EXPOSED WOOD FRAME
- F** EXPOSED INTERIOR BRICK CLADDING
- G** DAMAGED DOOR
- H** ORIGINAL CEILING PAINT DETERIORATION (CEILING SURFACE THROUGHOUT THE FIRST AND SECOND FLOOR LEVEL)
- I** UTILITY WIRES LEFT EXPOSED
- J** INFILL MASONRY UNITS ON THE INTERIOR WITH BRICK CLADDING ON THE EXTERIOR
- K** DROPPED CEILING IN POOR CONDITION
- L** CMU INFILL

B. Survey Analysis



South Facade

- A** RED TERRA COTTA ROOF TILE
- B** WINDOW 9-2
- C** DOWNSPOUTS ARE DETERIORATING AND STAINING THE PAINT ON THE EXTERIOR FACADE
- D** ARCH WAY IS INFILLED WITH CMU BLOCK ON THE INTERIOR AND BRICK CLADDING ON THE EXTERIOR
- E** ORIGINAL WOOD SIDING
- F** INFILL MASONRY UNITS ON THE INTERIOR WITH BRICK CLADDING ON THE EXTERIOR
- G** DAMAGE BRICK



East Facade

- A** RED TERRA COTTA ROOF TILE
- B** WINDOW 9-3
- C** DOWNSPOUTS ARE DETERIORATING AND STAINING THE PAINT ON THE EXTERIOR FACADE
- D** ARCH WAY IS INFILLED WITH CMU BLOCK ON THE INTERIOR AND BRICK CLADDING ON THE EXTERIOR
- E** ORIGINAL WOOD SIDING
- F** INFILL MASONRY UNITS ON THE INTERIOR WITH BRICK CLADDING ON THE EXTERIOR
- G** EXPOSED FASCIA
- H** DETERIORATING

CHESTER ELECTRIC : PROPOSAL



Upperline Street Elevation

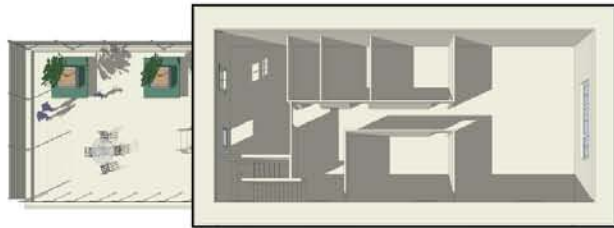


Site: Freret Neighborhood



Freret Street Elevation

CHESTER ELECTRIC : PROPOSAL



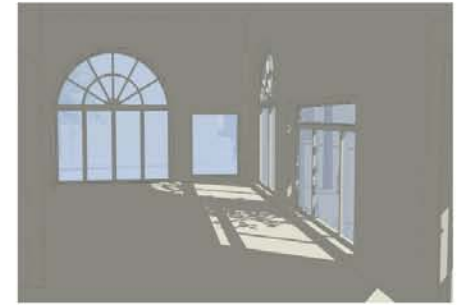
Second Floor



Ground Level



Roof Terrace View



Interior Space View



Freret Street View: Looking East



Freret Street View: Looking West

Part Two:

Urban Preservation Design Development

Introduction:

In the second half of the course, led by Mr. del Cid, three students turned their attention to a different problem, the design of new, residential infill in the Lakeview area of New Orleans, while the other seven students chose to expand their preliminary urban preservation plans for the Freret Street Neighborhood.

Six of the students who continued the Freret preservation work collaborated on a set of steps and guidelines that a community in a crisis such as this could use to tailor a preservation plan to its particular needs.

On the following pages are results of these group efforts.

I Freret Street Neighborhood Urban Preservation Proposal: Development

by Mariem Bennani, Nancy Greene, Lyndsay Wright, Brian David, Hank Dow, and Jadey James

Freret Street Neighborhood: The Walking City

Our goal is to return the Freret Street Neighborhood to its glory days of a walking city. This can be accomplished by enabling residents to use their neighborhood to its fullest extent. Returning all the commercial necessities to Freret Street, and adding parks and green spaces for social interaction is a major element of preservation. Educating the residents and visitors in the rich history of Freret Street Neighborhood through walking tours of the area and its diversity of architecture and people is a key element of preservation.

In addition to the Guidelines for Preserving and Revitalizing the Freret Street Neighborhood, we also recommend the following guidelines to return the Freret Street Neighborhood to a "Walking City":

Trees: should be placed at 22 ft intervals; trees at the corners should be placed 5 to 10 ft from the inner edge of the adjacent sidewalk and 2 to 3 ft from the street. Trees should be placed in grates and should have tree guards to help prevent them from becoming damaged or vandalized.

Lights: should be centered between trees and placed at each corner of the block, and should be in accordance with previous guidelines.

Benches: should be placed next to every tree and front of a sidewalk extension, except for the corner trees. They are placed only on Freret Street. Benches may be placed to face the street or away from the street.

Trash/Recycling receptacles: should be distributed evenly along the block and placed next to lights. No more than three receptacles per block.

Parallel parking: will only be allowed on one side of street per block. Parking will alternate from North side parking on one block and South side parking on the following block. Blocks with ample parking lot space may not require parallel parking. A maximum of five parking spaces will be allowed per block and will be located between sidewalk extensions. Each parking space will be 8 feet wide and approximately 22 feet long. The parallel parking will be made of permeable pavers to allow for storm water runoff. This change in surface material, from street to parking space, will help to delineate between the two.

Sidewalk extensions: shall extend 8 feet into the current street. At the corners they will be approximately 10 to 15 feet long and the remaining extensions shall be approximately 26 feet long. They shall alternate between North and South sides of the street. They will have low hedges along the street side of the extension as well as the sides that are perpendicular to the street. They shall be covered with grass, preferably using a permeable paving system that can withstand vehicular loads in case of accidents. These paving systems can also eliminate mud issues. In some instances where a commercial space can take advantage of the extension, the extension may be utilized as additional space for the business (i.e. art displays, café tables, sidewalk sales, etc.) and may be paved with a different permeable surface material other than grass.

Existing sidewalks: Sidewalks should be repaved with permeable pavers to assist in storm water runoff. These pavers will also resist cracking and spalling. They are easy to maintain.

Parking lots: existing lots should be repaved with permeable pavers to help with storm water drainage. New lots should be paved with permeable pavers for the same reasons.

Crosswalks: should be clearly marked. We suggest using similar permeable paving to the sidewalks.

Bike Paths: a bike path should be provided along Freret St. It should be a minimum of 4 feet wide and should be clearly marked. Bike racks should also be provided along Freret St. as well to encourage less use of automobiles.

Community Gardens: are plots of land that are used for the residents' of the community to plant their own gardens. These can be simply for beauty, for food or both. They provide socially inclusive activities for all ages and ethnic backgrounds. They provide an opportunity for those who have no space to garden to do so, as well as providing an opportunity for those with green thumbs to help those who are not so good at gardening. Studies have shown that communities with lots of green spaces for gathering and social interaction have less crime than communities without. They facilitate improved social networks, and provide a physical location for neighbors to discuss important issues concerning the community and spread the word about upcoming activities or events in the community. They provide a focus for neighborhoods and thus increase neighborhood pride, aesthetics and maintenance.

Resources:

American Community Gardening Association: <http://www.communitygarden.org/>
GardenWeb: <http://forums.gardenweb.com/forums/commgard/>
Municipal Research and Services Center of Washington: <http://www.mrsc.org/index.aspx>

Parks: The existing park, as well as other proposed parks, should contain activities for children and adults. They should be places where all neighborhood residents can go for safe play and relaxation. The parks should contain playgrounds for children of all abilities. Children prefer natural environments to built environments in the outdoor world. Things such as landscapes with trees, flowers, ponds and natural color and diversity, places and features to sit in, on, under, lean against, where they can find shelter and shade. Children (and adults) also need surfaces to play on that won't hurt, such as wood chipped areas, open lawn, and shady areas under trees. Teen and adult activities should be available as well. These may include an area for soccer, baseball, football, basketball, volleyball. The parks should also include open space for picnics and relaxation in the sun, picnic tables for lunches and workshops, park benches, trees or man-made structures for shade on hot summer days, arbors and modified lookout towers for the children to climb up on to and look out upon the park. All of these features may not be feasible in just one park because of limited space, but the network of parks/green spaces should incorporate all of the features.

Permeable Paving Systems: Systems that allows water to flow through into the ground. Most paved surfaces (such as asphalt and concrete) are impervious, cause storm water runoff problems and even flooding.

Benefits of permeable paving systems:

- Reduce storm water runoff
- Increase useable space
- Maintain aesthetic quality
- Can eliminate the need for detention ponds or pipe storage of storm water
- Eliminates utility conflicts due to storm water storage pipes
- Some systems can be mechanically installed which cuts labor costs for installation
- Systems are generally shallow enough not to interfere with existing underground utilities
- Provide easy access to utilities because pavers can be removed individually and then replaced
- Reduces water runoff into adjacent properties
- Allows storm water to be treated naturally through the ground, reducing pollutant and sediment contamination of downstream bodies of water.
- Provide a high-strength, durable pavement surface
- Alternating space colors - no need for painted stripping in parking lots
- Virtually maintenance free
- Provide turf protection
- Ground reinforcement
- Erosion control
- Resistant to water, chemicals, corrosion, cracking
- Prevents erosion and wear on pathways
- Strengthens grassed areas to prevent mud and damage
- Contains gravel drives and keeps them rut-free
- Creates a natural surface suitable for high traffic and heavy vehicles

Applications for permeable paving systems:

- Parking
- Fire lanes
- Driveways
- Bicycle trails
- Sidewalks
- Jogging tracks

Resources:

Mutual Materials: http://www.mutualmaterials.com/professional_product.asp?pt_id=123&p_id=304
http://www.mutualmaterials.com/professional_product.asp?pt_id=123&p_id=308
Terra Firm Enterprises: <http://www.terrafirmenterprises.com/>
Uni-Group USA: <http://www.uni-groupusa.org/uni-eco-.htm>
Presto Products Co. - Geosystems: http://www.alcoa.com/alcoa-geo/en/solutions/Geoblock/porous_pavement.asp
RK Manufacturing: <http://www.rkmfg.com/grassypavers.asp>
Invisible Structures, Inc.: <http://www.invisiblestructures.com/>

FRERET STREET NEIGHBORHOOD URBAN PROPOSAL



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Freret Business

The current commercial corridor should be maintained. However, existing buildings on Freret Street and the North side of Marlborough Gate Place that are not currently used for commercial purposes may be used for commercial use in the future.



Freret Parking

Existing lots should continue to be used for public parking. Other empty spaces that are not currently in use as parking can also be used for parking. Some parallel parking will be allowed on Freret St, but all other parallel parking will be directed to the secondary streets.



Examples:
Sidewalk Cafes
Farmers Market



Options for parking and sidewalk extensions

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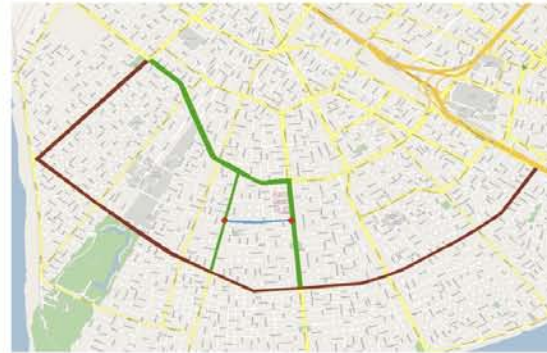
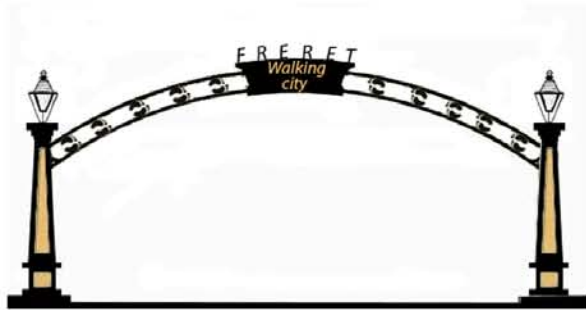


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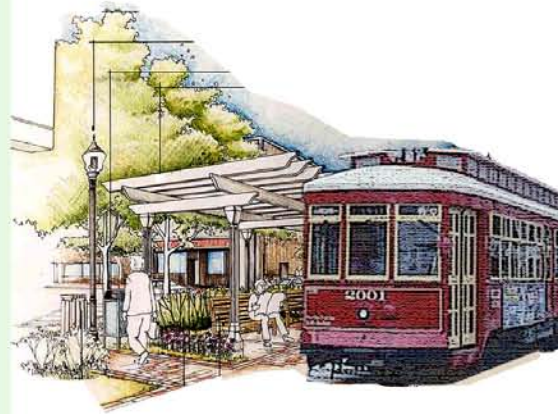
Freret Gateways

Neighborhood gateways should be placed at the Napoleon Ave and Jefferson Ave ends of Freret St in order to denote the entrances of the neighborhood.



● Streetcar stops
 ● Freret street
 ● Routes connecting Freret street to St. Charles and Carrollton street
 ● Existing routes in St. Charles and Carrollton street

Streetcar stops should be placed at Freret and Napoleon and/or Freret and Jefferson, to promote public transportation for the neighborhood residents. These routes should run along either Jefferson and/or Napoleon.



Freret Public Transportation

Existing streetcar routes exist on St Charles Ave and Carrollton Street and should be extended to be more accessible for Freret Neighborhood residents.



● Streetcar stop
 ● Streetcar route

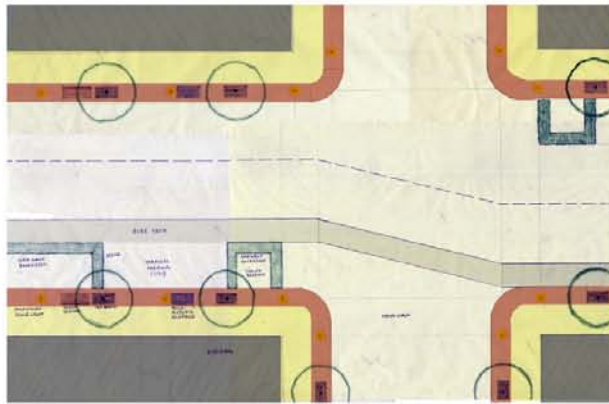


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Freret Streetscape



The main streetscape will be focused along Freret Street, and will include trees, lights, benches, trash/recycling receptacles, parallel parking and sidewalk extensions. The secondary streetscape will follow one block north and south of Freret Street and also include Plady park. The tertiary streetscape will include the remainder of the Freret Street Neighborhood.



The placement of trees, lights, benches and trash receptacles will serve to unify the streetscape. The alternating sidewalk extensions will narrow the streets and naturally slow traffic because the street will no longer be straight.



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Freret Gardens and Parks

There are many empty lots in the neighborhood that may potentially be used as small parks or community gardens.



- Examples:
Playgrounds
Open Park Spaces
Picnic Tables
Park Furniture
Community Gardens
Scenic Gardens



Freret Walking Tour

Self-paced walking tours may be conducted in the given areas. These tours will educate visitors on the history of the Freret Neighborhood as well as the rich diversity of architecture in the neighborhood.



Shotgun

The shotgun house appeared throughout the city of New Orleans in pre-World War II neighborhoods from the second half of the 19th century and until 1910. It is the city's prominent house type. It is a narrow one-story dwelling without halls. Each room is placed behind the other in single file. The description of why these houses are called "shotgun" is that if one fired a shotgun through the front door, the shot would pass through the lined-up doors of each room and out the back door. The shotgun design developed as an inexpensive design to fit these narrow New Orleans lots.

Freret

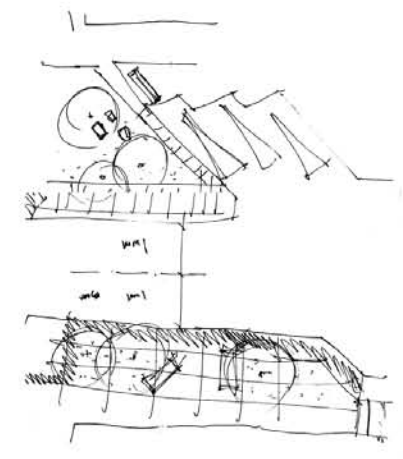
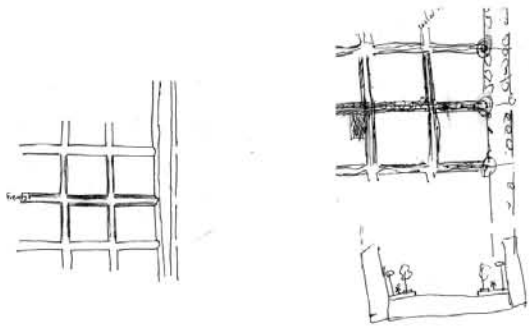
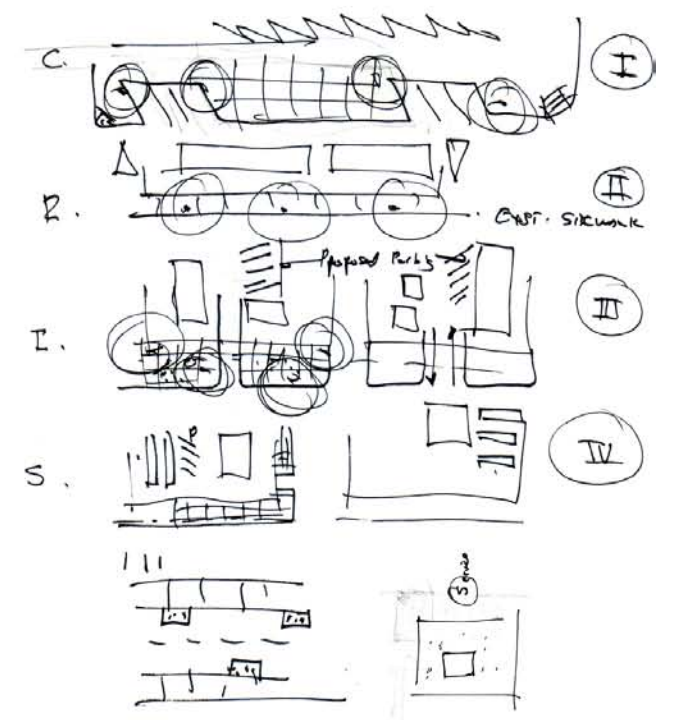
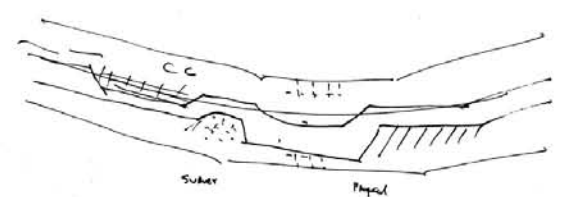
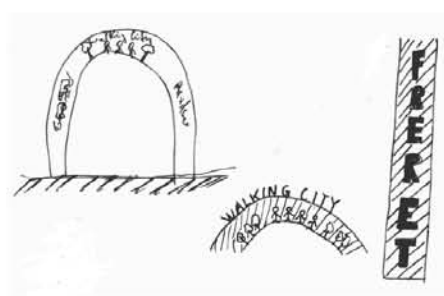
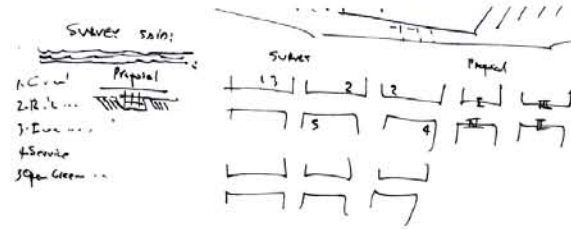
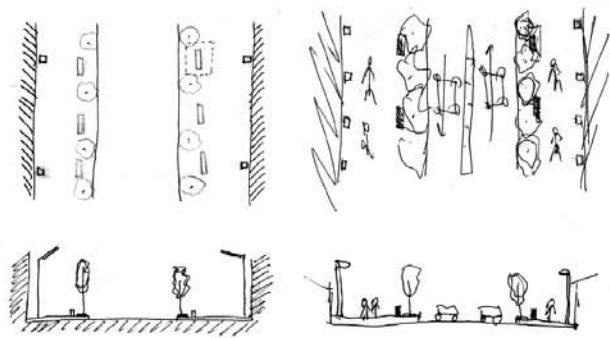
Plaques containing historical information about building house types will be located in front of selected examples of those house types.



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