HISTORIC RESOURCES AND DISASTER PLANNING:

STRATEGIES FOR MITIGATION AND RECOVERY

by

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(Under the direction of Mark Reinberger)

ABSTRACT

The devastation to historic resources from natural disasters is a problem that many preservationists must deal with throughout the United States. Due to lack of preparation and planning many resources are lost unnecessarily from hurricanes, tornadoes, earthquakes, and other disasters. The purpose of this thesis is to focus on strategies for disaster mitigation and recovery in the southeastern United States and to analyze the progress made in historic preservation and disaster planning within the past eighteen years. To do this disaster planning strategies are discussed in depth and case studies comparing and contrasting Hurricane Hugo and Hurricane Katrina are provided. The general conclusion of this study is that progress has been minimal in terms of preparedness and issues of disaster planning still need to be addressed in the preservation community.

INDEX WORDS: Natural disasters, Historic Preservation, Hurricane Katrina, Hurricane Hugo, Disaster planning, Preservation planning

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TABLE OF CONTENTS

LIST OF FIGURES

Chapter 1: Introduction

"People who hold cultural heritage in trust are responsible for developing policies to protect it. They must acknowledge that hazards exist, know there is a responsibility to be aware of them, and take action to mitigate impacts." –Barclay Jones, *Protecting Historic Architecture and Museum Collections from Natural Disasters* (73)

As a first year graduate student of Historic Preservation in 2005 I watched along with the rest of the country as Hurricane Katrina pummeled the Gulf Coast. Not only did I observe with horror as thousands of people were left stranded and dying from the resulting flood waters and high winds, but I also felt the panic that only a preservationist could feel as pictures of the aftermath showed casino barges on top of antebellum mansions in Mississippi and murky green floodwaters inundating the characteristic shotguns and Creole cottages of New Orleans. I began to realize the huge impact of the storm on historic resources in the affected areas. Not only were the victims of Katrina losing their homes and families, but the storm was threatening to wash away a very vibrant and distinctive culture. As I thought about the impacts of the storm on such a unique community I wondered—did preservationists prepare for this? What is going to happen next?

This thesis is an effort to conduct an investigation into what strategies exists for disaster planning as it relates to historic preservation and how these strategies are implemented in a disaster situation. Because there are so many natural disasters that can negatively affect the built environment and the topic is so large, this thesis focuses specifically on hurricanes and their effects on the southeastern United States. To narrow the topic even more, the recent devastation of Hurricane Katrina is compared and contrasted with Hurricane Hugo, which occurred eighteen years ago on the east coast in 1989. The goal was to analyze both these disasters to document

similarities and differences over time, and to ultimately determine the progress of disaster planning in the preservation community within the past eighteen years.

In terms of the literature available on the topic, only a handful of books exist to educate preservationists on protecting historic resources from natural disasters. The three most helpful books used in this study were *Protecting the Past from Natural Disasters* by Carl Nelson, *Protecting Historic Architecture and Museum Collections from Natural Disasters*, a collection of essays edited by Barclay Jones, and *Disaster Management Programs for Historic Sites*, essays edited and compiled from a California conference by Dirk Spenneman and David Look. Two other resources that were also helpful were a thesis written by Katherine Elliot entitled *Protecting Historic Structures from Natural Disasters: Disaster Preparedness Planning for Hurricane Hugo in Charleston, South Carolina* and issue number six of the *Cultural Resource Management Journal* published by the National Parks Service, which is entirely devoted to disaster preparedness in the preservation community. These resources were indispensable in terms of the information they had to offer, and for their accounts of how past disasters have affected cultural resources and preservation organizations. However, the small number of publications indicates that this area of preservation planning is still not as important as it should be and may be overlooked by many states and local planning organizations.

Through this study one can see that disasters are possible in *every* community in the United States, and most preservation organizations do not have a plan in place to deal with these disasters once they occur. Even in areas previously devastated by hurricanes, tornadoes, and earthquakes people become complacent and continue to underestimate the damages a natural disaster can cause. In many communities even if there is a plan in place it is outdated or not actively rehearsed. The chapters in this thesis seek to provide solutions to this lack of preparation

by proposing ways in which preservation organizations can organize disaster plans that will help them to mitigate damages should a disaster occur. The two case studies illustrate the concepts of past and present disaster planning— the effects of Hurricane Hugo in Charleston and the effects of Hurricane Katrina in New Orleans and Mississippi. By outlining the key characteristics of a good disaster plan and analyzing the successes and failures of the past the ways in which preservationists can protect their communities can be clarified with methods that are efficient and effective.

The following chapters illustrate planning techniques and strategies to help preservationists and preservation organizations plan for a natural disaster. Chapter two explains natural disasters that are common to the southeastern United States and their effects on historic preservation. Chapter three takes this issue to the next level by identifying who needs a disaster plan, key components of a successful plan, and the roles of the state, local, and federal government in disaster planning. Chapters four and five provide in-depth discussion on the planning and effects of Hurricane Katrina and Hugo, and chapter six is an analysis of the similarities, differences, and lessons learned from these two disasters. Chapter seven provides conclusions, recommendations, and topics for further study.

Chapter 2: The Nature of Disasters and their Impact on Historic Resources

Natural disasters are possible in every part of the United States. According to the Federal Emergency Management Agency (FEMA), 75% of the United States is in one or more disaster zones (Look, 5). With such a large percentage of the U.S. in danger, one can clearly see the impact natural disasters can have on the built environment, in general, and in particular on heritage lands, parks, and other monuments. Of course a natural disaster is simply that—natural. According to Lisa Usman, "for any event to be viewed as a disaster it must have a human impact" (33). Therefore, it is up to humans to understand the vulnerability of the built environment to disasters and to protect homes, businesses, and communities from suffering unnecessary damage.

In a recent study by the Department of Homeland Security only 6 out of 75 U. S. cities, counties, and territories rate top grades for their emergency agency's ability to communicate in a disaster (Applebome A1). These numbers are shocking considering modern technologies and capabilities to mitigate disasters, and they should be of concern to cultural resource managers as well as local, state, and national government officials. This chapter will focus on recognizing vulnerability and, specifically, the natural disaster threats to states located in the Southeastern United States, as well as how these disasters can affect historic properties.

Common Disasters of the Southeastern United States

The most well-known disasters to affect the Southeastern United States are tornadoes and thunderstorms, floods, wildfires, and hurricanes. Understanding the nature of these disasters,

how they occur, and what threats they pose to cultural resources are essential to preservation organizations attempting to evaluate vulnerability. Knowledge of these disasters will aid in planning and will arm preservationists with the skill for determining the best method of mitigation.

Tornadoes and Thunderstorms

While it is widely known that "Tornado Alley" exists in the Midwestern United States, the Southeast is also vulnerable to this type of disaster. The potential for tornadoes to form begins when cold air from Canada meets warm moist air rising from the Gulf of Mexico. The powerful thunderstorms that result from this union are what commonly spawn deadly tornadoes. Tornadoes can have wind speeds up to 300 miles per hour which can cause terrific damage to older, historic buildings. The most intense tornadoes can lift roofs, suck out the contents of a building, lift a building from its frame entirely, and wreak havoc on trees and historic landscapes (Nelson, 59).

In the Southeast, tornado season lasts from spring until the end of summer, and studies show that most tornadoes will form at night as the air becomes cooler. While not completely unpredictable, tornadoes can form quickly and often little warning time is given before they strike. The best defense against this type of disaster is to recognize the threat and to take action to make sure proper maintenance procedures are followed before the tornado occurs. For example, a historic building in good condition will fare better against a storm than one whose roof is falling in or whose foundation is not maintained. In addition to strong thunderstorms and tornados, lightning protection is also a concern. Strong storms can produce severe lightning that can cause fires (especially if the structure is a tall building or a church that has spires, pinnacles,

or crosses). In terms of protection, the best method to use is the installation of conductors to guide the current produced from the lightning into the ground. Conductors can be made of bare aluminum, PVC clips, or copper (Donlon, 3).

Floods

According to Barclay Jones, “floods can cause more damage than any other single kind of natural disaster. More than 400,000 buildings are damaged or destroyed in the U.S. by floods each year” (105). In the Southeast, flooding can be caused by heavy rains or thunderstorms, tropical storms, or hurricanes. In 1994 flooding from Tropical Storm Barry caused millions of dollars of damage in 55 Georgia counties, many of which contained historic cities and monuments. Because of the widespread damage, this 500-year flood is considered the worst natural disaster in Georgia’s history. The Georgia State Historic Preservation Office was not prepared to deal with a disaster of this magnitude, and had to wade through the recovery process with very little planning (Spenneman 133). The lesson learned was that preservationists can be prepared if they understand the risks and the damages associated with flooding, especially since many historic settlements were often built around water sources such as lakes and rivers.

Floods can be more predictable than other disasters such as tornadoes or wildfires, and their predictability can be determined by looking at historical figures of rainfall, and the destruction of wetland and forest habitats that typically act as protective barriers to floods (Nelson 60). Another effective way to mitigate flood damage is to not build museums or other cultural sites in flood plains. When built in areas prone to flooding, damages to historic properties include abrasion, toppling, overturning, and washing away of resources, as well as debris and mud that can be carried by high speed waters. Because of humid temperatures in the

southeast, an additional danger is mold and bacteria growth that results from soaked building material (Jones 107). All of these dangers can be minimized with the appropriate preventative measures.

Wildfires

Natural wildfires occur primarily as a result of lightning strikes, but can also be caused as a result of powerful storms toppling electrical poles. Fires can become widespread in forested areas and swamplands during very dry seasons. In April and May 2007, wildfires spread rapidly in southern Georgia eventually moving into Florida and Alabama. The first fire in April was caused by a tree falling on a power line and the second fire was caused by a lightning strike in the Okefenokee Swamp. The fires eventually merged together damaging over 937 square miles of land and destroying 30 homes ("Ran Puts Damper on Wildfires" 6/03/07). According to the National Interagency fire Center, the wildfire of 2007 is the biggest wildfire in the Southeast since 1898, even overshadowing 1,700 wildfires in Florida in 1998 that caused over $620 million dollars of damage (USGS, 4).

Like floods and tornadoes, wildfire damage can be preventable if the historical record is consulted and the proper steps are taken to ensure historic landscapes and homes are protected. The Florida Disaster website (http://www.Floridadisaster.org) has excellent suggestions for fireproofing homes and landscapes. Some of the suggestions include removing dead plants, trees, and shrubs, reducing low-hanging branches, spacing trees 30 feet apart and pruning them to a height of 8 to 10 feet, placing shrubs 20 feet from any structures, and pruning all plants regularly. Other methods to reduce the threat of wildfire to a cultural property are to create fire-safe zones with stone walls, patios, and roads ("Fire Safe Landscaping"). As with floods and tornadoes,

maintenance is essential in the damage mitigation of wildfires. If cultural resources are located in fire prone areas make sure the necessary precautions are taken to reduce risk.

Hurricanes

Hurricanes are the biggest threat to the Southeast because they can cover large areas and can spawn other disasters such as flooding and tornadoes. With more and more people moving to the coast the threat of hurricanes to people and places continues to grow. One does not need to look further than the immense tragedy of Hurricane Katrina in 2005 to see the amount of destruction that even a relatively moderate (Hurricane Katrina was only a category 3 storm when it made landfall) storm can create. The problem with hurricanes is that "big ones" like Katrina do not happen very often. People can become complacent, especially when under the mentality that "it will not happen to me." With Katrina only two years in the past a Harvard University poll shows that 1 in 3 people living in southern coastal areas would ignore evacuation orders if a storm threatened their community (Gresko 6/24/07). When the threat of a dangerous hurricane no longer concerns residents of a community it is a sign that it will not be a big priority for the government either. Preservationists must avoid this type of mentality, especially as guardians of the nation's heritage. With many important historic cities such as Charleston, Savannah, St. Augustine and New Orleans on the coast, there is much need for concern.

Several aspects of hurricanes are especially damaging to historic resources. These include: high winds, heavy downpours, sea surges, and inland flooding (Jones 114). In addition salt water, mud, and sand can also damage artifacts. The most destructive hurricane, a Category five, can pack winds up to 155 miles per hour and can decimate anything in its path. At lesser wind speeds hurricanes can still tear off roofs and strip exterior porches, balconies, and awnings.

Wind-driven projectiles are also a threat. In combination with water, wind can push over entire walls and break structural members, as well as rip out windows and doors. The removal of roofs, windows, and doors is especially damaging as moisture is allowed to penetrate the interior of a structure causing damage to artifacts and documents inside (Nelson 58).

One method of mitigating damages caused by hurricanes is to consult the historical record. According to the National Hurricane Center website (http://www.nhc.noaa.gov/), since 1851 fifty-nine hurricanes have hit the state of Texas, forty-nine have hit Louisiana, fifteen have hit Mississippi, twenty-two have hit Alabama, one hundred-ten have hit Florida, twenty have hit Georgia, thirty-one have hit South Carolina, and forty-six have hit North Carolina ("U.S Mainland" NOAA). These numbers do not include the 2005 hurricane season which contained a record breaking fifteen hurricanes. Looking at data such as this, and considering the intensity of the storms and the amount of damage they caused is beneficial to preservationists who are responsible for sites located near the coast. Once vulnerability is assessed, plans can be made accordingly. If research is done, preservationists have no excuse to not be prepared for hurricane season, especially when hurricane warnings are usually issued days in advance and the intensity of the storm has already been determined by weather professionals.

Conclusion

Many types of natural disasters threaten the Southeastern United States. While all can be extremely damaging to historic properties and sites, most are predictable and are therefore manageable. The most important aspects to take away from this chapter are maintenance and understanding the historical record. As will be shown through examples in later chapters of this thesis, maintenance is an important aspect of disaster mitigation. No matter the threat, a historic

building that is well-kept has a higher percentage of surviving a disaster than one that is not properly maintained. Along the same lines, understanding the historical record such as researching rainfall data, storm intensity, and storm frequency also raises protection levels among cultural resource sites. Knowing what types of disasters commonly affect certain areas and the damages they have caused in the past is an invaluable planning tool. By studying the historical record, one will understand the threat of future disasters and correct any past planning mistakes.

Chapter 3: Preparation and Response Strategies

> "Mitigation is not fiction. The fiction is 'we are doing enough and we will be ready for the next disaster'." --David Look, *Disaster Management for Cultural Properties* (5)

The most important aspect of disaster planning is creating a plan that will work for individual organizations, homes, or other cultural property. Because historic structures are irreplaceable it is important to understand that a proper plan is the first line of defense against total loss should a disaster occur. Barclay Jones states, "The cultural heritage of documents, artifacts, buildings, and other structures constitutes a trust, not only for society at large but for generations to come, which is vested in the individuals and organizations who own or have charge of them" (71). As owners and operators of historic structures there needs to be a general understanding of components of a good disaster plan, mitigation of damages should a disaster occur, and how governments and non-profits fit into disaster response and recovery. In this chapter, the reader will gain knowledge of all of these components and learn the best way to assess risk and vulnerability.

Basic Elements of a Disaster Plan

There are many resources available on creating a successful disaster plan and all of them have similar suggestions. The key features of an effective plan include: vulnerability assessment, surveying, a written plan, obtaining proper insurance, and including some aspect of training and education. According to Carl Nelson, "plans should be kept simple, adaptable, and flexible" (163). Every disaster is different and even with the best plan there are going to be adjustments to accommodate for unforeseen issues. However, when a good plan is in place recovery will occur

at a much faster rate. Not only will efficiency be increased, but a well-thought out disaster plan will guide reconstruction and promote that reconstruction in a way that will be friendly to the development of the region (Jones, 23).

Vulnerability assessment

The first step to creating a successful disaster plan is to evaluate the risk to the historic property. For example, a structure located along the east coast is most vulnerable to hurricanes, tornadoes, or flooding. A structure along the west coast is more vulnerable to earthquakes or tsunamis. The important thing to remember in this step of the process is to be sure to be thorough and make sure that all possible scenarios are accounted for. Some questions commonly asked in this step are: what disasters are most likely to occur in a particular area, what resources would be at risk, and what would be the effects to these resources (i.e. wind, water, mold, etc). A good way to answer these questions may be to look into the city's history and see what disasters have struck most often in the past. If the location is vulnerable to hurricanes, know the storm history and use archivists, long-term residents, and storm photos as resources (Schenian 1). Assessing the vulnerability is crucial to the development of the written plan. According to Jones, "the degree of predictability will, in part, dictate the disaster policy" (81). Understanding risks will help to create a plan that is incident specific and will influence the methods chosen to recover once a disaster occurs.

Surveys

Keeping an accurate record of historic and soon-to-be historic properties is critical should a disaster strike. A detailed survey record will not only aid in the documenting of damage after

the event, but can provide evidence as to why structures failed and suffered damage and how these issues can be corrected in the future (Jones 290). There are many examples of areas where disasters have occurred and the exact losses to cultural property cannot be calculated because adequate survey records were not kept. Surveys are basic to all aspects of the historic preservation field as they are a required provision of the 1966 National Historic Preservation Act for all State Historic Preservation Offices, and they are a critical part of any disaster plan.

The most common techniques to recording structures in a historic resource survey are: written/verbal accounts, record drawings, and photographs or allied technology based imaging techniques (Jones 231). Surveys can be conducted by a number of people including contractors, State Historic Preservation Office (SHPO) employees, and graduate students or universities. An article by William Chapman discusses surveying in depth and how Hurricane Hugo in particular underscored deficiencies in the South Carolina state historic resource surveys. Chapman states that "most SHPOs lack funding and time to conduct good surveys". He suggests that surveyors work on a contract basis and that the state make use of graduate students for this work (2-4). To illustrate his point, he states that in South Carolina comprehensive surveys were conducted in only 1 of the 20 counties affected by Hurricane Hugo. As a result of inadequate surveying, there was a lack of accessibility to information. For example, the city of Charleston had a survey file of over 2,000 buildings kept by the Board of Architectural Review but none of the materials had been collated and after Hugo preservationists could not readily provide information on the majority of historic properties in the city (Chapman 3-4).

Combating the problem of inefficient surveys may be difficult for those organizations with a limited budget, but if essential elements are addressed then a less than in depth survey will prove to be helpful. Essential elements of a survey include: identification of the property,

photograph and description, survey date, and surveyor (Chapman 4). Once survey information is acquired, it should be stored in some form of database where it is easily accessible and duplicate paper copies should be made in case of emergency and stored in an alternate location.

The Written Plan

A written disaster plan is an important tool for recovery for every preservation organization and is described by one author as the "ultimate" goal of disaster planning (Eck, 14). A good disaster plan will cover what to do before, during, and after an event. According to Jones, "Avoid setting a standard that cannot be reasonably met. The standard should reflect the specific building, the value of the structure to the institution and the community, and the value of its contents. One may clearly want higher standards than the Building Code for property protection" (193). Disaster plans should be site and/or object specific, and everyone in the organization should have knowledge of what their role is should a disaster occur.

Key elements of a disaster plan include: a list of emergency contacts for the organization and of city officials, a store of emergency supplies (flashlights, batteries, cleaning materials, construction supplies, etc), and a preparedness checklist that details what activities need to be done before and after a disaster. In addition, one author suggests making a list for services such as freezing, temporary off-site storage, and microfilm supplies at an offsite location at least 100 miles away from the area of potential impact (King 30-33). Along with listing emergency procedures in the written plan, certain actions taken before an event can also ensure a smooth and quick recovery. These actions include developing relationships with government and elected officials, and making sure historic property owners are conducting regular maintenance on their properties in the city or community.

Every resource regarding proper disaster mitigation procedures advises regular building maintenance as the best way to prevent excessive damage to historic structures. In both hurricanes Hugo and Katrina the structures that suffered the most irreparable damage were those that were poorly maintained. In an article regarding the destruction of Hurricane Hugo, author Susan King states that "problems in a building only get magnified by a disaster," and discusses a particular instance in Charleston where a branch library that had plumbing troubles before Hugo suffered unnecessary damage when the plumbing backed up and flooded the building with two feet of sewage after the storm (King 30-33). To avoid potential hazards such as this, conduct routine maintenance inspections of historic properties, and make sure roofs, cracks, and plumbing are repaired in a timely manner.

Another action to take prior to a disaster is to get to know other preservation groups and elected officials in your area. Creating a network and maintaining good relations will quicken the recovery process. Make sure the government is aware of preservation procedures and policies and how these will be implemented should a disaster occur. The local government will be the first to respond in a disaster situation and the more they know about preservation beforehand, the less friction will occur after a disaster takes place. Forming connections with other preservation groups or organizations in the area will also aid in recovery after a disaster since a common goal is shared. An example of this is the Northeast Document Conservation Center (NEDCC). The NEDCC is a non-profit group consisting of members of various libraries who joined together throughout the northeast region. They are sponsored by grants from state library agencies and states served by the center, and offer aid to any non-profit in its region that experiences damages as a result of natural disasters (Jones 369). When groups and organizations join together (such as

the case with NEDCC) a pool of professionals and resources is created that helps to speed up the recovery process.

In summary, the disaster plan consists not only of written elements but also actions that should be taken prior to a disaster occurrence. These actions include regular maintenance and education. Other actions to consider are distributing the disaster plan to all involved parties, storing a copy of the plan in a 3-ring binder, conducting regular revisions of the plan (ideally on a yearly basis), and duplicating data files and documents and storing them at safe off-site locations. In the end each disaster plan is going to be unique to the organization it serves, and best practices dictate to plan for the worst, plan for all possible outcomes, and assume no outside resources or help (Jones 77-78).

Insurance

Having the right insurance is important to protecting historic structures and collections in the event of a disaster. In the book *Protecting the Past from Natural Disasters* Carl Nelson gives excellent advice for acquiring the right coverage for your organization. He advises that traditional homeowners insurance is probably not sufficient for a historic structure, and suggests getting replacement-cost insurance that will ensure coverage of materials and workmanship that will be "of like kind and quality" (95). This kind of coverage is advisable especially if you have handcrafted materials like a craftsman door, or materials that take a lot of skill to replace like a slate roof. He also advises that a policy should include loss of income, liability exposure, workers compensation, and trustees' and officers' liability. Another important factor to consider when taking out an insurance policy is the fact that landscapes are often less protected by insurance. A regular homeowner's policy covers a limited set amount or contains limitations on

coverage of each tree or plant (Nelson 96). Therefore, exercise caution when choosing an insurance plan. Take out the broadest amount of coverage possible for collections and make sure restoration costs are included. Be sure to include where policies are kept and how to contact the insurance agency in the written plan. Finally, make sure claims for structures and landscapes are backed up by written appraisals and documentation (Nelson 94).

Training and Education

Part of the job of a preservationist is to educate the community regarding maintenance and protection of historic sites. Education is no less important during times of emergency and may even be more important. The best way to get individuals motivated to restore their historic structures after a disaster is to build a conservation ethic before the disaster occurs. Carl Nelson gives some examples of how to educate the public, including encouraging owners of historic properties to have their own emergency plans, helping property owners retrofit their buildings to protect them from disasters, developing a concern for routine maintenance, distributing information on surviving a disaster, and knowing and providing a list of disaster funding sources as needed (97). Involving the community in preservation efforts will foster pride and respect, and people will be more inclined to take the necessary precautions to protect the community's historic structures.

In addition to educating the community, the staff involved in executing the written disaster plan must be educated and trained to implement the plan if necessary. Make sure every employee knows their role and knows who to contact if an emergency should occur, and distribute copies of the written plan to all those involved. Address any concerns or questions, and practice emergency drills so that staff will be prepared for critical situations.

What to do after a disaster occurs

According to Barclay Jones, “The actions that are carried out during a disaster and the first few hours and days afterwards can have a great deal to do with determining its ultimate effect” (294). Once a disaster occurs, the quicker the response the more salvageable the damage. The immediate actions one should take after a disaster are to make sure personnel are safe, conduct damage assessment surveys, stabilize damaged buildings or collections, and educate homeowners about their repair options. This section will also discuss the use of technology, handling volunteers, and managing the media.

Making Sure Personnel are Safe

People come first in a disaster, so make sure that all personnel are in a safe location or, if traveling to work, are safely able to get to the disaster location. According to David McEntire who wrote the book *Disaster Response and Recovery*, communication and coordination are the two most important activities in disaster response. When communicating with others, do not get caught up in the disaster, be respectful to others, share accurate information, and keep it short and simple (291-295). Be sure to understand that personnel may be dealing with losses to their own personal property and may need to tend to their own families. Do not expect immediate response.

Assessing Damage

Jones states that after the protection of human life, protection of the cultural heritage should be second (16). After a disaster, a variety of unsafe conditions may exist such as loss of power, flooding, rain, unstable buildings, and damaged roads. Navigating through these obstacles

is easier if there is access to the written plan. Rapidly obtaining assistance, supplies, equipment, and expertise are big time savers and all of these items should be present in the disaster plan (Jones 186). Gaining access to previous surveys is also crucial once damage assessment surveys begin. Ideally, a damage assessment team consists of those who have some knowledge of architecture or preservation but volunteers can also be used if resources are limited. If volunteers are used, Nelson suggests a simple approach. He states, "The simpler the procedure, the more likely volunteers can be recruited and trained to do it accurately" (113). McEntire suggests holding meetings and planning routes before teams are sent out to conduct damage assessments (219).

Using a standardized form helps in terms of streamlining the damage assessment process. The one used by Charleston preservationists is included in the chapter on Hurricane Hugo and a sample neighborhood site assessment from New Orleans is included in Appendix B. Another option is to download a pre-made form developed by the National Center for Preservation Technology and Training (NCPTT). There are two versions of the form that were created after Hurricane Katrina. One is very detailed; including sections for property description, potential hazards, and sketches, while the other is for a rapid building assessment. NCPTT also provides instructions for how to use the forms which would be helpful to those organizations working with unskilled volunteers. Samples of these forms are included in Appendix C (http://www.ncptt.nps.gov).

To obtain the data on the damage assessment form there are three types of damage assessment procedures: windshield surveys, aerial assessments, and site visits (McEntire 213-214). Keep in mind that the landscape may be considerably altered after a disaster. Lost and damaged sites should be inventoried immediately and documented accordingly (Nelson 111).

Conducting quick but thorough assessments of historic structures is important. Susan King warns that everything must be documented to get any aid from the Federal Emergency Management Authority (FEMA). This work can be time consuming. For example, in Charleston, five people were hired just do the paperwork after hurricane Hugo and four years later four of those people were still working in the Disaster Recovery Office trying to process aid requests (King 30-33).

Stabilize Damaged Buildings

Once a damage assessment has been completed on a structure, the next step is to stabilize the structure to protect it from what Jones calls a "second-order catastrophe" (291). For example, a roof might be damaged during a hurricane causing the interior of the structure to be exposed to rain. Using tarps, plywood or other materials to seal cracks or close gaps will prevent further damage to the structure. If the interior of a historic structure has been damaged, move any affected artifacts to a safe location where they can be treated or dried.

The goal of this short period should be that of buying time. Jones states, "The motto should be: protect as many buildings as possible with the elements of protection available at the site at any moment" (318). Remember to keep excellent records of any repairs made for reimbursement from insurance companies and government agencies, and if resources are not available to make the necessary repairs, hire a professional company to take care of any damages. Beware that these repairs can be costly (King 30-33).

Educate Homeowners about their Options

Once damage assessments have been completed, preservation organizations must be ready to communicate to the public about their repair options. Residents and owners of historic

properties need to be advised of the condition of their property and whether it is repairable or not. The best way to go about this is to contact property owners individually and provide them with a building assessment. Give them a list of programs and resources available to them to help them make the necessary repairs. Getting information out quickly is essential to avoiding the unnecessary demolition of historic buildings. After many disasters, buildings are "red-tagged" as being unsafe to enter. However, a red-tag does not necessarily mean a building is not repairable (Spenneman 15). Many historic buildings have been lost due to this misconception. Preservationists should also be aware of promises made by FEMA, who offer to demolish buildings for free for a period of 30 days. In times of loss and confusion people may feel rushed to make a quick decision especially if they are not given correct information. A building that is red-tagged and declared unsafe by the government could influence property owners to demolish, even though the property may be repairable. For example, after the Loma Prieta earthquake in California property owners were advised of the FEMA demolition policy but were not told that FEMA would pay for shoring, stabilizing, or fencing buildings to eliminate imminent threat to life safety (Spenneman 18). If people were made aware that their property was salvageable, perhaps more buildings might have been saved.

To prevent incidents such as this from happening, it is up to the preservation community to make sure property owners know their options. Providing fliers, holding seminars, and distributing information packets are excellent ways to get information out to individuals if personal contact is not an option. Offering these kinds of resources proved successful in both New Orleans after Katrina and in Charleston after Hurricane Hugo. Organizations like the Preservation Resource Center in New Orleans and the Historic Charleston Foundation in Charleston offered pamphlets and seminars on everything from removing mold to repairing slate

roofs. The result was a more educated community that saw repairs were possible and took the appropriate actions to restore their property.

Another method in discouraging unnecessary demolitions is to encourage citizen involvement in recovery activities. In New Orleans, the Preservation Resource Center wrote a Neighborhood Planning Guide meant to assist neighborhood groups in their recovery efforts. The guide was distributed to neighborhood groups with the goal of providing "a unified planning process for neighborhood groups and provide a consistent format for integrating recovery plans into a single city-wide document" ("New Orleans Neighborhood Planning Guide"). The guide offered a five-phase plan including: start-up, public participation, plan preparation, city-wide plan coordination, and city wide implementation and monitoring. By encouraging citizen involvement people feel as though they have a role in the recovery process and are more likely to protect the historic elements that make their community unique. A copy of this guide is included in Appendix B.

Technology

Technology has greatly evolved in the last 15 years and the use of the internet, cell phones, and programs like Geographic Information Systems (GIS) are simplifying the job of the preservationist. Utilizing these tools during a disaster saves time and money when the situation allows. Assuming survey data is entered into a database beforehand, the internet can be used to transfer data rapidly and GIS helps with mapping and locating properties that have been damaged or destroyed. At the Federal level, FEMA also has technology available for damage assessment with their Hazus-MH (Multi-Hazard) software. The software combines with the ArcGIS program to estimate damages to residential, commercial, and industrial buildings, as

well as potential social and economic effects of a disaster. The program has several models including floods, earthquakes, and hurricanes and is available for order to federal, state, and local governments as well as to private sector agencies (http://www.fema.gov/plan/prevent/hazus/).

Websites can also be used to disseminate information about what properties were damaged as a result of a disaster and which ones were spared. David Preziosi of the Mississippi Heritage Trust said that their website was especially useful after Hurricane Katrina as a point of contact for residents who lived in the affected area or for those who were just concerned about their favorite historic sites. Regular updates of the website kept people informed of what was being done and was used as a method to acquire assistance both through donations and volunteers (Interview 5/15/2007).

In addition to electronic technology, chemical technologies also exist to assist with the recovery process. In New Orleans, where flooding and humid temperatures left a huge mold problem, Sabre Technical Services used chlorine dioxide to fumigate homes. This process was an alternative to gutting a home, and instead killed mold and the spores that grew the mold by chemical inoculation. According to an article by Elizabeth Hofheinz, the average home in New Orleans was fumigated in four hours for $8 per square foot. The chemicals left no visible or harmful residues because the Chlorine Dioxide decayed naturally on its own once it penetrated everywhere (12). By embracing new technologies such as these, planning and recovery processes are quicker and more efficient.

Handling Volunteers

Volunteers can be a blessing to a short-staffed organization when they are trained correctly, especially in terms of identifying and treating historic structures. Once a disaster

occurs, the preservation organization or agency should be prepared for an influx of volunteers. According to McEntire, “volunteering gives ordinary citizens a sense of interconnection, healing, and empowerment after a disaster” (198). People are generally kind-hearted and will feel sympathetic towards those who have suffered a great loss. Making sure their good intentions do not create an even worse disaster for a historic structure is the responsibility of the sponsoring organization. For example, in New Orleans well-meaning but uneducated volunteer crews were placing historic doors, shutters, hardware, etc curbside to be tossed with the trash (Bergeron, 46). As a result, many reusable architectural details were lost. Preservation professionals may not always be on hand to direct volunteers so it is important to give those wanting to help some basic instruction on recognizing historic buildings and salvageable architectural elements. In addition, McEntire recommends registering volunteers, matching their skills with disaster needs, evaluating their progress by recording how many helped and what they did, and writing an after-action report that describes what went right and what adjustments need to be made in the future (202). Volunteers are an important asset to disaster recovery and when given the right information they are an important asset in protecting historic properties affected by disasters.

Managing the Media

According to Carl Nelson, “coverage by local newspapers, radio, and television stations is among the most effective way of gaining attention and support for preservation…if carried out thoughtfully” (98). In times of disaster the key elements to dealing with the media are to develop a relationship prior to the event and to provide consistent facts once the event has happened. Nelson suggests designating one staff member to be in charge of media relations and that this person should be one who has “developed a long-term relationship with reporters and producers

[and] is much more likely to succeed in telling the story during a disaster" (98). The media relations staff member should be knowledgeable of recovery plans and be able to provide names and phone numbers of local preservation leaders and organizations. They should also follow-up on the stories once they have been reported, making sure to thank the reporter or producer and sending copies or transcripts to elected officials (Nelson, 98).

Roles of the Government and the Private Sector

Once a disaster occurs, most people look to the government to respond to their needs. Despite good intentions by the Federal Emergency Management Authority (FEMA) and State Emergency Offices to comply with preservation policies and procedures, "the greatest threats to historic structures are policies set by FEMA and the State Office of Emergency Services" (Spenneman 25). As mentioned above, the thirty day "free" demolition policy is one of these policies. Preservationists and owners of historic properties should be aware of the roles of each level of government in disaster response, and should know how preservation ties into each of these roles. To make sure preservation of significant buildings and neighborhoods follow the stipulations set forth in the National Historic Preservation Act (NHPA), preservationists and property owners need to be aware of the tools available at the local, state, and federal government levels, as well as the roles of private organizations, so that historic properties receive adequate attention in disaster situations. In this section, the roles of each level of government and the role of private organizations will be discussed.

Role of the Local Government

Immediate disaster response comes from the local levels of government. As stated earlier in this chapter, it is very important that preservation organizations cultivate a firm working relationship with local governing officials prior to a disaster to build trust and understanding. Milford Wayne Donaldson states,

> The greatest protection comes from education and preparedness of the local decision makers…at the very least, the local city or county disaster ordinance should identify the procedures of dealing with historic buildings and be prepared with an updated list of the historic structures within the region (Spenneman and Look, 26).

If the local government understands the importance of historic preservation in the community, they will more than likely work to see that historic buildings are not demolished without cause and that standard procedures for reviewing work continue without interruption (Nelson 107).

In terms of local government restrictions, every preservation organization should be aware of current ordinances and statutes that pertain to historic structures and be wary of building codes that may affect the rehabilitation of damaged structures in their city or county. According to Spenneman and Look,

> maintenance of older, damaged structures is often inhibited by the tendency of local government authorities to require that the repaired structure now comply with all current building standards imposed on new construction, even though an identical, undamaged, historic structure is not required to do so" (179).

There may not be an easy way to deal with building code issues. Again, the best defense is to educate officials beforehand on the importance of maintaining the integrity of historic structures. If local officials are aware of the sensitivities surrounding historic resources they may be willing to offer alternative solutions. In addition to considering more lenient building codes for cultural properties, local governments may also consider offering "financial incentives, such as property

tax freezes or rate rebates to ensure the survival of historically significant neighborhoods" (Spenneman 184).

Role of the State Government

In a disaster situation, the major functions of the state government are assessing the situation, mobilizing and coordinating state resources, and channeling requests to the federal level (Jones 397). The State Historic Preservation Office (SHPO) is a major player in helping local preservation organizations gain access to additional resources and federal programs. One of the best ways that a SHPO can assist cultural resources is to organize a programmatic agreement with the Federal Emergency Management Agency (FEMA). Programmatic agreements have proved very useful during several disaster situations, including the 1994 Northridge earthquake in California and the 1993 floods in the Midwest. Typical components of a programmatic agreement include: staffing a FEMA disaster field office; providing 5-day turnaround times on determination of eligibility for listings and effects; and helping to develop an electronic database of historic properties and standard mitigation procedures. An added benefit is that final decision making and appeal always remain with the SHPO (Spenneman 14). By developing a working relationship with FEMA, a SHPO can double their resources. For example, during the Northridge earthquake disaster, a programmatic agreement allowed for cultural resource managers to provide "knowledgeable individuals in a timely manner when local travel was tough, to tap into local knowledge and political expertise in a network of trust, and acquire additional design and engineering expertise unavailable through SHPO" (Spenneman 14).

Since programmatic agreements have been in use throughout the country they can be easily adopted in any state. Georgia adopted the Midwest's plan after Hurricane Alberto

triggered a 500-year flood in 1994 with great success. The Midwest plan was designed in 1993 in response to extensive flooding throughout the Midwestern United States. It was the first programmatic agreement which was fully coordinated between FEMA and the Advisory Council on Historic Preservation (ACHP) to address historic preservation efforts in response to flooding. The plan provided a standardized process by which the Midwestern states would handle historic review and allowed for regional offices to be created for FEMA and ACHP (Spenneman 10). Because of the strength of the Midwest programmatic agreement, it was an ideal fit for the Georgia SHPO who, prior to this incident, had no experience in disaster response. The programmatic agreement helped the Georgia SHPO in terms of getting data for rural areas where there was no documentation and allowed them to coordinate with other state agencies such as the Georgia Emergency Management Office (Spenneman 134). Programmatic agreements are ideal for large disasters, such as the Georgia floods, that require extensive manpower and resources, and are ideal for quick recovery.

Other roles of the SHPO include obtaining and administering federal grant money and offering technical assistance. In Georgia, the SHPO has a section on their website dedicated to disaster recovery. Among the duties listed of the SHPO are providing salvage and repair information, assisting with on-site property inspections and assessments, and providing financial assistance through grants (http://hpd.dnr.state.ga.us). For example, after a tornado struck the historic town of Americus, Georgia in March 2007, the SHPO sent team members to inspect the damage and provided information to the local historic preservation commission regarding tax incentives for homeowners and selecting contractors. The SHPO also offered technical assistance to solve repair or rehabilitation problems that might turn up once rebuilding had begun.

In addition to the SHPO and the State Emergency Management Office, preservationists may look to other state organizations. Among these organizations are state historical commissions, state archives, state museums, and state park departments (Jones 397-398). Another avenue that some states may explore is the Emergency Management Assistance Compact (EMAC). EMAC is operated out of the National Emergency Management Association (NEMA) and consists of several states working together to respond to a disaster. The formulation of the first EMAC arose after the extensive damage caused by Hurricane Andrew in Florida and was employed in the aftermath of Hurricanes Katrina and Rita in the Gulf Coast where more than $830 million in equipment was sent across the country (McEntire 337). In order to gain EMAC assistance, the state governor has to declare a state of emergency and the impacted state must ask for help. The EMAC program has a website that offers updates, contact information, training programs, and information regarding how the program works and how states can create legislation to become members of the program (http://www.emacweb.org) It is important for preservationists to know about the EMAC program because resources sent by EMAC include clean-up and shoring equipment that could apply to stabilizing historic resources.

The Role of the Federal Government

The most important partner in disaster recovery on the national level is the Federal Emergency Management Agency (FEMA). FEMA was formed in 1978 and consists of the Federal Insurance Administration, the National Fire Prevention and Control Administration, the Federal Emergency Broadcast System, and several other government-run institutions. It was designed to be a partnership between federal, state, and local governments with aid from private organizations, businesses, and industry, and its sole role is to provide federal assistance to

communities in the United States affected by natural disasters (Jones 429-430). In the past, FEMA has worked with SHPOs to promote the preservation of historic buildings. However, preservationists must realize the limitations to FEMA's aid. For example, federally funded projects are required to go through the Section 106 process as dictated by the National Historic Preservation Act. However, in times of disaster, the review process does not become effective until 30 days after declaration of an emergency (Spenneman, 26). The passage of this much time could have catastrophic consequences for historic structures under the threat of being demolished, especially when FEMA offers free demolitions to property owners the first 30 days after a disaster.

Other national programs are the National Incident Management System (NIMS) and the National Response Plan (NRP). Both of these programs are fairly recent developments. NIMS is more of a national response program that has the objective of helping the nation prevent, prepare for, respond to, and recover from all types of disasters. It was not largely implemented until after the World Trade Center attack of September 11, 2001. The NRP is a companion of the NIMS program and was designed to "align federal agencies, capabilities, and resources, into a unified, all-disciplined, and all hazards approach to disaster" (McEntire 344). NRP was finalized in December 2004 and was first used during Hurricane Katrina.

Along with assistance programs, the government may also offer grants to historic preservation institutions. After Hurricane Katrina, preservation and planning professionals from Mississippi and Louisiana were invited to speak to Congress. During these sessions, preservationists requested that the federal government provide grants to private property owners who were uninsured or underinsured, advocated for more technical support from FEMA in the field, and urged that the Historic Preservation Rehabilitation Tax Credits program be expanded.

Their efforts were successful when grants became available in 2006, with $10 million dollars allocated to the Louisiana SHPO and $26 million to Mississippi. As stated earlier, once grants such as these are issued by the federal government, preservationists can access these grants through administration by the State Historic Preservation Organization.

The Role of Private Organizations

Private organizations are the most important source of assistance for historical resources. Local preservation organizations, garden clubs, museums, and foundations are ideal places for preservation professionals to look for funding in times of disaster. Jones states that, "since most private mechanisms develop ad hoc, the most effective response comes locally" (398-399). While larger private organizations like the National Trust for Historic Preservation are excellent places to seek assistance, it is the local community groups that will be most affected by loss or damage to historic resources. These groups may be more likely to donate money to projects where there live and will be able to enjoy the results. For example in New Orleans an antique carousel in New Orleans City Park was restored using private donations. The carousel was one of the last antique wooden carousels in the state and one of only 100 left in the country. After Hurricane Katrina it was left standing in four feet of water. Thanks to the concerns of local businesses and private parties, four million dollars in supplies and monetary donations were made for the restoration of the park and carousel. The City Park development director was quoted as saying, "There would be nothing open in the park if we were waiting on the city, state, and federal government" ("Leave it Better" 14).

As mentioned above, larger organizations like the National Trust for Historic Preservation (NTHP) are also good organizations to turn to for assistance and aid after a disaster.

After hurricane Katrina, the NTHP began fundraising immediately by establishing the Hurricane Recovery Fund which included donations from Goldman Sachs, the Getty Foundation, and Home and Garden Television (HGTV). The Trust also opened field offices in New Orleans and Mississippi and sent professionals to assist with survey and recovery. In addition to fund-raising and contributing manpower, the Trust appeared before Congress with preservation professionals in November 2005 to request legislative action that would include a Disaster Relief Historic Homeowner Assistance Tax Credit and a $60 million grant program under the federal Historic Preservation fund to be used for preservation, stabilization, and restoration of historic properties in the Gulf Coast (O'Connell 6-10). The success of their efforts and their continuing presence in the Gulf Coast through partnerships with local organizations, conference lectures, and monetary assistance have helped areas affected by Katrina immensely, and they are a great example of how much can be accomplished through private organization assistance.

Finally, another important source of private assistance is through insurance. As discussed earlier, a good insurance policy is an excellent source of funding after a disaster. However, utilizing this form of assistance is entirely dependent on the carrier and the knowledge of the individual who takes out the policy. After Hurricane Katrina there was uproar when companies such as State Farm and Allstate would not cover certain types of damages. Some policies only covered wind damages while others covered only water damage. The biggest problem was that people could not prove what damages to their homes were caused by wind and what were caused by water. The confusion surrounding their policy information left many without insurance money. Being knowledgeable about homeowner policies is essential in taking advantage of the benefits that private insurance companies can offer. To get the most out of an insurance policy be

sure that the carrier understands the specific needs of the historic resource and the broadest amount of coverage is taken out.

Conclusion

The best way to protect cultural resources from natural disasters is to plan ahead. Understanding the potential hazards to your property or to resources in your community, keeping records updated, and having a workable disaster plan on file are essential to mitigate damages should a disaster occur. Even more important is making sure regular inspections and routine maintenance are performed on site to prevent unnecessary damage. Examples from every major disaster in the United States (the Loma Prieta earthquake, Hurricane Hugo, Hurricanes Katrina and Rita) show that historic sites in good condition fared better than those sites that were not maintained. By conducting inspections and correcting problems ahead of time, a site is ensured a better survival rate should a disaster occur.

While regular maintenance and surveys are perhaps the most important mitigation tools, understanding the role of local, state, and federal government is also essential to preservationists who want to ensure maximum protection for their historic communities. Educating and cultivating a good working relationship with local government officials allows for a smooth and steady recovery and ensure the values of historic preservation are remembered while emergency policies are enacted. Likewise, understanding State Historic Preservation programs and the roles of the Federal Emergency Management Agency (FEMA) in disaster situations will strengthen the individual organization’s emergency plans and lessen the confusion during a time of panic.

Chapter 4: Case Study

Hurricane Hugo

Hurricane Hugo struck the historic city of Charleston, S.C. on September 21, 1989. An intense storm that caused massive damage in the Caribbean, Hugo arrived in South Carolina as a powerful Category Four storm with winds between 120 and 135 miles per hour and a storm surge that reached seventeen feet above low tide (Nelson 39). The strong winds spread out more than 140 miles from the center of the storm, encompassing a large area of the state. Excessive rains before and after the storm caused extensive damages in areas where roofs were lost and caused severe flooding throughout the region. Although not the deadliest hurricane to ever strike the state, Hugo is considered the most destructive hurricane to strike South Carolina in recent decades. The storm caused billions of dollars of damage not only to coastal properties and to the historic city of Charleston, but also to hundreds of acres of forested land.

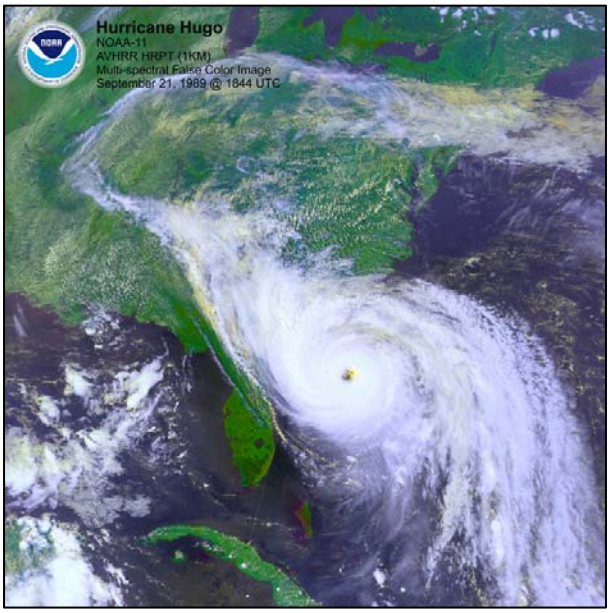

Fig 4.1 Satellite image of Hurricane Hugo, courtesy of NOAA

Planning Before the Storm

Despite having survived decades of earthquakes, fires, and hurricanes, Charleston and the state of South Carolina were not prepared to deal with a storm the magnitude of Hugo. Although

the mayor of Charleston warned beforehand that the storm would result in flooding that would "boggle the mind," the unprepared preservation community in Charleston had not developed major disaster preparedness skills or experienced the aftermath of severe devastation (Poston, 149). King states, "to this day, I cannot explain why we did not respect or even fear this Class Four hurricane…I think the main reason no one wanted to begin preparing for the hurricane was that no one believed it would be as bad as it was" (King 30). Museum officials, the College of Charleston, the Historic Charleston Foundation, and various libraries and government offices went through the motions of securing their buildings and files, moving them to upper floors and boarding windows, but the Charleston Museum was the only cultural institution with a written disaster policy at the time of Hugo (Poston 150). This very limited amount of preparation amounted to a serious underestimation of what would be a very powerful storm.

In the past, South Carolina has been no stranger to dangerous hurricanes. According to the National Hurricane Center, "between the outset of the Industrial Revolution in the 1800's and 2004, South Carolina experienced nineteen category one storms, six category two storms, four category three storms, and two category four storms" (Rubillo 15). The last major hurricane to strike the coast before Hugo was Hurricane Hazel in 1954, which had 150 mile per hour winds, killed 95 people, and caused the equivalent of $1.94 billion in 2005 dollars. After Hazel, Tom Rubillo writes that the years 1961-1980 were the dullest on record in South Carolina in terms of hurricanes (115). Perhaps the lack of planning prior to Hugo was due to this fact. Whatever the cause, the complacency of cultural and government institutions was a large mistake that was quickly realized.

Effects of the Storm

After hurricane Hugo it was estimated that 80-90% of Charleston's building stock was damaged, including 89 structures that collapsed. In the historic areas, 50 houses were completely lost. Common effects of Hugo included high winds, storm surge, and torrential rain. Roof damage, flooding, wind-driven projectiles, the stripping of exterior appendages, loss of decorative exterior elements, failed windows and doors, extensive moisture damage, destruction of public and private gardens, loss of streetscape elements, disturbed historic cemeteries, beach erosion, and the loss of archaeological sites were also common damages (Nelson 40-41). Historic towns outside of the city also suffered severely, including McClellanville where one quarter of the contributing structures in the national register district received major damage (Nelson 102).

In total, the storm caused approximately $6 billion worth of damage to the state, with half in real estate and half in resources (primarily timber). Historic landscapes were disturbed with magnolia trees and loblolly pines suffering the most damage. An example of an area where the landscape suffered significantly is Drayton Hall, where the structure was left virtually unharmed but several trees were uprooted and archaeological sites were disturbed. In Charleston, the city's forestry chief estimated that 30% of all trees in Charleston's public areas and 40-50% of all landscape trees were destroyed or damaged (Wade XX17). In addition to the damages caused to the city and the immediate areas, the beaches of barrier islands like Sullivan's Island and Isle of Palms suffered severe erosion from high winds and storm surge.

Fig 4.2 Large Oaks over 100 years old in Charleston after Hugo. Photo Courtesy of NOAA Photo Library.

Recovery and Response

Recovery occurred at different rates at all levels of government. At the state level, the day after the storm the governor of South Carolina surveyed the damage and requested a Presidential Declaration of Disaster by President H.W. Bush. FEMA set up its first disaster field office in Columbia on September 23 and moved to North Charleston on September 26. Disaster application centers for those seeking federal aid opened on September 28. During the next month, the state emergency officials focused on restoration of infrastructure, damage assessments, debris clearance, and allocating requests for aid from FEMA (Elliot 75-76).

At the local level, response began immediately. Mayor Joseph Riley of Charleston stayed in the city during the night of the storm to work on an initial emergency response plan. The morning after the storm the city was closed to visitors and a curfew was enforced. Transportation routes were cleared and windshield damage assessments commenced. Appeals were made to help the residents of Charleston and a campaign was begun to re-open the city as soon as possible after the storm. The campaign was called "Charleston—we're going strong," in efforts to combat negative newspaper accounts of total devastation. With the push of local officials towards recovery, the city reopened faster than expected on October 8, 1989 (Elliot 78).

Fig 4.3 Damaged buildings in downtown Charleston after Hugo. Photo courtesy of Historic Charleston Foundation.

Preservationists ran into several problems with the local government's rush to re-open the city. While the city's campaign tried to minimize damages, the preservation community was doing the opposite, trying to send out the message that Charleston had suffered major damage and desperately needed conservation aid (Elliot, 78). Preservationists also had to set up meetings with FEMA officials, the National Park Service, insurance companies, local officials, and cultural resource managers to discuss the Section 106 review process and to determine how repairs to historic resources were going to be handled. The biggest issues regarding demolition and alteration procedures focused on how strictly the historic district ordinance would be adhered to once repairs began. A more loosely interpreted ordinance would allow more affordable repairs but might detract from the quality of neighborhoods, while a stricter interpretation would require homeowner's to make repairs of like kind and quality. The most important outcome of this meeting was the decision that the Historic District Ordinance would not be revoked and the Board of Architectural Review would have the power to rule on exterior alterations within historic districts (Elliot 80). This decision was crucial to rehabilitating the city in a manner that would be historically accurate and preserve its character.

Once the determination was made as to how buildings were to be repaired, preservationists began to conduct damage assessment surveys. To do this, they established a task force called the Emergency Stabilization and Preservation Services. Members of the task force included staff and volunteers from city planning, the Historic Charleston Foundation, the Preservation Society, and the Charleston Museum. The task force was divided into six teams that surveyed approximately 2,600 buildings in the city's Historic District and the Old City district

HISTORIC CHARLESTON FOUNDATION

HURRICANE HUGO DAMAGE ASSESSMENT FORM

Date of Survey:

Video: Reel/Frame
Camera:
Slides: [ ]
B.& W.: [ ]

Survey Team:
Members:

Name of Property: (if any)

Street Address:

Tax Map Number:

Current Owner:

DESCRIPTION

Principal Building [ ] Dependency [ ] Other [ ]

No. of Stories: Basement [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ]
Attic or Half Story [ ]

Material:

Structure: Brick [ ] Wood Frame [ ] Stone [ ] Metal [ ]
Other [ ]:

Surface Covering: Stucco [ ] Wood Siding [ ] Other [ ]:

Roof Covering: Slate [ ] Metal [ ] Tile [ ] Asphalt [ ]
Other [ ]:

Piazza: Foundation: Brick [ ] Stone [ ] Wood [ ]
Other [ ]:

Main Piazza: Brick [ ] Wood [ ] Other [ ]

Roof Covering (if different from main building):

Chimneys: Brick [ ] Brick & Stucco [ ] Stone [ ] Other [ ]

Comments:

FIG. 5—*Historic Charleston Foundation, Hurricane Hugo Damage Assessment Form.*

Fig. 4.4 Historic Charleston Foundation Damage Assessment Form used during Hugo

POSTON ON DAMAGE RECORDATION AND RETRIEV/

Address: Tax Map No.:

Damage Assessment	None	Minor	Major
Exterior Features			
Walls: Foundation/Basement	[ ]	[ ]	[ ]
1st Floor	[ ]	[ ]	[ ]
2nd Floor	[ ]	[ ]	[ ]
3rd Floor	[ ]	[ ]	[ ]
4th Floor	[ ]	[ ]	[ ]
Attic	[ ]	[ ]	[ ]
Doors	[ ]	[ ]	[ ]
Windows	[ ]	[ ]	[ ]
Shutters			
Piazza/Portico	[ ]	[ ]	[ ]
Downspouts	[ ]	[ ]	[ ]
Gutters	[ ]	[ ]	[ ]
Cornice	[ ]	[ ]	[ ]
Parapet	[ ]	[ ]	[ ]
Roof Covering	[ ]	[ ]	[ ]
Dormers (Number:)	[ ]	[ ]	[ ]
Chimneys (Number:)	[ ]	[ ]	[ ]
Other Visible Damage			
Garden Walls/Fences	[ ]	[ ]	[ ]
Gates	[ ]	[ ]	[ ]
Walkways/Paving	[ ]	[ ]	[ ]
Sidewalks	[ ]	[ ]	[ ]
Trees	[ ]	[ ]	[ ]
Mechanical	[ ]	[ ]	[ ]

FIG. 5—*Continued.*

Fig. 4.4 cont. Historic Charleston Foundation Damage Assessment Form used during Hugo

in order to establish priorities for restoration (Elliot 86). A hurricane damage assessment form (Fig. 4.4) was created to guide the teams, and a technical unit of the task force cleaned up debris and coordinated the activities of incoming experts and survey volunteers (Elliot 89). Many universities, architectural firms, and preservation groups came into the city to assist with clean-up and damage assessment surveys. These surveys helped to confirm which buildings were repairable and which were not, which was critical since the city had already flagged many for demolition.

Fig. 4.5 Historic home in Charleston damaged by Hugo. Photo courtesy of Historic Charleston Foundation.

Another issue that preservationists faced after the storm was convincing homeowners who wanted to rebuild to take the appropriate rehabilitation steps. To do this, organizations like the Historic Charleston Foundation held public meetings and advertised their aid using flyers. They also talked with people at their homes, educating homeowners on their repair options (Nelson 126). One of the major preservation issues for homeowners was the replacement of slate roofs that had been damaged in the storm. Due to the type of slate originally used to build some homes and the difficulty of finding manufacturers and craftsman, some homeowners had to seek assistance outside of the country. To offer assistance on how to make the decision of which contractors to use, the Historic Charleston Foundation suggested homeowners bring samples of

their roof to their preservation center and the Foundation would attempt to identify a supplier that could match the original slate (Elliot 93). During the repair process contractors were brought in from various locations from Chicago to Ireland. All contractors were required to be licensed and fingerprinted in efforts to curtail any shoddy repairs (Nelson 133). Even though this process was not completely effective, it allowed for preservationists to have some control over who was doing the work to historic properties and made sure that most repairs were done in an appropriate manner.

After the storm, many funding opportunities became available to historic property owners. Locally, the Historic Charleston Foundation set up a fund designed for relief and recovery efforts for historic buildings, and donation requests were sent to members whose names were on the House and Garden Tour list. With the help of the Georgia State Historic Preservation Office who also sent out mailings to its members, the fund raised $180,000 (Elliot 99). A fundraiser was also held in conjunction with the Historic Charleston Foundation in New York City, where an evening benefit raised $175,000 that would be dispersed to properties that were uninsured, under-insured, or unable to get funding from FEMA (Elliot 103). The South Carolina State Historic Preservation Office also provided an emergency grant program for damaged cultural properties not only in Charleston, but state-wide. These grants were given to properties eligible

Fig. 4.6 Sullivan's Island, S.C. after Hugo. Photo courtesy of http://www.geocities.com/hurricanene/hurricanehugo.htm

for listing on the national register that were either uninsured or under-insured. The grants were for emergency weatherization, with a maximum of $5,000 per property (Elliot 106).

Lessons Learned

Fig. 4.7 The Historic Ben Sawyer drawbridge after Hugo. Photo courtesy of NOAA photo library.

One of the biggest challenges to preservation efforts after Hurricane Hugo was the lack of survey documentation of the city's historic resources. Sporadic surveys had been conducted of specific streets or areas as recently as 1984, but the last historic building inventory was completed in 1979 (Elliot 11). The lack of available documentation made damage assessment difficult in terms of what existed prior to the storm. An updated inventory would have given city preservationists a better idea of how much damage was caused to the city's historic fabric as well as how they should go about repairing it. To correct this problem for future disasters, the Historic Charleston Foundation partnered with the Historic American Building Survey (HABS) program and the National Park Service to complete architectural drawings of endangered buildings. In the event of a disaster these drawings would be used to reconstruct or rehabilitate a damaged property. A computer survey database was also created to provide quick access to specific information about the properties. The approximately 2,700 properties surveyed after Hurricane Hugo were included in the database, as well as the damages they suffered after the storm (Poston 157).

Another area that proved challenging in the Hugo recovery was the lack of skilled craftsman trained in historic material restoration (Elliot 112). Importing labor from overseas was expensive, and even though preservation organizations screened contractors "many structures were hurriedly rebuilt with roofs less able to withstand a storm than they were before Hugo" (Applebome A1). Charleston preservationists realized the need for American craftsman who are able to work competently on historic structures. In attempts to make up for this lack of skilled labor, the Historic Charleston Foundation decided to pursue an educational program that would be called the Charleston Crafts Program. The program would be based on the French crafts guild, Les Campagnons Devoir, and would "provide seminars, workshops and an apprenticeship program in slate and metal roofing systems, masonry, ironwork, carpentry, and other historic material crafts" (Elliot 112). The idea was well-received and has proved to be a success since its establishment in the early 1990's. Since its implementation after Hugo, the program has trained many young students and has completed several rehabilitations (Weyeneth 173-174).

Fig. 4.8 Remains of an old building in downtown Charleston. Photo courtesy of NOAA Photo Library

Conclusion

The biggest lesson learned for preservationists from Hurricane Hugo is the necessity to maintain and plan (Nelson 50). Preservationists had not planned ahead prior to the storm and although recovery went fairly well, there were several areas that proved cumbersome to cultural

resource managers trying to inventory and save historic buildings from demolition. Along with issues of general maintenance, these problems could have been avoided with better planning. Had a plan been in place before the storm and proper maintenance issues addressed, cultural resources would have fared better during the storm.

Although there were mistakes, Charleston did make an effort to correct their errors by updating their survey and creating a statewide database. Cultural organizations such as the Historic Charleston Foundation (HCF) took proactive disaster planning steps by writing a formal disaster plan (see Appendix A) and conducting regular updates of this plan. The plan includes guidelines for emergency communication, staff responsibilities, a time line for hurricane preparations, property specific plans, and information for recovery. In addition, HCF, along with several other cultural institutions, formed the Charleston Heritage Federation which meets monthly to discuss general preservation matters in the city and has agreed to coordinate future disaster response efforts (Elliot 113). On the surface it appears that Charleston preservationists learned their lesson after Hugo. However, since Hugo the city has not had to deal with another major hurricane. Because of the large amount of time that has passed, "Hugo may not be in the minds of those who have migrated to South Carolina since…all some residents may remember about the danger of a hurricane is the inconvenience suffered when evacuating for a storm that never struck" (Rubillo 122). After Hurricane Katrina, news articles from the Charleston newspaper, the Post and Courier, discussed how residents who had become complacent after Hugo began to again take notice of the importance of disaster planning after the seeing the damages to New Orleans and the Mississippi coast. Hopefully the city and preservationists will continue to be aware of the dangers of a major hurricane and prepare accordingly for the next disaster.

Chapter 5: Case Study—Hurricane Katrina

"Hurricane Katrina is one of the greatest human tragedies in the nation's history, but it could also be the greatest cultural catastrophe" –Virgil McDill, "Preventing Cultural Catastrophe" (7)

Hurricane Katrina was not only the costliest storm in America's history, but it was also one of the most deadly. Katrina was the sixth strongest Atlantic hurricane ever recorded and the third strongest hurricane to make landfall in the United States. The storm began as a tropical depression in the Atlantic Ocean and grew into a category one hurricane striking the Florida coast on August 25, 2005. After causing power outages and some minor flooding, Katrina moved into the Gulf of Mexico where it began to strengthen, at one point reaching Category Five status with maximum sustained winds up to 175 miles per hour. As the storm grew in strength and meteorologists speculated its path, fears began to rise as models showed a possible impact to the historic city of New Orleans, Louisiana. While a hurricane as strong as Katrina would provide a deathly blow to any coastal city, the possibility of landfall in New Orleans was particularly worrisome since the entire city is either just above or below sea level. A large storm surge would completely inundate the city, destroying homes, businesses, and important cultural resources ("Hurricane Katrina Overview" NOAA website).

On August 29, 2005 Katrina made landfall on the Louisiana/Mississippi border, barely missing New Orleans. Although slightly diminished in strength, Katrina still came ashore as a powerful Category 3 hurricane with maximum sustained winds of 120 miles per hour and wind gusts up to 135 miles per hour. In Louisiana, storm surges reached fourteen feet and on the Mississippi coast storm surges were as much as twenty-seven feet. The Mississippi coast received the worst of the storm with winds extending 120 miles from the center of the storm and

storm surge affecting areas up to six miles inland. With the Mississippi coast bearing the harshest blows of the hurricane, it appeared that New Orleans had dodged a large bullet. Still, many feared that with the enormous amount of rains that the storm brought, levee breaches and flooding were still a possible threat to the city. Not even two days later, those fears were realized as 53 levee breaches left almost 80% of the city underwater ("Hurricane Katrina Overview" NOAA website).

Katrina not only brutally assaulted Mississippi and Louisiana, but effects of the storm were felt throughout the eastern United States. Alabama and the Florida Panhandle received strong winds, and storm surge caused serious damages. The storm also spawned 62 tornadoes in eight states including Georgia, Alabama, and Tennessee. The size of Katrina was so immense that strong winds and damages were reported as far north as New York State on August 30th.

Effects of the Storm

The size and strength of Katrina created a disaster zone of roughly 90,000 square miles, an area the size of the United Kingdom. The storm caused over $80 billion in damages and it is estimated that over 1,800 people lost their lives. Katrina damaged oil refineries and platforms in the Gulf causing gas prices to skyrocket across the country. It also damaged the forestry industry in Louisiana and Mississippi, left the coast with severe beach erosion, and shut down sixteen National Wildlife refuges where the habitats of many protected species were harshly disrupted.

The loss to cultural property was similarly extensive. In Mississippi, the storm affected 70 miles of coastline and several counties in the southern region of the state (David Preziosi interview 5/15/07). In three counties along the coastline, 90% of structures within a half mile of the coast were destroyed. To put that percentage in numbers, the damage totaled the destruction

of 65,000 buildings including more than 800 historic structures, 250 of which were listed in the National Register. Of these 250 nationally recognized structures, it is estimated that 200 were razed needlessly in the frenzied clean-up efforts (Curtis, 32). Some of the lost structures in Mississippi included the Herman House, the Dantzler House in Biloxi (Fig. 5.5), and the Tullis-Toledano Manor (Fig. 5.2) which was destroyed by a three story casino barge (*Architectural Record* 35). Jefferson Davis's historic ocean retreat, Beauvoir (Fig. 5.3), survived but was heavily damaged, and it is estimated that it will take $3.8 million to repair the damage (David Preziosi interview 5/15/07).

Fig. 5.1 Homes in the Lower 9th ward in New Orleans, LA after Katrina, May 2006. Photo by author.

In New Orleans, the most historic parts of the city (the French Quarter and the Garden District) were spared major damage, but important turn-of-the-century vernacular communities were severely damaged by floodwaters. Many of these communities had been listed in the National Register, including Gentilly Terrace, Mid-City, Parkview, Broadmoor, South Lakeview, and Holy Cross ("Historic Preservation Vs. Katrina") Some reports state that as many as two-thirds of structures located within these historic districts were affected by Katrina. Examples of sites that received especially large amounts of damage include the Rayne Memorial Church in New Orleans and Longue Vue which was flooded with fifteen feet of water. In addition, many of the historic streetcars that ran throughout the city were also heavily damaged, and the city is still struggling to get them up and running in various locations.

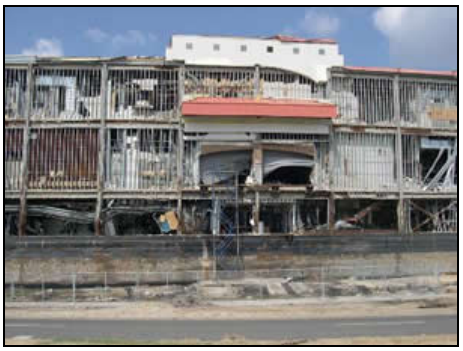

Figure 5.2

Tullis-Toledano Manor in Biloxi, MS before Katrina (above) and after (below)

Figure 5.3

Beauvoir, historic home of Jefferson Davis before Katrina (above) and after (below)

Figure 5.4

Historic home in Pass Christian, MS before Katrina (above) and after (below)

Figure 5.5: The Dantzler House in MS, before Katrina (left) and after Katrina (right)

(Photos courtesy of Mississippi Heritage Trust website)

Planning Before the Storm

New Orleans and Mississippi share extensive numbers of historic resources. New Orleans alone has 175,000 designated structures which are located in the largest number of historic districts per capita in the United States (Deluca 14). Despite the large number of resources, many cultural resource managers did not have a disaster plan prior to the storm in both locations. The usual steps of evacuation and moving important items to higher ground took place, but the intensity of Katrina was severely underestimated. For example, the modern library at Beauvoir was built to survive a category four hurricane. Not anticipating the magnitude of Katrina (as only a category three storm), no artifacts were moved from the lower level of the museum. As a result only 10% of the artifacts (only 1,000 out of over 10,000) from the library survived the storm surge and high winds (NTHP Conference Lecture 11/02/06).

According to David Fields, the Operation Comeback Homeowner Assistance Coordinator in New Orleans, New Orleans had no disaster plan before hurricane Katrina because the city was already in a state of decay prior to the storm and preservationists were simply "going from crisis to crisis" (Fields interview 2/26/07). As with the Hurricane Hugo case study, this lack of preparation was visible throughout the recovery process in New Orleans and Mississippi, as preservationists dealt with issues such as inadequate surveys, lack of manpower, and volunteers who were uneducated in the historic preservation process.

Recovery and Response

In New Orleans and Mississippi, response and recovery to Hurricane Katrina were similar. In both situations preservationists faced tensions between homeowners, the government, and threats of demolition. While preservationists were not able to spring into action immediately

in New Orleans due to floodwaters, the Mississippi Heritage Trust (MHT) immediately ventured down to the Gulf Coast to conduct damage assessment surveys. Conducting the surveys was difficult since there were no hotels, no restaurants, no power, and no telephone systems immediately after the storm. Without these facilities, surveyors were forced to drive each day to and from the survey sites which could range up to 150 miles or more daily ("Historic Preservation Vs. Katrina" 12). According to David Preziosi, the Mississippi Heritage Trust formed damage assessment teams who filled out survey-like forms and walked through every street in the affected counties to determine triage of what resources needed immediate attention. The teams consisted of two people. The next stage in their recovery efforts was to coordinate volunteer experts (architects, engineers, archaeologists, etc) who would be available to advise property owners on why they should save their properties and the resources available to them to do so. To manage these volunteers MHT coordinated with other organizations. In order to manage donations, they established a Recovery Fund for preservation of buildings with hurricane damage and made sure their website was up to date on damage details and how people could help (Preziosi interview, 5/15/07).

Fig. 5.6 Home in the Lower 9th ward, New Orleans, LA. May 2006. Photo by author.

In New Orleans, the Historic District Commissioner was one of the first preservationists allowed to return to the city in October to begin surveying (Gay interview 5/21/07). While the parts of the city older than 1900 had been undamaged by the floodwaters, many vernacular, working class districts had

been devastated. After an extensive survey was conducted using electronic data and GIS maps, it was determined that 254 houses were severely damaged and 172 were completely destroyed (Lecture 7/29/06). Many of the homes that were severely damaged and even those that suffered lesser damages were already on the city's demolition list. To combat this problem, organizations like the Preservation Resource Center and the New Orleans Historic Districts Landmarks Commission immediately sprung into action by working with FEMA and homeowners to get properties off the demolition list and to encourage people to rehabilitate.

Interviews with several people at the Preservation Resource Center indicate that the biggest lifesaver to historic properties was the Section 106 review process mandated by the National Historic Preservation Act. After Katrina, FEMA offered to raze buildings for free which put many buildings in danger, especially if the owner was not available or felt the building was beyond repair (even if it was repairable). However, because of Section 106 review, if a particular area of the city had been flooded and was a National Register District (as many of the flooded areas were), then government officials were forced to conduct a review of these properties to determine if rehabilitation was possible before demolition was finalized. Preservationists struggled with the issue of demolition, especially in areas where people were not allowed to return home for months. In areas where people were available, the Preservation Resource Center offered to speak with them about their property and put flyers on doors advertising seminars where they could receive guidance regarding clean-up, restoration, and other available resources (Patricia Gay interview 5/21/07).

Preservation professionals were inundated with projects after the storm and where their resources were limited local citizens concerned with preservation took action. Two female residents of New Orleans started a website called squanderedheritage.com where they posted

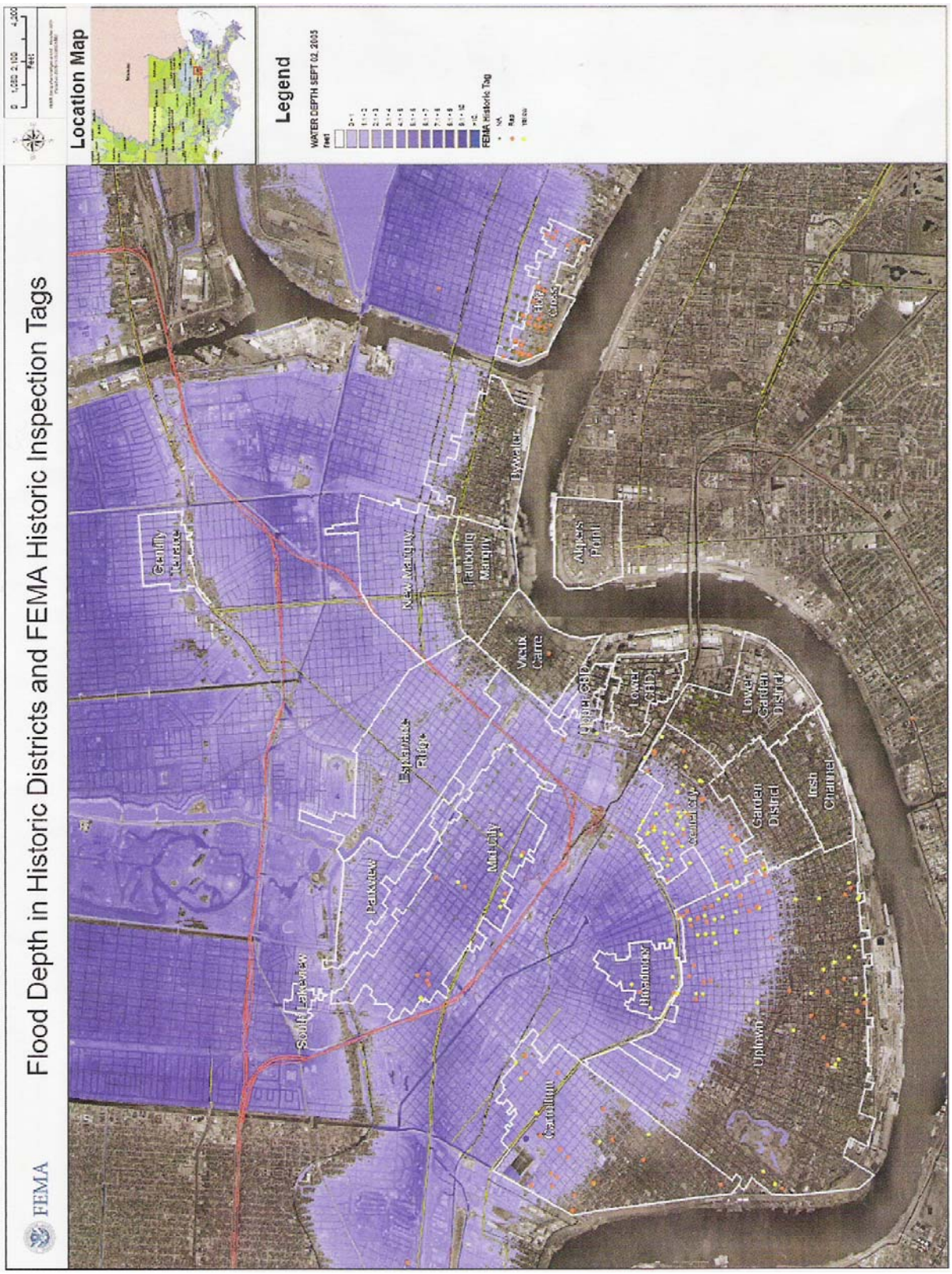

Fig. 5.7 Flood Depth in Historic Districts in New Orleans, LA

pictures of houses they believed to be significant but were in danger of being demolished (Simmons 1/21/07). The website is still in operation as the issue of demolition continues to be a major concern for historic structures in New Orleans. The purpose of the website is to educate and entice readers to make their objections known at public hearings on potential demolitions. It includes the dates of commission meetings, publishes press releases, gives educational information about historic districts, and advises what a person can do to prevent unnecessary demolitions. While it is unclear how much effect the website has had in preventing demolitions, it is a great resource for the community and those who are concerned with Louisiana's heritage.

In addition to the efforts of individual residents and the push to prevent demolition by local preservation organizations, many programs were begun to manage the rebuilding process. The Preservation Resource Center (PRC) steered their Operation Comeback program towards helping to rebuild the Holy Cross neighborhood. The program was originally begun in 1988 to restore blighted areas of the city, but after the storm the focus was shifted to "make a significant investment in a concentrated area rather than rebuild scattered houses across the city" (Curtis 25). In the past two years, the program has been involved in rehabilitating 150 homes by finding them on demolition lists and buying them to repair (Curtis 25). Another program initiated by PRC and the National Trust was the HomeAgain program. This program was designed to give technical advice to homeowners and to help fund the rebuilding of homes. Homes that were restored by the HomeAgain team have been inspirational in neighborhoods where people are

Fig. 5.8 Shotgun house in the Lakeview neighborhood of New Orleans, May 2007. Photo by author.

unsure whether to return, giving residents the chance to see the possibilities of restoration in action (Curtis 25). Through the program, PRC is actively showing the public an alternative to demolition.

Another program that is taking a unique approach to preservation is The Green Project. One of the major obstacles to preservationists in the city was the loss of historic building materials due to looting or the clean-up process. PRC and other organizations found that well-meaning volunteers involved in the clean-up after the storm were leaving period doors, trim, hardware, and shutters at the curb to be thrown away as garbage. In their attempts to educate homeowners and volunteers about recycling these materials, and sifting through the items themselves, PRC was able to save some valuable historic features from being thrown away. However, thousands of materials were still being lost. The Green Project began as an independent project developed to aid in the salvage of building materials. To do this, members of the project selected homes designated by city inspectors and preservationists as unsalvageable and "deconstructed" them piece by piece, saving items that could be reused. Not only was this process an excellent alternative to complete loss by demolition, but it provided a form of employment, slowed the amount of waste going to landfills, and provided affordable materials for those in the community who were rebuilding (Bergeron 46).

With their local efforts moving steadily forward, preservationists looked to the federal government for support. In November 2005, preservation advocates from New Orleans, Mississippi, the National Trust for Historic Preservation, and FEMA, met for a hearing in front of Congress to discuss the issue of historic preservation and its relation to rehabilitation after hurricane Katrina. Some of the issues discussed included technical support from FEMA; funding for the repair of historic structures; alteration of the historic structures rehabilitation tax credit

law; the priority of stabilization; and the rebuilding of the levees in New Orleans and the wetlands surrounding the Gulf. Many of the attendees from local organizations in Mississippi and New Orleans felt that FEMA was not as supportive as it could have been in preservation efforts. As David Preziosi of the Mississippi Heritage Trust pointed out, as of November 2005 FEMA had only contracted with 1 structural engineer, 3 preservation consultants, and 1 architectural historian—all of which had to cover 72 miles of coastline in three counties of Mississippi ("Historic Preservation Vs. Katrina" 59). With so many historic resources along the coast and so few preservationists, extra assistance from FEMA would have allowed the surveying to move quicker and more efficiently, perhaps saving more resources.

Another major topic at the hearing was for federal and state funding for the preservation of storm damaged homes. National Trust president Richard Moe proposed a 2-year $60 million "Historic Preservation Disaster Relief Grants Program" that would be used to provide immediate assistance to property owners who would not be eligible for FEMA aid. Under the program, applicants would agree to rehabilitate their property based upon standard preservation guidelines and principles. Mr. Moe also proposed that the rehabilitation tax credit law be reconsidered to include private homeowners, allowing a credit of 30% of qualified rehabilitation expenditures up to $40,000 ("Historic Preservation Vs. Katrina" 112). Overall, the hearing was an excellent opportunity for preservationists to voice their concerns and proved successful in securing $26 million for historic homeowners in Mississippi and $10 million for historic homeowners in Louisiana (David Preziosi interview 5/15/07).

Lessons Learned

The magnitude of Katrina and the lack of preparation taught preservationists and government leaders some important lessons. Both David Preziosi of the Mississippi Heritage Trust (MHT) and Patricia Gay of the Preservation Resource Center in New Orleans agreed that potential historic districts need to be thoroughly investigated in the future. Although historic districts do not offer complete protection, in a disaster they will trigger the Section 106 review process which will slow down unnecessary demolitions. Both also agreed that their respective organizations need to work more closely with the government in the future to prepare for potential damages to historic structures and to educate them about why cultural resources need to be protected.

Fig. 5.9 Deserted street in the Lower 9th ward. New Orleans, LA, May 2006. Photo by author.

Individually, David Preziosi offered ways in which the Mississippi Heritage Trust has learned from Katrina. He stated that maintaining good records and surveys are essential in a long term preservation plan, as well as having multiple back-ups for those records. He also stated the importance of making partnerships, especially with the State Emergency Management Agency, and the importance of making sure there are enough resources (technologically and otherwise) available to help others after a storm. Lack of resources is an important issue for MHT because it was a big problem they faced after Katrina. Mr. Preziosi stated that he felt they would have had more to offer people had there been better resources available. One area where Mr. Preziosi found unanticipated success was the organization's website. After the storm, the site received

thousands of hits from people all over the world who wanted to know the status of different landmarks and properties. By keeping the website updated, the organization found a useful tool in getting information out to the public and receiving donations (interview, 5/15/07).

Elliott Perkins, director of the Historic District Landmarks Commission, also shared what he felt were some important lessons learned after the storm. He felt that the survey process and stabilization could have gone faster if the commission had better electronic resources. He also pointed out the problem of inappropriate rehabilitations that were taking place after the storm. Because historic buildings typically have different dimensions than newer construction (i.e. higher ceilings), places like Home Depot or Lowes often do not have adequate materials for repair. Many homeowners do not realize this, and are not aware that there may be other resources available to them. Thus, many homes end up being repaired or restored improperly. Mr. Perkins implied that educating historic homeowners before and after a disaster about the specific needs of their historic homes could help to decrease the chances of inadequate repairs, and could be an area of opportunity for the city in the future (Perkins interview 5/21/07).

Other issues addressed by these individuals as areas for improvement included community involvement, working with the media, and developing a comprehensive disaster plan for the Gulf Coast. Patricia Gay said that building civic pride and involving the public in preservation was essential to raising awareness and promoting good practices after a disaster. She also stated to beware of the media and to find a way to counter untruths (Gay interview 5/21/07). This is especially challenging today due to advances in modern technology. Hurricane Katrina was extensively covered by all forms of media, and not all of the coverage accurately portrayed events. After Katrina, one newspaper published an unsubstantiated claim that 60,000 structures in New Orleans would have to be demolished (O'Connell 10). This claim was a

complete fabrication and preservationists had to convince the rest of the world that much of the damage was repairable. Because of issues like this, preservationists should be aware of methods of dealing with the media to make sure issues are presented as truthfully as possible.

In addition to the comments of Ms. Gay, David Preziosi advised the need to develop a comprehensive coastal recovery plan in case of future disasters, and the need for a federal program to improve survivability of structures on the Gulf Coast including mitigation approaches that will encourage retention and strengthening of historic buildings ("Historic Preservation Vs. Katrina" 73-74). For example, after Katrina, historic homeowners were not required to elevate their homes according to new building safety guidelines, even though this might protect their home from future damages. One fear was that elevating a home or using materials to strengthen the structure would disqualify a home from being included on the National Register or a historic district. If federal guidelines could be re-evaluated for historic homes in coastal areas and a workable program developed for homeowners to combat this mentality, more cultural resources could be saved in the future.

Additionally David Fields, director of Operation Comeback at the Preservation Resource Center, reaffirmed the need to listen to individual homeowner's wants and needs. He also advised never to underestimate the strength of an older building. Because of age, historic buildings are almost always put on the demolition lists if they have suffered damage after a disaster, when in actuality older buildings are often much stronger than newer homes

Fig. 5.10 Restored home in the Lakeview neighborhood. New Orleans, LA, May 2007. Photo by author.

because they used old growth wood and had higher levels of craftsmanship. Mr. Fields said he was amazed by what people threw away after the storm, and that reusing materials from damaged properties could have saved people a lot of money in restoration costs (interview 2/26/07). Learning this lesson is important for preservationists because they are the ones who need to teach homeowners and volunteers what is salvageable and what is not. The more historic infrastructure that can be saved (even if it is small details), the more history can be preserved.

Progress

Although recovery is still ongoing in the Gulf, much progress has been made by preservationists, local neighborhoods, and the local government. St. Tammany parish, which had over 40,000 damaged homes after the storm, has already created a modified disaster plan that would allow the parish to sustain itself for 7 days with no outside help in the event of a disaster. The parish has also teamed up with local parishes to form a regional re-entry plan that would allow first-responders, then community partnership members (utility companies, grocery trucks, etc), and then residents to return to their homes. In addition, a new Emergency Operations Center was created at the Slidell Municipal Airport to be used as a communications hub in the event of an emergency. This location was chosen because it did not flood during Katrina (Stevens 2).

Fig. 5.11 Street under construction in the Lakeview neighborhood. New Orleans, LA, May 2007. Photo by author.

Other neighborhoods in the Louisiana area are returning to something resembling their pre-Katrina

state. Because of rebuilding programs many homes are being rebuilt and homeowners are returning to their old neighborhoods. Since Katrina, the New Orleans chapter of the Rebuilding Together Program has totally renovated 50 homes at an average cost of $40,000, with dozens more being completed. In addition, the national organization for Rebuilding Together has implemented a program called Rebuild 1000.The program goal was to rebuild 1000 homes affected by the hurricane and 100 homes have been completed so far (Lemann 10). Still, even with all the rehabilitation currently going on the losses to demolition are staggering: 7,500 homes demolished to date and another 4,000-5,000 estimated to come down according to FEMA (Curtis 25). Clearly demolitions are still going to be preservationist's biggest struggle in New Orleans. However, if homeowners continue to gain education and insight from rebuilding programs perhaps some unnecessary demolitions will be curtailed.

On the Gulf Coast the battle is a little different. Preservationists are struggling with demolitions but they are also dealing with large development issues. An organization called Preservation House has been working diligently to contact homeowners whose homes are currently abandoned and in danger of demolition along the coast. As of this year they have had a 30% success rate with about 560 property owners applying for grants, and funding approved for 285 structures (Curtis 33). Getting these property owners back to their homes is crucial to preserving some of the historic character of the Mississippi coast as commercial developers, casino operators, and condominiums threaten to reshape the coastline.

Other areas that are not facing development issues are still worrying about demolition and reforming historic districts. In Pass Christian, 80% of the beachfront homes were lost. Of the remaining structures, some are being repaired while others are being salvaged for building material. Inland, the state is looking to create more historic districts, especially in the area of

Turkey Creek, a community that was originally begun by freed slaves (Curtis, 33-36). Redistricting will have to be done in many of the coastal areas since so many historic properties were lost. As a result, the state will now have to focus on areas that once wanted to be designated but never were as a means of protecting what little historic infrastructure is left (Preziosi interview 5/15/07). Protecting these remaining structures is crucial for preservationists in the battle of protecting the coast from becoming completely overrun with new construction.

Conclusion

The devastation to cultural resources in the Gulf Coast after hurricane Katrina was huge and the true impact may not yet be known since recovery is still ongoing. Thanks to grant money from the government and generous private donations, many historic resources have been saved. Still, there have been many casualties. Although the French Quarter of New Orleans was spared, many vernacular communities suffered. According to author Virgil McDill,

> Working-class neighborhoods like Holy Cross, Mid-City, and Treme are the city's heart and soul. The shot-gun houses, Creole cottages, and bungalows are home to many of New Orleans' musicians, cooks, and Mardi Gras Indians—the people who create the rich cultural fabric that makes New Orleans the unique place that millions of us love (7).

Because of high poverty levels, many of these historic communities are in danger. People cannot afford to rebuild and their houses are destined to a fate of demolition by neglect. However, thanks to programs such as the ones employed by the Preservation Resource Center, some of these homes are being saved and preservationists are helping to bring people back.

Despite being lost in the media coverage, the Gulf Coast has forged its own way towards recovery by working to repair important landmarks such as Beauvoir and trying to restore what historic structures are left on the coastline. When Katrina first approached the Gulf, everyone was worried about New Orleans and when the storm bypassed the city it seemed everyone

breathed a sigh of relief, while no one seemed to consider the magnitude of destruction on the coast of Mississippi. When the levees broke in New Orleans, all of the media was there to show people standing on roofs and people crying for aid in front of the Superdome, while there was very little coverage of the virtually flattened Gulf Coast. In the two years since the anniversary of the storm, coverage has always focused on New Orleans, whereas there is barely mention of the cities of Biloxi, Pass Christian, and Bay St. Louis that suffered equally, if not more damage.

With so much still to be accomplished, both states may not recover from the devastation of Katrina for years to come. Even though the levees are being repaired in New Orleans, they are still not strong enough to withstand another storm like Katrina, and may not be structurally sound until final repairs are completed in 2011 (Schleifstein 1-2). In addition, the delicate wetland areas around the Gulf will need to be evaluated as a restoration rather than a development project. A restored wetland area would minimize flooding and provide a buffer to storm surges that could significantly impact cities and structures should another disaster occur. If preservationists in Louisiana and Mississippi can work to correct their mistakes from Katrina and plan accordingly, then the hazards of another disaster will be greatly minimized.

Chapter 6: Case Study Analysis and Conclusions

"Preparedness Plans consist of common sense leavened with long lists of things to do, responsible parties and telephone numbers."

– Carl Nelson, *Protecting the Past from Natural Disasters* (77)

The two case studies provided in this thesis were chosen because of their similarities and because they were seminal disasters for preservation professionals. In Charleston, New Orleans, and Mississippi, preservationists had never dealt with a disaster the magnitude of Hurricanes Hugo or Katrina in their recent past. Their lack of planning and preparedness and the subsequent losses from the disaster show the direct need for disaster planning education among preservation professionals. Carl Nelson states that the strongest lesson of Hurricane Hugo for preservationists is that "it is possible to protect many, if not most, of our historic places from disasters" (77). With adequate planning and education by preservationists a large amount of damages could have been prevented during Hugo and Katrina. Authors such as Carl Nelson, Barclay Jones, and Dirk Spenneman are pioneers in terms of bringing this type of education to the forefront of preservation planning, with case studies to illustrate what works and what does not work in a disaster situation. This chapter seeks to supplement their work by analyzing the Hugo and Katrina case studies, evaluating what was done well and what still needs improvement, and studying whether the lessons learned from Hugo had any impact on Katrina recovery.

Analysis

Although sixteen years separate Hurricanes Hugo and Katrina, it is important to note that many similarities existed in terms of planning, response, and recovery. After hurricane Hugo, a large mistake was the fact that surveys for historic properties were not up to date and not in areas

where they could have been easily accessible, whether in file drawers or on a computer database. Despite years of advances in technology, the same was true of Mississippi and Louisiana in 2005. Surveys were not up to date and information was not readily available. Further, because of the selectivity of surveys many important neighborhoods and communities were lost or severely damaged and there is no record of what resources those areas once held. According to Morgan, much of the vernacular architecture that was damaged in both states was "not included in historic resource survey inventories and had not been considered for placement in them" (707). Lack of inclusion caused the loss of resources important to the culture and history of the affected areas.

Another similar problem faced by Charleston and New Orleans preservationists was getting people who wanted to rebuild immediately to take the appropriate rehabilitation steps. As stated in the New Orleans case study, many people were repairing but were using materials inappropriate for historic structures. In Charleston, similar problems had to be addressed, especially in regards to roofing materials. In both cases educational seminars were crucial in educating homeowners and others about the importance of using the correct materials, and giving them the information on how and where these resources may be obtained. Although the problems were addressed after the disaster, giving homeowners this education *before* the disaster would free up resources and allow recovery to move at a much smoother rate. Including other individuals in this education, (elected officials, contractors, and insurance companies) would also be beneficial to preservationists in educating the community about historic structures and how they need to be maintained.

Maintenance of historic properties was another issue faced by preservationists after the hurricanes. *Protecting Historic Structures From Natural Disasters: Disaster Preparedness Planning for Hurricane Hugo in Charleston, South Carolina* written by Katherine Elliott on

Charleston's recovery after Hurricane Hugo provides a detailed analysis of how well buildings withstood the hurricane. In her study, the buildings that suffered the worst damage were the ones that were not properly maintained. Similar results were found in New Orleans and Mississippi. According to Behre, the most severely damaged houses in New Orleans seem to have suffered from neglect that predated Katrina while others were damaged by fires possibly before Katrina or from electrical or gas mishaps. Behre estimates that as much as 15% of the city's housing stock was blighted before the storm ("Hard Choices" 1/13/06). While neglect appears to be the most obvious cause for deteriorating buildings, another possible culprit may be inadequate building codes. In the early days of the city, the practice of elevating buildings was widespread to avoid flooding. The houses that were built in this manner largely escaped the floodwaters of Katrina, while ones built on a concrete pad did not fare as well. According to one author, "the idea of raising houses was the perfect adaptation to living [in New Orleans], but then people forgot" (Karaim 31). As demonstrated by the extensive damage of Katrina, perhaps the idea of elevating buildings should be reconsidered by the city and by preservationists.

Another hurdle that both Charleston, Louisiana, and Mississippi preservationists had to overcome was the slow response of the government to recovery needs. After Hugo, there were many complaints that the government and FEMA were not moving quickly enough to get resources and funding to the affected disaster areas. As was well-publicized through the media, Louisiana and Mississippi also had a number of problems with FEMA response. Mayor Joe Riley of Charleston commented on the similarities in government response stating, "Katrina underscores the lessons learned in 1989: the federal government should restructure itself so it can respond more quickly to communities devastated by a major hurricane or other disaster" (Behre 9/12/05). Preservationists took a huge step towards addressing this issue by presenting the issues

of preservation and natural disasters when they met in November 2005 in front of Congress. This summit appeared to be successful in that funding was secured for historic sites damaged by Katrina. However, the only real indicator of change will be the response after the next disaster. Perhaps with the issues brought up during the congressional meeting, along with the scrutinizing media and the billions of dollars in damages caused by Katrina, the government will take better steps towards future disaster preparedness.

While there were many similarities between Hurricanes Katrina and Hugo, there were some differences worth noting. A big problem in New Orleans and Mississippi that was not so evident in Charleston was the dwindling population. After hurricane Katrina, some people were not allowed to return to their homes for as many as six or more months. In that time period, many had already found new jobs and made new homes in different states and had no desire to return to their ruined properties. In January of 2006, less than 40% of the population had returned to their homes in New Orleans (Morgan 712). As time has passed the number has gone up, but many houses and streets are still abandoned—especially in poorer areas such as the ninth ward. An even bigger difference is occurring along the Mississippi Coast, where people are returning but they are coming home to a place that is now being rebuilt with condos and casinos. Charleston preservationists did not have to deal with this issue as the topography of the city protected buildings from being completely washed away.

Another difference between the two case studies is the advances in media and technology. During the time of Hugo, the internet was still in its infancy and inaccessible to a majority of people, whereas Katrina occurred during a time when most people had access to the internet. Disseminating information via the internet turned out to be an important tool after Katrina as David Preziosi of the Mississippi Heritage Trust pointed out. Because of its wide

communication base, the use of websites for historic properties and sites should be a part of every preservation organization's disaster plan. In addition to the internet, cell phones, digital cameras, and other technological advances were also present during Katrina. These tools were excellent for documenting damages and communicating with outside resources.

Case Study Conclusions

Although South Carolina has strengthened building codes and created a more comprehensive disaster plan, people have become complacent. The state has not dealt with a major hurricane since Hurricane Hugo sixteen years ago. Polls in South Carolina show that 3 of 4 people in the state have no storm plan at all, and 2 out of 3 have no survival kit (Peterson 2). After Katrina, fear inspired some in South Carolina to take action by signing up for emergency training classes in Charleston County. However, much of the population who survived Hugo has left and newer residents who did not live through Hugo are still naïve of the damages a major hurricane can cause (Hicks 2). Getting these people information on the dangers of a large storm is crucial not only for individual safety but also for historic preservation since many homes and businesses in the city are historic structures.

With time, issues of complacency will undoubtedly be an issue faced by preservationists in the Gulf Coast. With new people arriving in the city to take advantage of rehabilitating historic homes education will need to be a priority. While it is probably still too soon to determine how big a problem this will be, preservationists should be aware that this is a potential issue. By reminding people that they have chosen to purchase property in an "at risk" area and teaching them the lessons of the past, preservationists can help to curb apathetic attitudes and teach people to be responsible in caring for their property. At a minimum these simple steps

could provide a safer environment for people and a better method for protecting cultural resources.

The hope after a major natural disaster is that people will be proactive and take the necessary steps to be prepared for when the next one occurs. One of the big questions I had while researching these case studies was whether the preservationists affected by Katrina utilized any lessons learned from Hurricane Hugo or past disasters. I believe the general conclusion is no, and I think that this largely stems from either the "it-will-not-happen-here" attitude or to general complacency. Hurricanes and flooding are not uncommon to the Gulf Coast. In 1965 Hurricane Betsy inflicted Katrina-like damages to New Orleans, toppling levees and causing extensive flooding. The damage from Betsy caused 5,000 square miles worth of damage and displaced a quarter of a million people (Conaway 20-21). Yet despite promises made to repair deficiencies in the levees and in the lack of planning, it seems that a repeat disaster occurred with hurricane Katrina where the same promises are being made once again. In Mississippi a similar occurrence happened when Hurricane Camille tore through the coast in 1969. The storm was large, with 200 mile per hour winds and a 25 foot storm surge leaving a large amount of damage throughout the state. Yet, residents refused to heed warnings of Katrina's strength, using the refrain "this building survived Camille" as a baseline for how they should prepare (Huffman "Mississippi's Morning After").

The fact that these cities have not learned from past disasters is frustrating for those who would like to see changes in disaster planning policy. Equally as frustrating is the fact that people consistently underestimate the power of nature. As shown in both the Hugo and the Katrina case study, no government or organization expected the amount of destruction that actually occurred. The result was the unnecessary loss of thousands of lives and thousands of

cultural resources. Based on these examples, it is easy to see that preservationists and the various levels of government still have a lot of work ahead of them in terms of education and the organization of resources to prepare for the next large disaster. To get a head start, preservationists should look to case studies like Hugo and Katrina as important examples of why there is a need to plan for disasters. By studying these examples and learning the appropriate way to plan and approach a disaster, preservationists have a better chance of protecting historic resources in the future.

Final Conclusions

Natural disasters can have devastating effects on historic resources that are not properly protected. Yet the important thing to take away from this study is that cultural resources *can* be protected with forethought and planning. Even in the most unpredictable situations planning will aid in the recovery process by saving time, money, and resources. By studying examples like Hurricane Hugo and Hurricane Katrina preservationists can begin to see trends and patterns of effective solutions and clear mistakes. Learning from the past and incorporating disaster plans into regular planning sessions at every level will provide the most protection and will maximize the survivability of historic resources.

In addition to studying past examples, here are some important things to remember when planning for a disaster. A workable plan is essential, especially one that is easily adaptable, simple, and flexible (Nelson 163). Make sure people are aware of the plan and understand their role in carrying it out. Although a disaster can cause severe devastation, "use the recovery process as an educational laboratory and explore ways of making historic structures more resilient to the violent forces of nature, even to study new aspects of history revealed by the

damage" (Nelson 132). Every disaster has different circumstances and new challenges, and with these new challenges come an evolution of ideas that become more refined with more experience. Learning from these experiences is critical to preservationists in keeping historic resources safe. Likewise, understanding the role of the state and federal government in a disaster situation also offers a form of protection. Carl Nelson states, "Because natural disasters are going to happen, and when they do governments are going to be involved in paying for the damages, the public has a direct and vital interest in keeping injury—to populations and structures—to a minimum" (166). In most cases, the government is often slower in responding to a disaster than might be desired. Having a plan at the local level that can be enacted immediately after a disaster will be beneficial to those interested in keeping cultural resources safe because it will ensure an instant response.

Recommendations for Further Study

Topic	Research Questions
1. Disaster planning and response to other disasters (i.e. earthquakes, tornadoes, tsunamis, mudslides, etc)	How does each disaster relate to historic preservation issues? What are the best methods for protection in each situation?
2. International Disaster Response	How do other countries protect cultural resources from natural disasters? What can preservationists in the United States learn?
3. Building codes	How do building codes affect the disaster planning and recovery process for historic resources? Does altering a building code after a disaster affect a historic resource's eligibility to state and national registers?

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Appendix A

Historic Charleston Foundation Hurricane Plan

TABLE OF CONTENTS

I

INTRODUCTION

Hurricane season for the southeastern United States is June 1 to November 30. This document is Historic Charleston Foundation's guide to the actions it will take to protect the historic properties for which it is responsible should the City of Charleston experience a hurricane.

The Hurricane Plan focuses on hurricane preparedness and recovery yet recognizes that Charleston has suffered, and recovered from, a wide range of disasters. Hurricane Hugo in 1989 was the worst major natural disaster to affect Charleston in recent years, but earthquake, fire, and tornado have also devastated sections of the city. Hurricane Hugo was a powerful reminder of how vulnerable coastal cities are to the effects of major hurricanes and how devastating a major storm can be. This plan assumes that hurricanes constitute the primary disaster threat to the cultural resources for which Historic Charleston Foundation is principal steward.

II

AUTHORITY

This plan was prepared initially by the staff of Historic Charleston Foundation and adopted by its board of trustees in 1995. To ensure its effectiveness, the plan will be reviewed annually and amended as necessary.

ADOPTED
26 September 1995

UPDATED
May 22, 2006

_____
Executive Director

III

A. EMERGENCY COMMUNICATIONS PLAN

Communications will be critical in effective preparation for a hurricane. The goals of Historic Charleston Foundation's *Emergency Communications Plan* are:

1. Establish an easy checklist of procedures staff should follow before, during and after an emergency.
2. Establish an Emergency Communications Center that will provide accurate, timely information to staff, board of trustees, community and media.

If a hurricane **WATCH** (hurricane conditions possible within 36 hours) or **WARNING** (hurricane conditions possible within 24 hours) is declared after business hours, ***it is each staff member's responsibility to contact Emergency Communications Center to find out if immediate action is needed.***

- **The Emergency Communications Center will be at 40 East Bay.** In the event of an emergency, all HCF staff can contact the Emergency Communications Center at **723-1623** or **577-2067**. If those telephone numbers are not working, contact **329-8760** or **670-2654** for information regarding whether to report to work and where help may be needed. The Director of Museums work mobile phone 843-693-0902 is the back up number.
- If deemed necessary, the Administrative Receptionist (Annette) and Director of Marketing and Public Programs (Leigh) should contact the Site Leaders at home to apprise them of the situation and let them know if they need to contact the staff members on their team and if they need to report to their assigned locations.
- A list of employees will be kept as they report in. This list will provide the Site Leaders information on their Site Team.
- If Board members need to be apprised of a situation, that will be handled by the Executive Assistant/Director of Operations (Betty).
- Outgoing calls at 40 East Bay Street should be made at a number other than 723-1623 (or other lead location phone number) to keep that line open for incoming calls.
- Board of Trustee members, community and media can call the Director of Marketing and Public Programs for accurate updates and information.
- The Emergency Communications Center should actively discourage the release of any false, premature or inaccurate information by providing factual information. The only staff members who are to communicate with the media are the Executive Director, Director of Operations, and Director of Marketing and Public Programs.
- Alternate location for Emergency Communications Center is Museum Shop at 108 Meeting Street (329-8760).

Deleted: Manager of Foundation Properties

III
B. STAFF RESPONSIBILITIES

Beginning in 2004, Historic Charleston Foundation shifted the responsibility for hurricane preparations and recovery away from Departments and Department Heads to a more facility-centered approach. The position of Site Leader was created as a means to simplify and expedite pre-storm preparations for each of HCF's five permanent properties. Site Leaders are staff members who have accepted added responsibilities in the event of a hurricane and have the authority to coordinate hurricane preparations at each HCF facility. However, certain staff members have specific responsibilities appropriate for their positions within the Foundation.

Pre-Storm

Executive Director

- ❑ Make decisions regarding extent of vulnerability, immediacy of need and time-table for starting and completing pre-storm preparations.
- ❑ Communicate with Site Leaders and Department Heads regarding plans.
- ❑ Advise board president and other members of the executive committee of plans.
- ❑ After storm, prepare final report for Foundation Board.

Deleted: Manager of Foundation Properties,

Director of Finance

- ❑ Ensure that deposits are made from all retail locations.
- ❑ Backup sales records and make copies of store inventories.
- ❑ Secure additional cash for emergency use.
- ❑ Secure records in fireproof files.
- ❑ Supervise emergency storage of Foundation computers.
- ❑ Review insurance records.

Director of Marketing and Public Programs

- ❑ Supervise Emergency Communications Center.
- ❑ Inform staff of office closings.
- ❑ Assist Executive Director with communications and plan implementation.
- ❑ Contact Convention and Visitors Bureau with closing information.
- ❑ Serve as Foundation liaison with local, state and federal government, CVB, and news media.

Deleted: *Manager of Foundation Properties*

- ❑ Supervise and assist Maintenance Crew.
- ❑ Advise and assist Site Leaders.
- ❑ Maintain contact with Emergency Communications Center.

All Staff

- ❑ Contact Emergency Communications Center.
- ❑ If unable to contact Emergency Communications Center, contact their Site Leader.
- ❑ Report to assigned site as directed **[see Appendix E].**
- ❑ Secure individual work areas.

Site Leaders

- ❑ Direct pre-storm preparations at their assigned property.
- ❑ Maintain contact with Emergency Communications Center during hurricane preparations to update on progress, ask for assistance, and notify when pre-storm site preparations have been completed.
- ❑ When preparations are complete the site will be referred to, and reported as, "CLOSED".

III
C. Timeline for Hurricane Preparations

Stages are designated by Executive Director or Director of Operations

STAGE ONE

[When tropical storm or hurricane is likely to hit Charleston]

1. This stage would ideally be implemented as early as possible. In all likelihood, it would be about two to three days ahead of landfall of a major storm.
2. Executive Director or Director of Operations will convene a meeting of all available Department Heads and Site Leaders to determine: closing schedule for Museum Houses and Retail Locations; and a timetable for implementing preparations based on predicted landfall and severity of storm.
3. All staff should review Hurricane Plan.
4. Begin box-up of museum collection items directed by Director of Museums or Curator.
5. Site Leaders verify preparation supplies.
6. Maintenance Crew clean up grounds at each property and properly store any exterior objects that may become airborne in high winds.
7. Move plywood to designated sites as time allows.
8. Put Tyvek and plastic covers over archives materials and museum artifacts not in public view.

Deleted: House Museums Manager

Deleted: Collections Manager

STAGE TWO

[When Hurricane Watch is issued by Charleston County Government or National Weather Service. **A Hurricane Watch means that landfall is likely in 36 hours.**]

1. Emergency Communications Center begins operations.
2. Implement Hurricane Plan.
3. If a Watch goes into effect during a business day, instructions will be emailed.
4. If the Watch is after business hours, all staff must call 723-1623 or 577-2067 for instructions as soon as Watch is issued.
5. Site Leaders begin directing preparations unless otherwise instructed by Executive Director.
6. Electronic back-ups made for computer files.
7. Staff secures their personal workspace: important papers off desk and take computer hard drive to designated area.

STAGE THREE

[When Hurricane Warning is issued by Charleston County Government or National Weather Service. **A Hurricane Warning means that landfall is likely in 24 hours.]**

1. Final preparations completed.
2. Emergency Communications Center closed after last property "CLOSED".

III

D. PROPERTY SPECIFIC PREPARATION PLANS

The following site-specific hurricane preparation plans are:

1.) Intended to act as a guide for the Site Leaders.
2.) Designed to focus preparations on the most important resources.
3.) Prioritized with the goal that each property is secured in less than two hours.

Hurricane preparations by the Maintenance Crew for HCF properties are prioritized as follows:

1. Historic House Museums
2. Missroon House, 40 East Bay
3. Retail locations
4. Revolving Fund and Neighborhood Impact Initiative properties.

Pre-Storm Preparations
Nathaniel Russell House

Museum Collections:

- ❑ **Cover Romney portrait of Mary Rutledge Smith with Tyvek that is stored on the 3rd Floor.**
- ❑ **Remove Benbridge portrait of Middleton's, cover with Tyvek, place under bed in NR 204.**
- ❑ **Remove all silver objects, wrap with muslin or pacific silver cloth, and place in NR 303 storage.**
- ❑ **Remove all porcelain and glass objects, wrap in Bubble-wrap, secure with blue tape, place in boxes or Chest on Chests.**
- ❑ **Remove Exchange Rate book and Palladio Book from desks and place in NR 201 Library cabinet.**
- ❑ **Move all chairs to 2nd Floor.**
- ❑ **Cover all furniture with plastic (or Tyvek if designated).**
- ❑ **Remove all small objects from exhibit gallery cases, wrap in bubble or muslin, place in NR 303 storage.**

General Items:

- ❑ **Survey the exterior of the building and make sure all objects that could become airborne are secured or moved inside.**
- ❑ **Close all shutters and board up designated windows.**
- ❑ **Make sure all door openings are weather-tight.**
- ❑ **Unplug all electrical equipment and cover equipment with plastic and tape, being careful not to get tape on furniture.**
- ❑ **When possible move objects away from windows and toward interior rooms/walls.**
- ❑ **Remove all food from refrigerators.**

Gift Shop [These steps are only suggested if time allows; they are not a priority]

- ❑ **All merchandise is to be taken off the floor and window sills and placed on the shelves of the bookcases.**
- ❑ **Make sure computer is completely shut down and unplugged.**
- ❑ **Cover computer/jewelry case in plastic, secure with blue tape.**
- ❑ **Make sure water cooler and lighting in jewelry cases are turned off/unplugged**

Site Leaders, when preparations at your location are complete, report the site "CLOSED" to Emergency Communications Center. You and your site team may then be needed at another Foundation property.

Pre-Storm Preparations
Aiken Rhett House

Museum Collections:

- ❑ **Cover portraits of Harriet and Romeo & Juliet with pre-cut Tyvek.**
- ❑ **Remove all porcelain and silver objects from display case and in Art Gallery, wrap in muslin or bubble, secure to storage cabinet on 3rd Floor.**
- ❑ **Cover furniture with plastic, move only if necessary (DO NOT MOVE Cheval Mirror or Harp).**
- ❑ **Remove all glass globes, wrap in bubble wrap, store in chest drawers.**
- ❑ **Cover carpets and matting with plastic.**

General Items

- ❑ **Survey the exterior of the building and make sure all objects that could become airborne are secured or moved inside.**
- ❑ **Secure all windows.**
- ❑ **Unplug all electrical equipment and cover equipment with plastic and tape, being careful not to get tape on furniture.**
- ❑ **When possible move objects away from windows and towards interior rooms/walls.**
- ❑ **Remove all food from refrigerators.**

Gift Shop [These steps are only suggested if time allows; they are not a priority]

- ❑ **Move merchandise from under round table to top of table.**
- ❑ **Move books/merchandise on all shelves from lower shelves to upper shelf**
- ❑ **Make sure computer is completely shut down and turned off**
- ❑ **Make sure water cooler and lighting in jewelry cases are turned off/unplugged**

Site Leaders, when preparations at your location are complete, report the site "CLOSED" to Emergency Communications Center. You and your site team may then be needed at another Foundation property.

Pre-Storm Preparations
Missroon House, 40 East Bay

Museum Collections:

- ❑ **Remove all porcelain and sculptural objects from Reahard Room and Library, wrap in bubble-wrap, secure in box, and place in storage cabinet.**
- ❑ **Remove Missroon portraits from walls in Library, wrap in bubble wrap and secure in archives or closet by elevator.**
- ❑ **Remove candelabras from second floor stair hall landing, wrap in bubble and secure in archives or closet by elevator.**
- ❑ **Remove lamps and clock from pier table, wrap in bubble, place in box and secure.**
- ❑ **Unplug glass lamps, place in interior closet.**

General Items:

- ❑ **Survey the exterior of the building and make sure all objects that could become airborne are secured or moved inside.**
- ❑ **Secure all windows-close interior shutters and board up designated windows.**
- ❑ **Unplug all electrical equipment and cover equipment with plastic and tape, being careful not to get tape on furniture.**
- ❑ **Information Technology should supervise storage of computer central processing units in elevator which will be stopped on second floor.**
- ❑ **Consider the possibility of damage from flooding and carry valuable items to second floor or put on desks where practical.**
- ❑ **When possible move objects away from windows and towards interior rooms/walls.**
- ❑ **Remove all food from refrigerators.**

Site Leaders, when preparations at your location are complete, report the site "CLOSED" to Emergency Communications Center. You and your site team may then be needed at another Foundation property.

Pre-Storm Preparations
Missroon House, 40 East Bay

Museum Collections:

- ❑ **Remove all porcelain and sculptural objects from Reahard Room and Library, wrap in bubble-wrap, secure in box, and place in storage cabinet.**
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- ❑ **Unplug all electrical equipment and cover equipment with plastic and tape, being careful not to get tape on furniture.**
- ❑ **Information Technology should supervise storage of computer central processing units in elevator which will be stopped on second floor.**
- ❑ **Consider the possibility of damage from flooding and carry valuable items to second floor or put on desks where practical.**
- ❑ **When possible move objects away from windows and towards interior rooms/walls.**
- ❑ **Remove all food from refrigerators.**

Site Leaders, when preparations at your location are complete, report the site "CLOSED" to Emergency Communications Center. You and your site team may then be needed at another Foundation property.

Pre-Storm Preparations
Reproductions Shop, 105 Broad Street

General Items:

- ❑ **Survey the exterior of the building and make sure all objects that could become airborne are secured or moved inside.**
- ❑ **Protect first floor windows with plywood.**
- ❑ **Unplug all electrical equipment and cover equipment with plastic and tape, being careful not to get tape on furniture.**
- ❑ **Consider the possibility of damage from flooding and carry valuable items to second floor or put on desks where practical.**
- ❑ **When possible move objects away from windows and toward interior rooms/walls.**
- ❑ **Remove all food from refrigerators.**
- ❑ **Remove window unit air conditioners and close windows.**

Site Leaders, when preparations at your location are complete, report the site "CLOSED" to Emergency Communications Center. You and your site team may then be needed at another Foundation property.

III
E. HURRICANE RECOVERY

Post-storm Responsibilities

- After the storm passes, checking in with Emergency Communications Center is crucial for each employee. Please let them know where you can be reached and when you hope to return home and work.
- ***All employees are expected to return as soon as possible after an emergency; however extreme caution must be used in reoccupying storm damaged buildings. Do not attempt to reoccupy a building without clearance from Executive Director, Director of Operations, or Director of Museums. Do not enter a building alone.***
- Ideally, the Director of Museums will return as soon as possible and conduct a preliminary survey of our properties and inform Executive Director of their status. If this does not work as planned, the Executive Director or their designee will conduct the preliminary survey.
- The likely scenario for starting our recovery efforts will be for a full staff meeting at 40 East Bay prior to reporting to our assigned locations. However, you may be directed to report to another property.
- Site Leaders are to submit preliminary damage reports [see Appendix D] to the Director of Museums as soon as possible. Needs for immediate repairs should be noted.
- Preservation Department will assist in damage assessment.
- Executive Director will relay damage reports to members of Executive Committee and owners of properties leased by the Foundation.
- Director of Finance will contact insurance companies and FEMA, report preliminary damage assessments, and request initial adjustment conference.
- Executive Director, with advice from Department Heads, will establish priorities for repairs.
- Foundation implements city wide recovery plan [At present in discussion].
- Flexibility on the part of Foundation Staff will ensure a successful recovery.

Deleted: *Properties Manager or*

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Deleted: currently being drafted

Appendix A

HURRICANE PLAN SUMMARY

Emergency Communications

- **The Emergency Communications Center will be physically located at 40 East Bay (723-1623 or 577-2067).** During and after crisis, voice mail messages will leave instructions for staff. Staff may also leave information on voice mail.
- Alternate location for Emergency Communications Center is the Museum Shop at 108 Meeting Street (329-8760).
- If a hurricane **WATCH** (hurricane conditions possible within 36 hours) or **WARNING** (hurricane conditions possible within 24 hours) is declared after business hours, ***it is each staff member's responsibility to contact Emergency Communications Center to find out if immediate action is needed.***
- Each employee should keep an up-to-date list of staff phone numbers in their cars.

Pre-Storm Preparations

- Executive Director assesses emergency, determines timetable for action, and informs Emergency Communications Center personnel to notify Site Leaders when to begin pre-storm preparations.
- After contacting the Emergency Communications Center, if immediate action is required employees proceed to assigned properties.
- Staff working cooperatively will ensure that preparations are made expeditiously and well in advance of landfall so that employees can be released to make their personal preparations in a timely fashion.
- Site Leaders direct pre-storm preparations. Site Leaders will keep Emergency Communications Center apprized of the progress and needs of each location during closing.
- When preparations are completed at a property and before staff members are released, Site Leaders will report to Emergency Communications Center that the property is "CLOSED." Emergency Communications Center will then notify Site Leaders if assistance is needed elsewhere.
- Maintenance crew, directed by Minh Nguyen, will assist with preparations in the following order: (1) House Museums, (2) Missroon House (3) retail locations, (4) other Foundation properties.
- That same order will be used in directing assistance from staff members whose properties are "CLOSED."

Post-storm Responsibilities

- After emergency, checking in with Emergency Communications Center is crucial. Please let them know where you can be reached and when you hope to return home and work.
- **All employees are expected to return as soon as possible after emergency. However, extreme caution must be used in entering a storm damaged building. Do not enter without clearance from Site Leader. Do not enter a building alone.**

Post-storm Responsibilities (cont'd)

- Site Leaders are to submit preliminary damage reports to the Director of Museums as soon as possible. Needs for immediate repairs should be noted.
- Preservation Department will assist in damage assessment.
- Executive Director will relay damage reports to members of Executive Committee and owners of properties leased by the Foundation.
- Director of Finance will contact insurance companies and FEMA, report preliminary damage assessments, and request initial adjustment conference.
- Executive Director, with advice from Department Heads, will establish priorities for repairs.

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Deleted: Manager of Foundation Properties

Appendix B

Historic Charleston Foundation
Communications Task Force

Last updated 05/06

Goals:

1. Establish an easy checklist of procedures staff should follow before, during and after an emergency.
2. Establish an Emergency Communications Center that will provide accurate, timely information to staff, board of trustees, community and media.

Site leaders and executive staff should call the Emergency Communications Center with needs and information. Staff should call the Emergency Communications Center to find out what they should be doing.

Procedures

1. **Establish an Emergency Communications Center.**
    a. In the event of an emergency, the Administrative Receptionist's (Annette's) desk at 40 East Bay, phone 577-2067, becomes the communications hub.
    b. In the event 40 East Bay cannot be used, move the Emergency Communications Center to 108 Meeting St., phone 329-8760. Leigh or Annette will leave instructions for HCF staff on the 723-1623 voice mail message.
    c. In the event neither 40 East Bay nor 108 Meeting can be used, the Emergency Communications Center cell phone number will be 670-2654.

2. **Staff the Emergency Communications Center.**
    a. In the event of an emergency, the Administrative Receptionist (Annette) and Director of Marketing & Public Programs (Leigh) should report to the Emergency Communications Center for assessment and further instructions.

3. **Receive incoming information about what is happening.**
    a. The Executive Director (Kitty), Director of Operations (Betty), or Site Leader responsible for each site involved shall provide information regarding site openings and staff responsibilities (should staff come in or not, where to go) to Emergency Communications Center.
    b. Anyone who needs additional staff at a specific site to help in an emergency should call the Emergency Communications Center with those needs. The center will send staff to locations where help is needed.
    c. Site Leaders will contact the Emergency Communications Center with information about conditions of the buildings.

4. **Disseminate accurate, timely information and discourage rumors.**
    a. In the event of an emergency, all HCF staff can contact the Emergency Communications Center at 577-2067, (if that # is not working, then contact 329-8760 or 670-2654) for information regarding whether they should report to work and where their help may be needed.
    b. If deemed necessary, the Administrative Receptionist (Annette) and Director of Marketing and Public Programs (Leigh) should contact staff at home to apprise them of the situation and let them know if they need to come in and where to report.
    c. If Board members need to be apprised of a situation, that will be handled by the Executive Assistant/Director of Operations (Betty).
    d. Outgoing calls at 40 East Bay Street should be made on a telephone line other than 723-1623 (or other lead location phone number) to keep that line open for incoming calls.
    e. Board of Trustee members, community and media can call the Emergency Communications Center for accurate updates and information.
    f. The Emergency Communications Center should actively discourage the release of any false, premature or inaccurate information by providing factual information.

5. **Channel specific calls when appropriate.**
    a. Calls from the news media should be referred to Director of Marketing and Public Programs (Leigh).
    b. Calls from the Board of Trustees should be answered by the Emergency Communications Center or referred to the Executive Assistant (Betty).

6. **Prepare the staff before an emergency arises.**
    a. The Executive Assistant (Betty) should ensure that updated copies of the crisis plan are physically at every HCF location.
    b. The Director of Museums (Fielding) should review the plan at the July staff meeting.
    c. The Administrative Receptionist (Annette) should update and distribute the phone list of all staff members home/cell phones as new employees are added. It is the staff's responsibility to take that list home to keep in a safe place.

Deleted: Manager of Foundation Properties

Appendix C
Hurricane Supply Inventory

Site: _____

Site Leader: _____

Date: _____

Preparation:

Item	Number	Location
Archival boxes, waterproof		
Drill		
Blue tape		
First aid kits		
Gloves, protective		
Ladder, extension		
Ladders, step		
Nails, roofing simplex		
Phone Lists		
Plastic sheeting		
Plywood, needed sizes		
Safety glasses		
Sand bags, full		
Screws		
Tools (basic): Hammers Screwdrivers Pliers Crescent wrenches		

Clean-up:

Item	Number	Location
Bucket with wringer		
Disinfectant		
Extension cords (3-wire grounded, 50 ft)		
Fans		
Flashlights (with working batteries)		
Garbage bags, plastic		
Generators, portable		
Hand saw		
Hard hats		
Masks, protective		
Mops		
Roofing tarps, 16'x20'		
Scissors		
Sump pumps		
Water		

Appendix D

DAMAGE ASSESSMENT FORM
[Being updated]

Appendix E

MEMORANDUM

To: HCF Staff

From: Fielding Freed, Director of Museums

Deleted: Manager of Foundation Properties

Date: May 22, 2006

Subject: Hurricane/Disaster Response Assignment Roster

Hello Everyone,
In an effort to clarify the role of each staff member in the event of a hurricane, the following is a list of employees and the facility to which everyone is assigned. In the drafting of this list several factors were considered. However, if you or your Department Head feels that you should be assigned elsewhere, please have them contact me.

Russell House	Aiken-Rhett	40 East Bay	105 Broad	108 Meeting
Valerie Perry*	Fielding Freed*	Rick Rockwell*	Libby Rose*	Steve Hanson*
Fanio King	Gina Wurst	Kitty Robinson	John Keleher	Dale Murray
David Singleton	Lauri Lechner	Annette Chamberlain+	Annette Murphy	Susan Epstein
Carroll Ann Bowers	Susan Epstein	Leigh Handal+		Rich Gaskalla
		Katherine Saunders>		
		Karen Emmons>		
		Tamra Shattuck#		
		Robin McCravy		
		Cindy Ellis#		

Revolving Fund/NII
Betty Guerard*

*Site Leader
+Emergency Communications Center
>Archives
#Information Technology

The Maintenance crew, supervised by Minh Nguyen, will assist with preparations in the following order: (1) House Museums, (2) Missroon House (3) retail locations, (4) other Foundation properties as directed by Director of Operations and Director of Museums.

Deleted: Manager of Foundation Properties

While it is mandatory for each employee to report to their assigned location, please keep in mind that we have designed our hurricane plan so that each property should be secured in two hours or less. The goal of the hurricane preparations are to protect the irreplaceable and allow each employee enough time to take care of their personal plans.

Thank you,

Fielding

Appendix F

Emergency Telephone Numbers

Emergency Services	
Fire, EMS, and Police Department	911
Poison Control Center	1-800-922-1117
Hazardous Materials and Oil Spills	1-800-424-8802
Animal Control	577-7434
Utilities	
Charleston Water Department	727-6800
SCE&G	745-6000
Electrician-Orbital Engineering	723-7058
Plumber-Grady Williams	795-2169
Facilities Repairs	
Locksmith - Jantzen	722-8282
Geno Kollar	873-8354/1-800-717-9867 (pager)
Architect - Glenn Keyes	722-4100
Eddie Fava (40 EB)	723-5099
Contractor - Richard Marks	853-0024
Alarm System - Sonitrol (All Locations)	747-0904
ADT (105 Broad)	767-4527 or (800) 327-0867
Tree Damage- P. O. Meade	795-5307
Roofing Repair-Joe Wells	881-8868
HVAC:	
Morelli (NRH and ARH)	554-8600
Berkeley (108)	747-6700
Smoak's (40 EB)	556-9550
Bozzelli (40EB)	722-3146
Insurance - Flather and Perkins (collections)	1-202-466-8888
Legal - Peter McGee	722-3400
Exterminator - Ledford's	571-6274

Appendix B

New Orleans Neighborhood Planning Guide

NEIGHBORHOOD PLANNING GUIDE

A guide for the recovery planning process prepared by the City Planning Commission of New Orleans

Commission Members
Timothy H. Jackson, Chairman
Edward Robinson, Sr., Vice-Chairman
Lynes R. Sloss
Lester V. Johnson
Sandra Duckworth
Louis J. Volz, III
Lois Carlos-Lawrence

City Planning Commission Staff
Yolanda Rodriguez, Executive Director
Leslie Alley, Deputy Director

Comprehensive Planning Section – Project Team
Dubravka Gilic, Planning Administrator
Paul Cramer, Principal City Planner

Adopted by the City Planning Commission on June 13, 2006

TABLE OF CONTENTS

About This Guide

In the City of New Orleans the planning process that is currently underway began shortly after Hurricane Katrina. In the late fall of 2005, a preliminary planning framework was released by Mayor C. Ray Nagin's Bring New Orleans Back (BNOB) Commission. The planning framework was developed by the Philadelphia based planning firm of Wallace Roberts and Todd. Following the BNOB report, many neighborhoods began to meet and develop their own independent neighborhood plans, enlisting the help of local residents, planners, architects, national universities and professional firms. Additional planning support was provided in certain neighborhoods by consultants retained by the New Orleans City Council. By May 2006, some neighborhoods had completed preliminary versions of their recovery plans. Others are still trying to complete their work or just beginning to meet.

Absent throughout much of this recovery process has been a consistent framework. The purpose of this guide is to provide a unified planning process for neighborhood groups and provide a consistent format for integrating recovery plans into a single city-wide document. Using this guide ensures that stakeholders have a neighborhood based plan that represents their vision of rebuilding and most importantly that the implementation component of the plan is realistic. In preparing this guide, the City Planning Commission of New Orleans has developed a set of goals that should serve as the foundation for all neighborhood and city-wide recovery planning efforts. The primary goals are as follows:

1. Engage effective and meaningful citizen involvement by both local and displaced residents;

2. Encourage all neighborhoods to initiate a unified planning process and to build on efforts currently underway in other communities;

3. Promote practices of hazard mitigation to reduce or eliminate the future loss of life and property resulting from hazards (natural and man made);

4. Create dynamic community based recovery plans that can be updated as conditions change and new projects (or programs) are identified; and

5. Promote sustainable growth management practices and repopulation strategies.

I. The Recovery Planning Process

Unlike master planning, recovery planning is the process of addressing actions to be taken before, during and after a disaster (man-made or natural). This process in particular will specifically address damages sustained from Hurricanes Katrina and Rita and recommend projects to aid in the community's recovery from those disasters. The recovery planning process identified in this guide adopts a traditional approach to planning. The process begins with neighborhood groups organizing themselves preferably by planning districts to prepare local plans that will minimally contain a needs assessment, rebuilding scenarios and an implementation strategy. Once completed, district plans will be submitted to the City Planning Commission of New Orleans where a city-wide planning team will work to consolidated district plans into a single city-wide document. Once adopted by the City Council, the city-wide plan will be forwarded to the State of Louisiana for implementation. (See Attachment #1 for an illustrative overview of the planning process).

Before starting a recovery plan, interested parties should check for an existing neighborhood association in and around your community. In the New Century New Orleans Land Use Master Plan, the City Planning Commission identified 73 neighborhoods throughout the City (See Attachment #2 Neighborhood & Planning District Maps) and has a database that recognizes over 200 neighborhood associations. To discover the names and boundaries of existing associations you may contact your district City Council member or the City Planning Commission at 504-658-7000. If a neighborhood association is organized, check with the association's leader to determine if your area is currently engaged in the recovery planning effort and get involved.

If you and your neighbors decide to organize your own neighborhood association, consider the following:

- Avoid overlapping boundaries with other associations.
- Include everyone that lives or owns property within the newly formed association as potential members.
- Distribute information about the association and keep everyone informed about the association's activities. A newsletter or web sites are two ways to inform your neighborhood.

The recovery planning process outlined in this Neighborhood Guide was designed to provide a consistent community driven format for integrating neighborhood and district plans into a single city-wide plan. The next sections walk through the planning process, plan structure and project deliverables.

PHASE ONE: START UP

The first phase of the neighborhood planning process includes the steps listed below. Please note that some of these steps may occur concurrently.

Step 1: Identify the Project Team, Stakeholders, Committee Structure and outline their responsibilities. The Project Team should geographically represent neighborhood groups throughout the designated Planning District.

Step 2: Obtain consensus on area boundaries (Planning District boundaries are preferred) and establish an area base map.

Step 3: Prepare an initial overview of known issues and readily available planning information.

Step 4: Identify plan goals, objectives, assumptions and critical questions.

Step 5: Identify plan scope, methodology and the rationale for decisions. Determine what type of consultants will be needed and how they will work with the Project Team.

Step 6: Establish a preliminary work program (to be finalized after input from consultants and the community). A work program captures and organizes all the tasks associated with developing a recovery plan. It can be portrayed as a hierarchical tree or as a tabular list of element categories. Very simple examples are found in Attachment #3.

Step 7: Create an Excel database of contact information for community members and stakeholders.

Step 8: Based on above tasks, review "Qualification Statements" made available by the Greater New Orleans Foundation (GNOF) and the New Orleans Community Support Foundation (NOCSF) to select a consultant or to possibly obtain financial assistance for recovery

planning activities.[1] To review the planner's list please complete Attachment #4 and mail it to the New Orleans Community Support Foundation at 1055 St. Charles Avenue, Suite 100, New Orleans, Louisiana 70130.

PHASE TWO: PUBLIC PARTICIPATION

The next phase of the neighborhood planning process involves informing all interested parties (local and displaced citizens) on recovery activities and plan development.

Step 1: Public Meetings. Neighborhood groups should hold at least four (4) public meetings.

Meeting #1	To announce the kick-off process, obtain input on the preliminary work program and clarify the community's role in the process.
Meeting #2	To present the results from the initial overview and develop rebuilding scenarios. Typical meeting format may include a combination of charettes, workshops or roundtable discussions. Neighborhood groups may want to utilize a facilitator for this task.
Meeting # 3	To review assessments and prioritize neighborhood recommendations/projects.
Meeting #4	To present the final District Recovery Plan and solicit comments.

Step 2: Documenting Public Meetings. It is important to keep clear documentation of the public process used to develop the plan and solicit feedback. A best practice for documenting public participation is to collect all components together and bind them into a public record document that can be viewed separately from the plan document. A list of items for the public record document should include:

1) Meeting notices
2) Distribution lists
3) Sign-in sheets
4) Comment sheets or cards
5) Results from surveys or questionnaires

---

[1] In the spring of 2006, GNOF, a community foundation and public charity convened the NOCSF to provide planning support to neighborhood groups.

Step 3: Neighborhood Participation & Support. The Project Team should take the lead role in presenting the preliminary recovery plan to neighborhood groups, business owners and all other interested parties. Based on comments received, a steering committee should work to resolve any areas of conflict during the formal review of the plan before it is submitted to the City Planning Commission.

PHASE THREE: PLAN PREPARATION (DATA COLLECTION & ANALYSIS)

The first step in developing a recovery plan is the assessment of the neighborhood's assets and needs. The Mayor's Office of Technology (MOT) has access to most, if not all of the data that will be required in this process. MOT has agreed to perform support tasks such as mapping, graphics and data collection (See Attachment # 5 Housing Condition Assessment Form). To request mapping services from MOT you may e-mail your data request to gis@cityofno.com.

Step 1: Hold Public Meeting #1 to obtain plan support and discuss details regarding the planning process such as the discuss approach, deliverables, format and data collection methods.

Step 2: Hold Project Team meeting to refine plan goals, objectives and the work program.

Step 3: Project Team conducts assessments, summarize existing information, identify existing data gaps and collect field data (basis of needs assessment).

Step 4: Develop a District-Wide profile. Begin drafting the recovery plan by preparing a district-wide profile. The profile should be based on socio-economic, demographic, employment, public safety statistics (if available), infrastructure inventory and housing data.

Step 5: Hold Public Meeting #2 to Review the Profile and Identify Rebuilding Scenarios. The purpose of this element is to engage neighborhoods and the City in a community visioning process that illustrates their values, goals and priorities. Rebuilding scenarios should attempt to answer the following questions:

What to Rebuild?
How to Rebuild?
Where to Rebuild?
When to Rebuild?

Step 6: Development of a Prioritized Project List. The Project Team should consider the following model for ranking recovery projects. Neighborhood priorities should address the following areas:

- Housing & Human Services
- Environmental Protection
- Economic Development
- Transportation

And projects should be classified as the following:

- Rebuilding & Recovery Projects
- Mitigation & Preparedness Projects
- Community Improvement Projects

Step 7: Hold Public Meeting #3 to review assessment results, plan recommendations and to rank the recommendations based on an agreed upon criteria. The rankings should be further prioritized based on community input.

Step 8: Identify cost estimates for projects and possible funding strategies. The Louisiana Speaks web-site has a listing of government and non-government funding sources for projects. For more information go to www.louisianaspeaks-parishplans.org and click on the "Funding Opportunities" tab.

Another funding source is the Regional Planning Commission (RPC). The RPC has been working with the State of Louisiana Main Street Program to develop a commercial revitalization program. Three to four neighborhood business districts will be designated as Main Street corridors and will receive financial assistance to hire a full time Main Street Coordinator to oversee committee development and business revitalization in the selected neighborhood. For more information about the New Orleans Main Street & Neighborhood Business Development (ONBD) Program you may contact the Regional Planning Commission at 568-6611 or e-mail them at rpc@norpc.org or see Attachment #6).

Step 9: Identify zoning issues and other requirements for plan implementation.

Step 10: Assemble deliverables (refer to Section IV of this guide).

Step 11: Search contact database for individual review of draft plan.

Step 12: Finalize, publicize and distribute draft plan for review. See section III of this Planning Guide for required plan elements.

Step 13: Hold Public Meeting #4 to solicit comments. Document all comments and incorporate into plan as appropriate.

Step 14: Submit completed District Recovery Plan to the City Planning Commission for integration into a city-wide plan.

PHASE FOUR: CITY-WIDE PLAN COORDINATION

The City Planning Commission with financial and technical support from the Greater New Orleans Foundation/Community Support Organization will work with neighborhood groups to integrate thirteen (13) District Plans into a City-Wide Post Disaster Recovery Plan. As district plans are submitted, the City Planning Commission will keep record of those neighborhoods that have participated in the process and submitted plans. Likewise, City Planning staff will conduct an outreach effort to work with under-represented neighborhoods.

To produce a city-wide plan, City Planning staff will review and summarize the needs analysis provided by neighborhood groups to develop rebuilding scenarios and a project list for the entire City.

Scenario A	No projects are pursued or funded
Scenario B	Projects based on BNOB's Land Use Recommendations
Scenario C	Projects based on a recovery agenda that has obtained neighborhood consensus

PHASE FIVE: CITY-WIDE PLAN IMPLEMENTATION & MONITORING

The route that district recovery plans will take to be approved by the City is explained in the following text. As required by the City Charter, the City Planning Commission seeks to plan for the improvement and reconstruction of areas destroyed or seriously damaged after a disaster. Upon completion, of the city-wide plan, the City Planning Commission will hold a series of public hearings to obtain feedback. Once comments are received and the necessary modifications are complete City Planning staff will provide a recommendation to approve, modify or denial the plan to the entire Commission. The Commission will act and forward their recommendation to the City Council for adoption. City Council affirmation of the plan will prompt submission to the Louisiana Recovery Authority (LRA).

III. MANDATORY PLAN ELEMENTS

PART A: Background/Introduction

- Define geographic boundaries
- Recovery vision, goals, objectives statement
- Explanation of planning process and identify neighborhood participants
- Overview of planning efforts underway Pre-Katrina
- Assumptions of concerning neighborhood's future

PART B: Existing physical and social conditions of the neighborhood (profile)

PART C: Identify and prioritized existing neighborhood needs and concerns utilizing the elements listed below. Please note that neighborhood groups may not find it necessary to include the elements listed. Please note that elements appearing in bold font are required items and must be addressed in all recovery plans:

- **Housing, Architecture & Historic Preservation**
- Transportation & Public Transit
- **Flood Protection and Environmental Management (includes Natural Hazards)**
- Parks, Open Space and Landscape Architecture
- **Utilities & Municipal Services**
- Healthcare/Medical
- **Human Services/Community Facilities**
- Institutions (Educational/Cultural/Religious)
- Economic & Workforce Development (includes tourism)
- Public Safety & Emergency Preparedness
- Land Use & Zoning
- Building Codes & Design

PART D: Rebuilding Scenarios (concluding with neighborhood's preferred scenario)

PART E: Implementation and funding strategy
The implementation strategy should consist of the following components:

- *A Funding Strategy* that identifies: *1)* Existing or obligated funds or revenue sources; 2) Funding gap between estimated costs and dedicated funds; 3) All possible sources (public, private and non-profit) that can help meet the identified gap.

- *A Rebuilding Timeline* that will identify the general phasing and individual sequencing of actions. For each recovery action, corresponding actions or decisions should be identified that need to happen before construction or implementation can begin. The timeline should identify how long implementation is anticipated to take for both neighborhood and city-wide implementation.

- *Regulatory Amendments to the City Code, Comprehensive Zoning Ordinance & Building Code*. A comprehensive evaluation of the existing zoning and building regulations are necessary to identify limitations, additions or recommend design guidelines that are essential for neighborhoods to realize their preferred rebuilding scenario. Specific recommendations should be made in a format that can serve to guide a comprehensive update to the zoning ordinance.

- *Policy & Procedure* Recommendations. An assessment must be made to identify any other local policies that may serve as a barrier to effectively implementing the plan. Recommend new policies that serve to advance or maximize implementation in the most timely and efficient manner while achieving its goals, preserving neighborhood character and increasing economic opportunity for all citizens.

PART F: Conclusion (must include a prioritized action plan or implementation strategy)

PART G: Appendix

IV. NEIGHBORHOOD DELIVERABLES

DELIVERABLE #1	Boundary Map indicating the neighborhoods and Planning District included in the plan saved in an ESRI shape file format.
DELIVERABLE #2	A list of responsibilities for all project team members.
DELIVERABLE #3	A database of all contacts stored in Excel format.
DELIVERABLE #4	All outreach materials-press releases, flyers, notices etc. from all public meetings and any other materials that was used to inform the public about the planning process.
DELIVERABLE #5	A copy of the neighborhood presentation, maps, graphics and other handouts describing the recovery planning process.
DELIVERABLE #6	Minutes from all four Public Meetings.
DELIVERABLE #7	A list of plan reviewers and a document containing all comments on the draft plan. The document should explain if comments were addressed in the plan or why not.
DELIVERABLE #8	Utilizing the City's Housing Condition Assessment form, groups will submit updated property and land use information to be placed in an Excel format for input into the City's GIS system.
DELIVERABLE #9	Results from neighborhood surveys (if utilized) indicating data concerning the number residents that may be returning and those desiring to leave-submitted in an Excel database format to the City Planning Commission staff.
DELIVERABLE #10	Copy of the Plan Presentation that was presented to the general public.
DELIVERABLE #11	In an acceptable electronic format such as Microsoft Word, submit District Recovery Plans (or individual neighborhood plans) to the City Planning Commission staff. As a minimum, each plan must include a recovery vision and goals statement, an assessment profile, a prioritized project list and an implementation strategy.

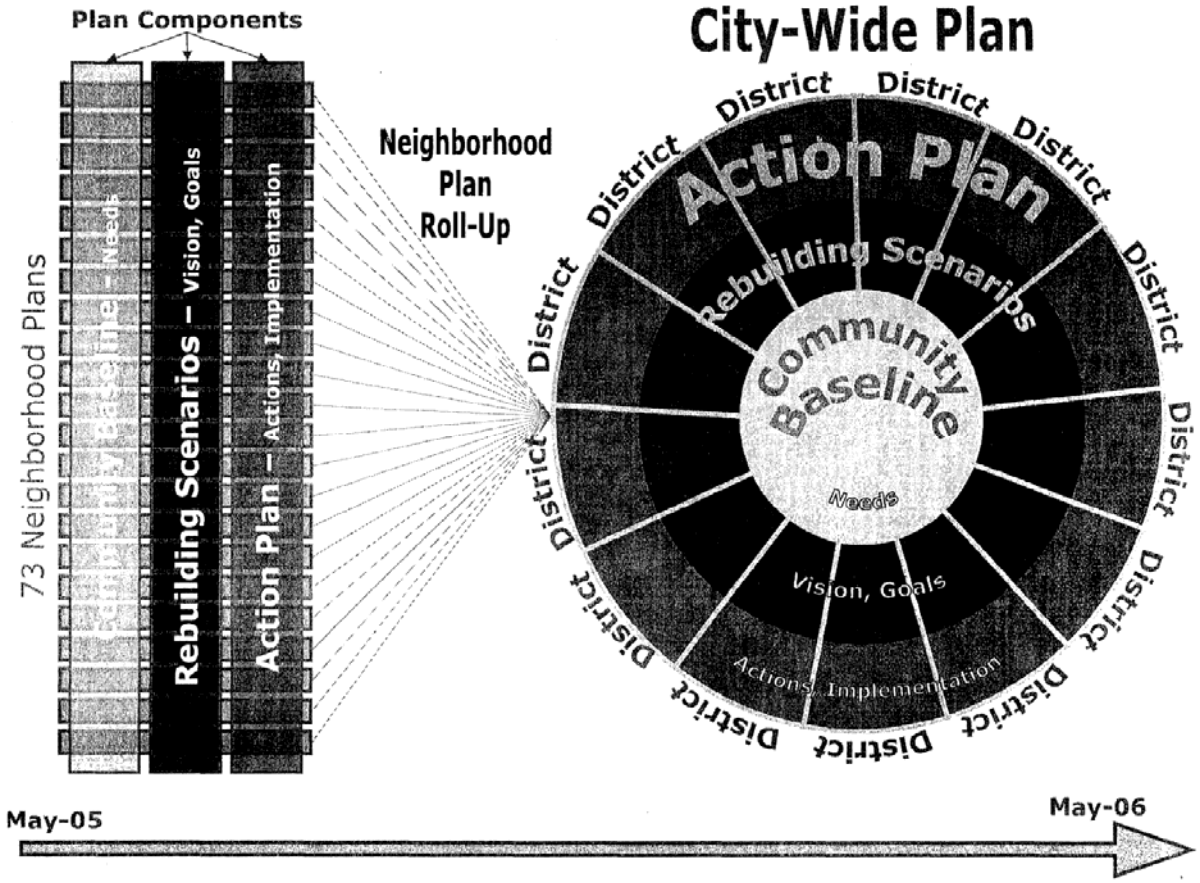
V. RECOVERY SCHEDULE

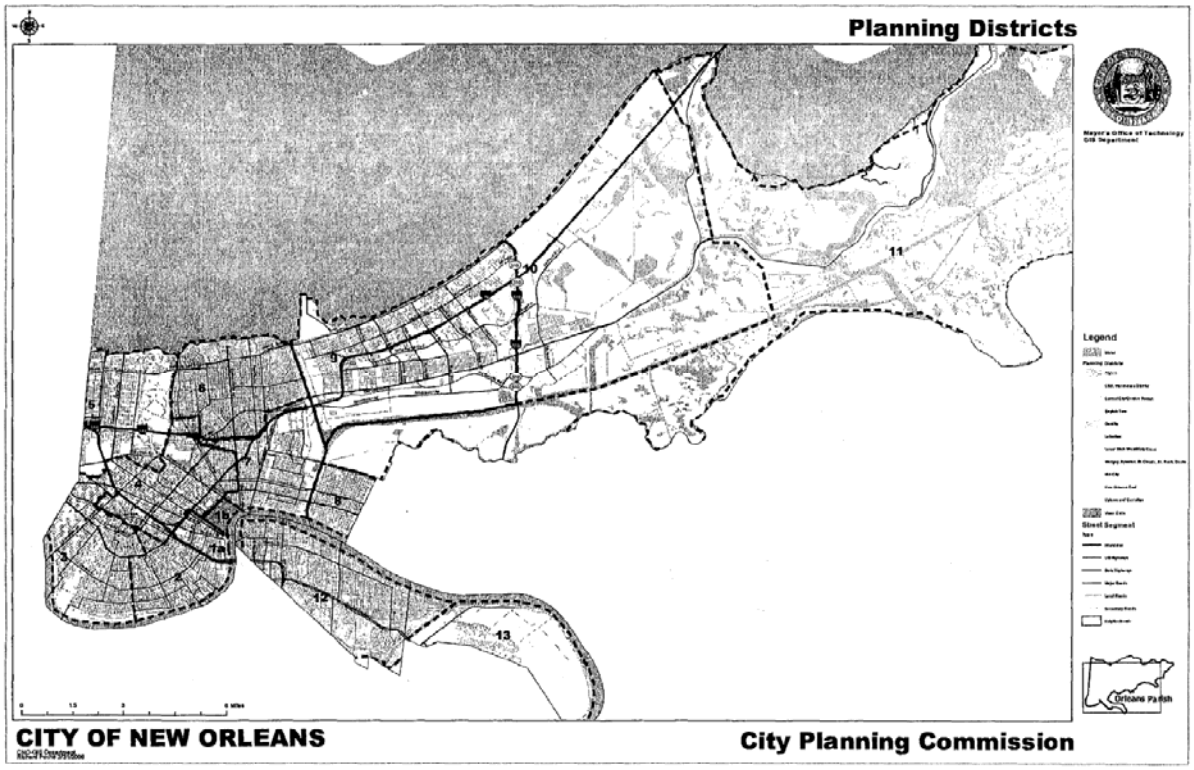
The following is a tentative schedule for the recovery planning process. Dates and deadlines are best estimates and are subject to revision by the City Planning Commission.

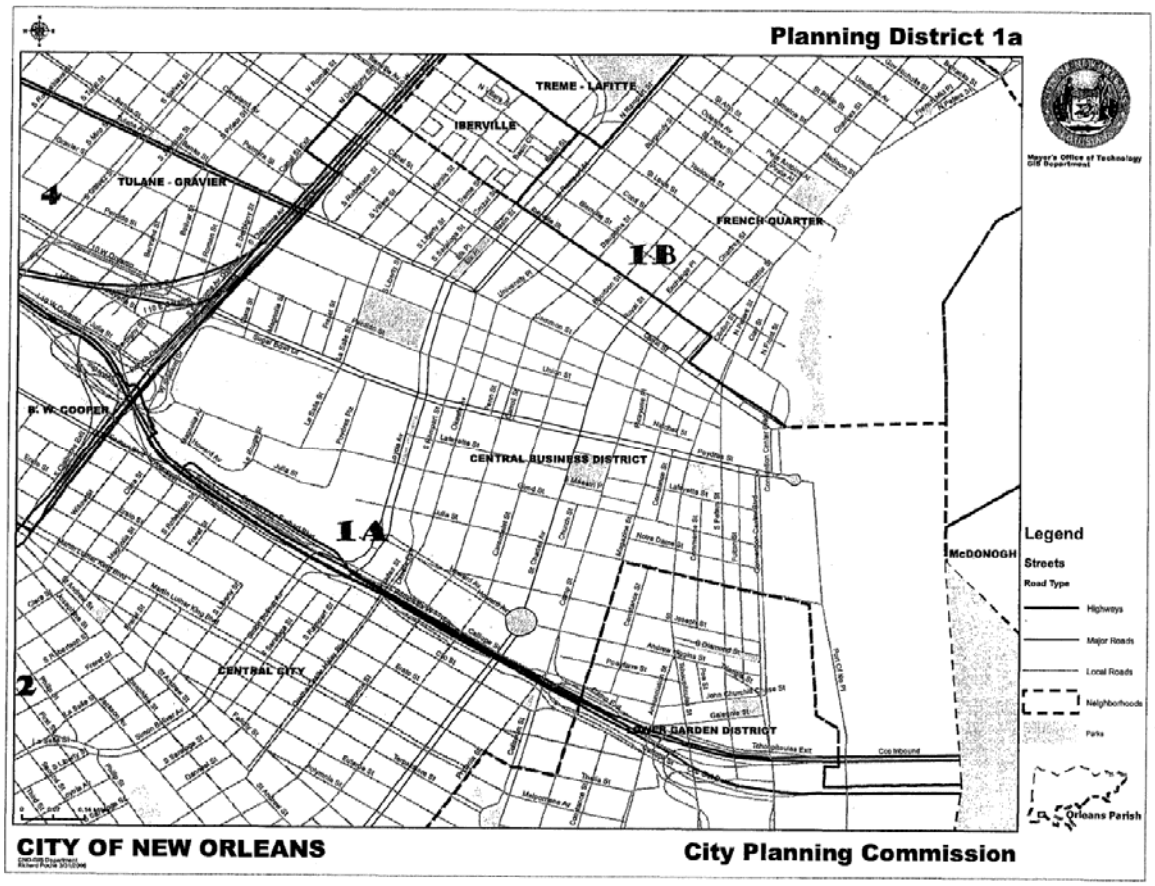
Task Name	Anticipated Completion Date
City Planning to Finalize Framework, Process & Outcomes for Neighborhood, District and City-Wide Plans	June 13, 2006
City Planning to Disseminate the Neighborhood Guide Sheet to the General Public	June 16, 2006
Neighborhood's Organize, Coordinate Planning Teams & Commence the Recovery Planning Process	May - June 30, 2006
Completion of final Neighborhood Plans inclusive of Public Comments	August 29, 2006
Submission of Deadline for Neighborhood Plans to the City Planning Commission	September 11, 2006
Final Draft City-Wide Framework & Plan Production	September - November 6, 2006
Public Meetings & Input On the City-Wide Plan	December 2006 – January 2007
Final Plan Edits & City Planning Adoption	February – March 2007
Submit to City Council For Review & Adoption	April – May 2007

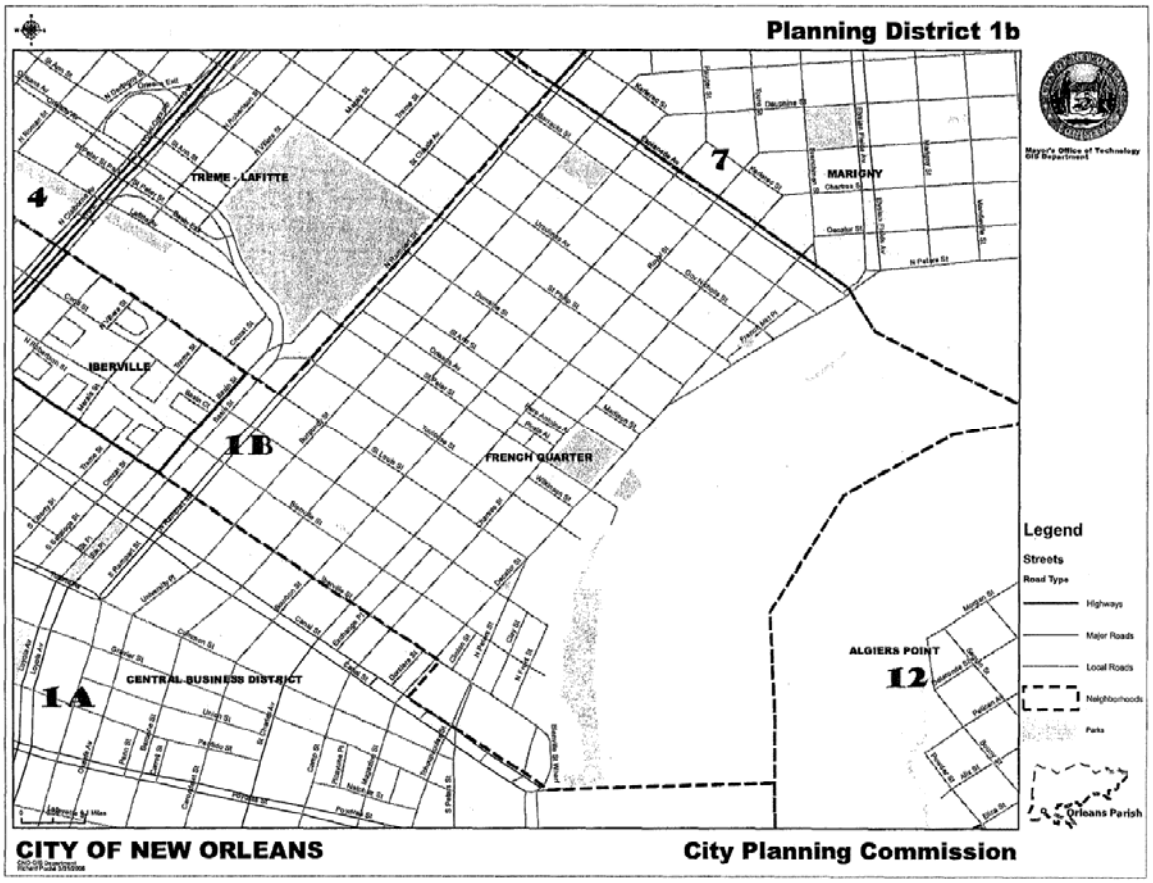
VI. ATTACHMENTS

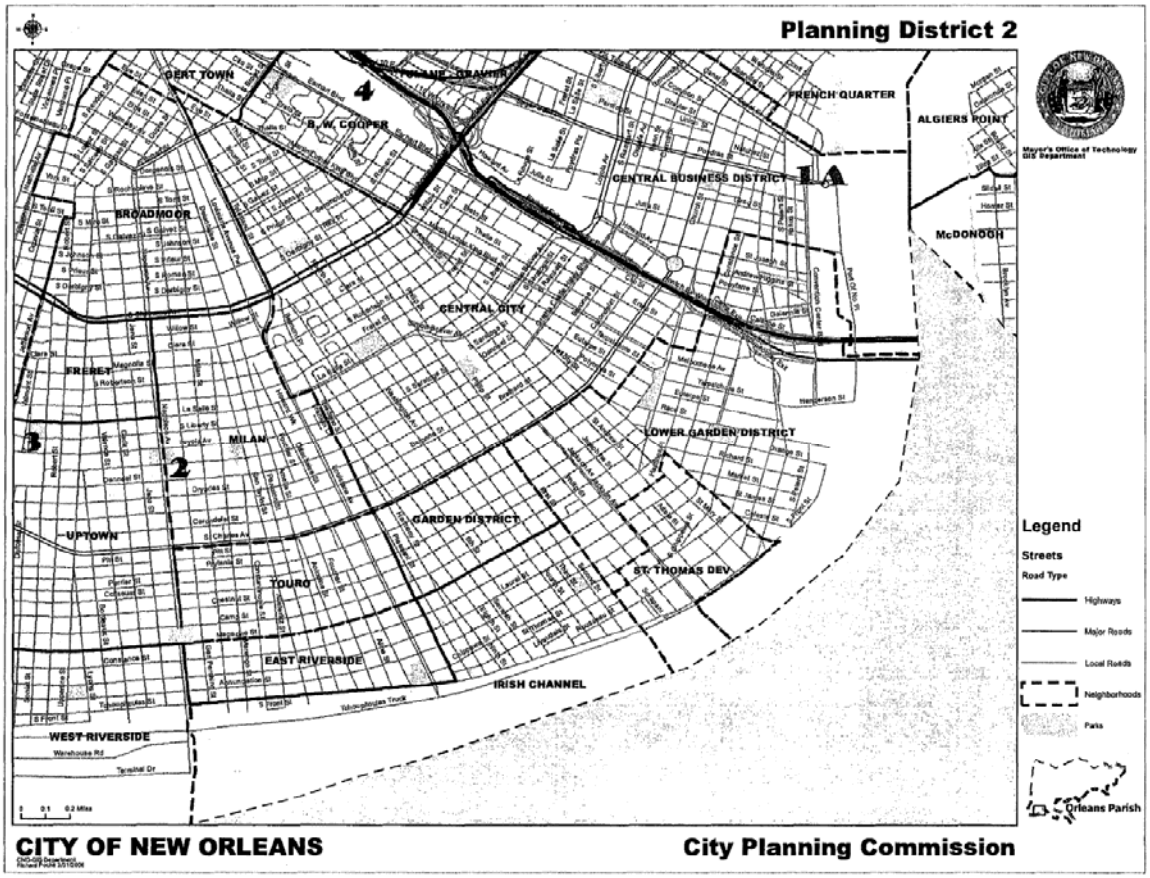
1. Figure-An Overview of the Recovery Planning Process
2. Neighborhood & Planning District Maps
3. Example of a Work Program & Timeline
4. NOCSF "Request for Information" Form
5. Housing Condition Assessment Form
6. State of Louisiana Main Street Program Brochure & Application

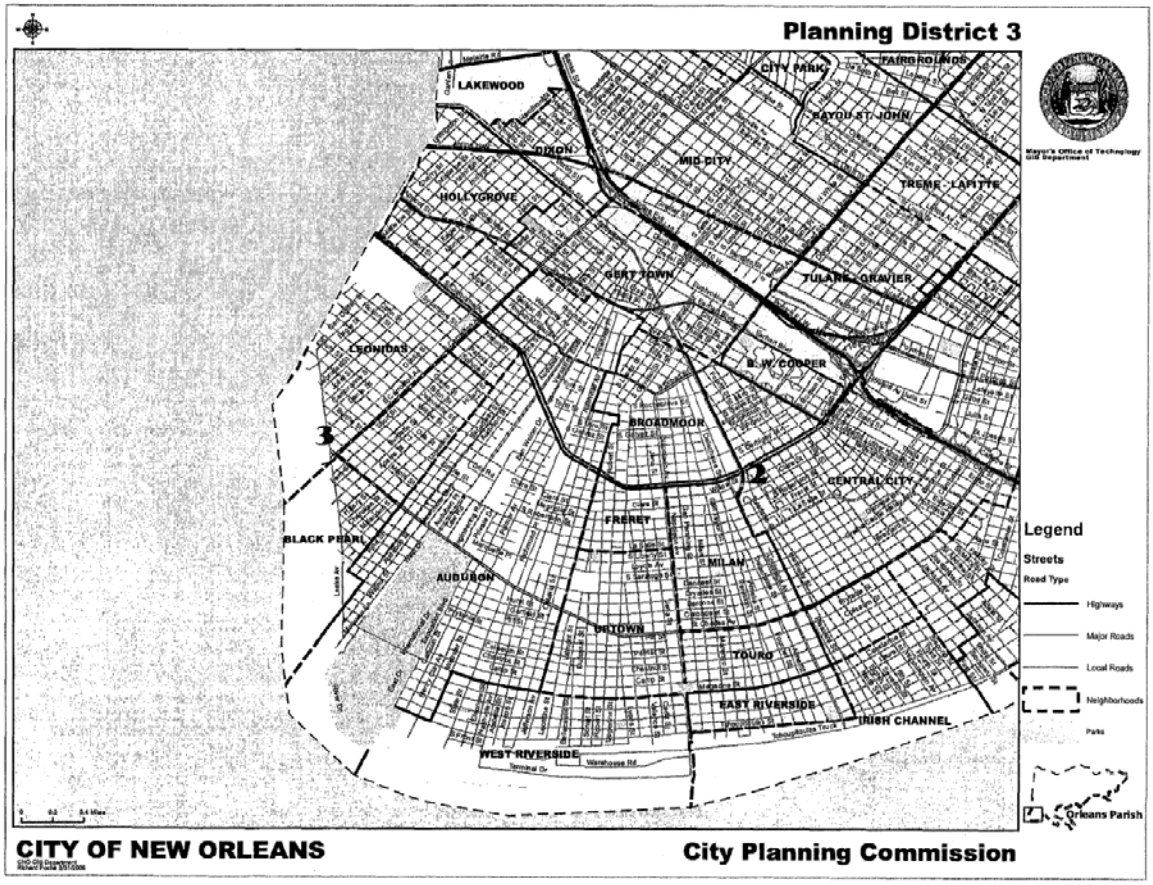

Plan Components
73 Neighborhood Plans
Community Baseline - Needs
Rebuilding Scenarios – Vision, Goals
Action Plan – Actions, Implementation
Neighborhood Plan Roll-Up
City-Wide Plan
Action Plan
Rebuilding Scenaribs
Community Baseline
Needs
Vision, Goals
Actions, Implementation
District
May-05
May-06

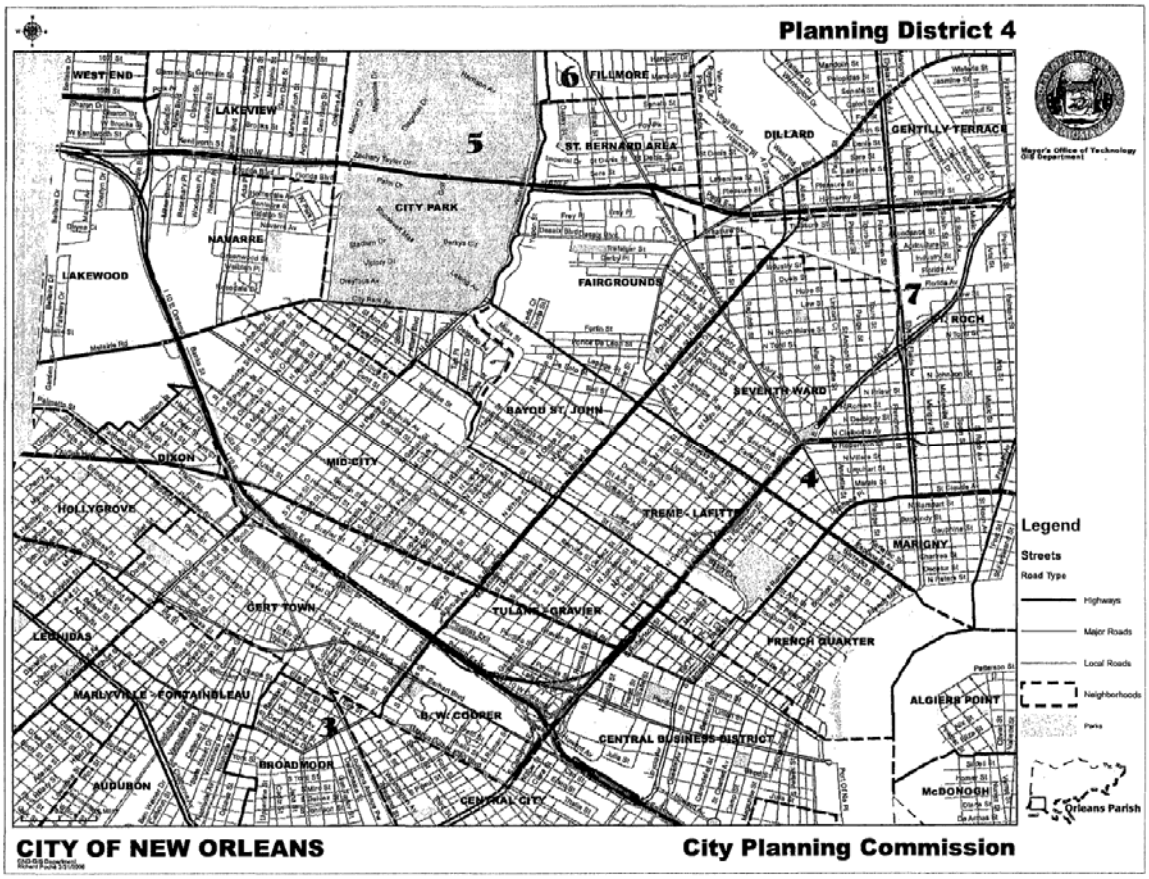

Planning Districts
Legend
Orleans Parish
CITY OF NEW ORLEANS
City Planning Commission

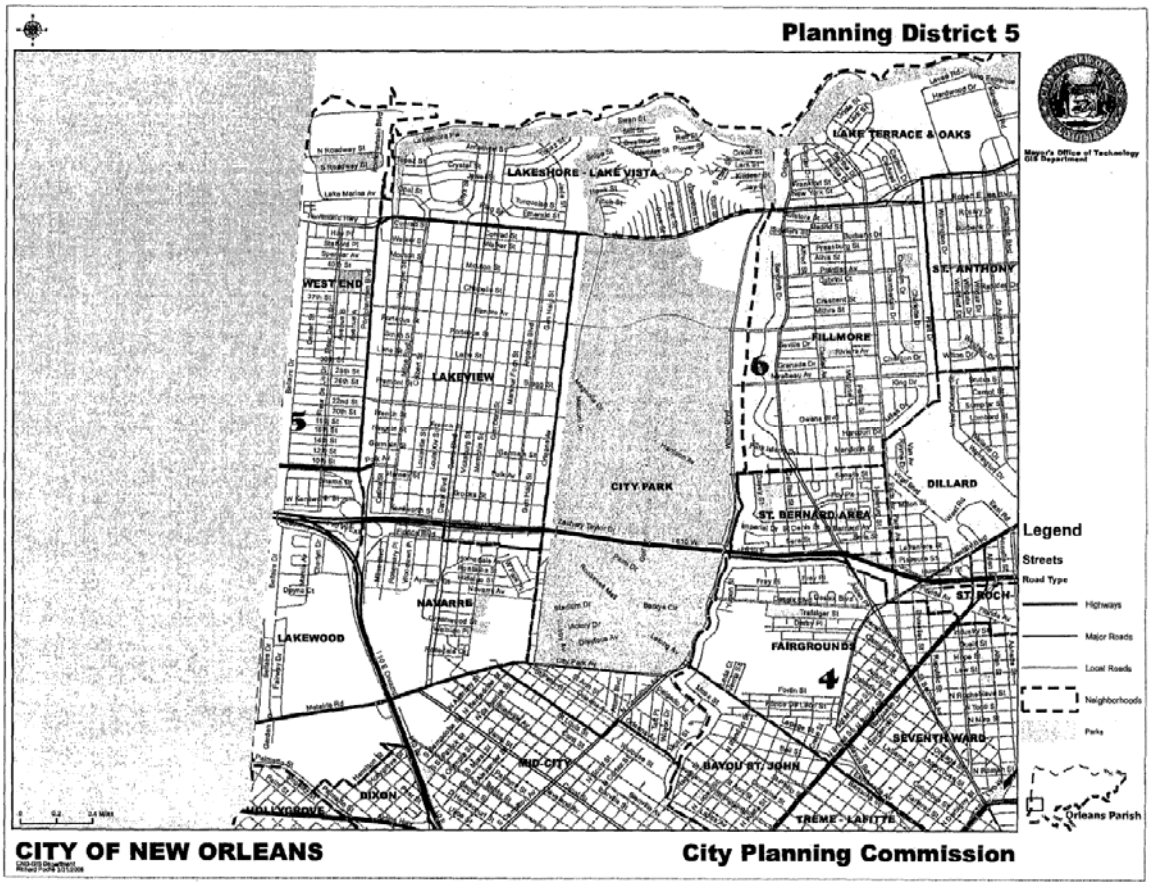

Planning District 1a
TREME - LAFITTE
IBERVILLE
TULANE - GRAVIER
FRENCH QUARTER
1B
B. W. COOPER
CENTRAL BUSINESS DISTRICT
1A
McDONOGH
CENTRAL CITY
2
UPPER GARDEN DISTRICT
Legend
Streets
Road Type
Highways
Major Roads
Local Roads
Neighborhoods
Parks
Orleans Parish
CITY OF NEW ORLEANS
City Planning Commission


Planning District 1b
TREME - LAFITTE
4
7
MARIGNY
IBERVILLE
1B
FRENCH QUARTER
CENTRAL BUSINESS DISTRICT
1A
ALGIERS POINT
12
Legend
Streets
Road Type
Highways
Major Roads
Local Roads
Neighborhoods
Parks
Orleans Parish
CITY OF NEW ORLEANS
City Planning Commission


Planning District 2
GERT TOWN
B.W. COOPER
BROADMOOR
CENTRAL BUSINESS DISTRICT
FRENCH QUARTER
ALGIERS POINT
McDONOGH
CENTRAL CITY
FRERET
MILAN
LOWER GARDEN DISTRICT
GARDEN DISTRICT
UPTOWN
TOURO
ST. THOMAS DEV.
EAST RIVERSIDE
IRISH CHANNEL
WEST RIVERSIDE
Warehouse Rd
Terminal Dr
Mayor's Office of Technology GIS Department
Legend
Streets
Road Type
Highways
Major Roads
Local Roads
Neighborhoods
Parks
Orleans Parish
CITY OF NEW ORLEANS
City Planning Commission


Planning District 3
LAKEWOOD
CITY PARK
FAIRGROUNDS
BAYOU ST. JOHN
DIXON
MID CITY
TREME - LAFITTE
HOLLYGROVE
GERT TOWN
TULANE - GRAVIER
LEONIDAS
B. W. COOPER
BROADMOOR
3
2
CENTRAL CITY
FRERET
BLACK PEARL
MILAN
AUDUBON
UPTOWN
TOURO
EAST RIVERSIDE
IRISH CHANNEL
WEST RIVERSIDE
Legend
Streets
Road Type
Highways
Major Roads
Local Roads
Neighborhoods
Parks
Orleans Parish
CITY OF NEW ORLEANS
City Planning Commission


Planning District 4
WEST END
LAKEVIEW
LAKEWOOD
NAVARRE
CITY PARK
FILLMORE
ST. BERNARD AREA
DILLARD
GENTILLY TERRACE
FAIRGROUNDS
ST. ROCH
SEVENTH WARD
BAYOU ST. JOHN
DIXON
MID-CITY
HOLLYGROVE
TREME - LAFITTE
MARIGNY
CARROLLTON
TULANE - GRAVIER
FRENCH QUARTER
LEONIDAS
MARLYVILLE - FONTAINBLEAU
B. W. COOPER
CENTRAL BUSINESS DISTRICT
ALGIERS POINT
AUDUBON
BROADMOOR
CENTRAL CITY
McDONOGH
Legend
Streets
Road Type
Highways
Major Roads
Local Roads
Neighborhoods
Parks
Orleans Parish
CITY OF NEW ORLEANS
City Planning Commission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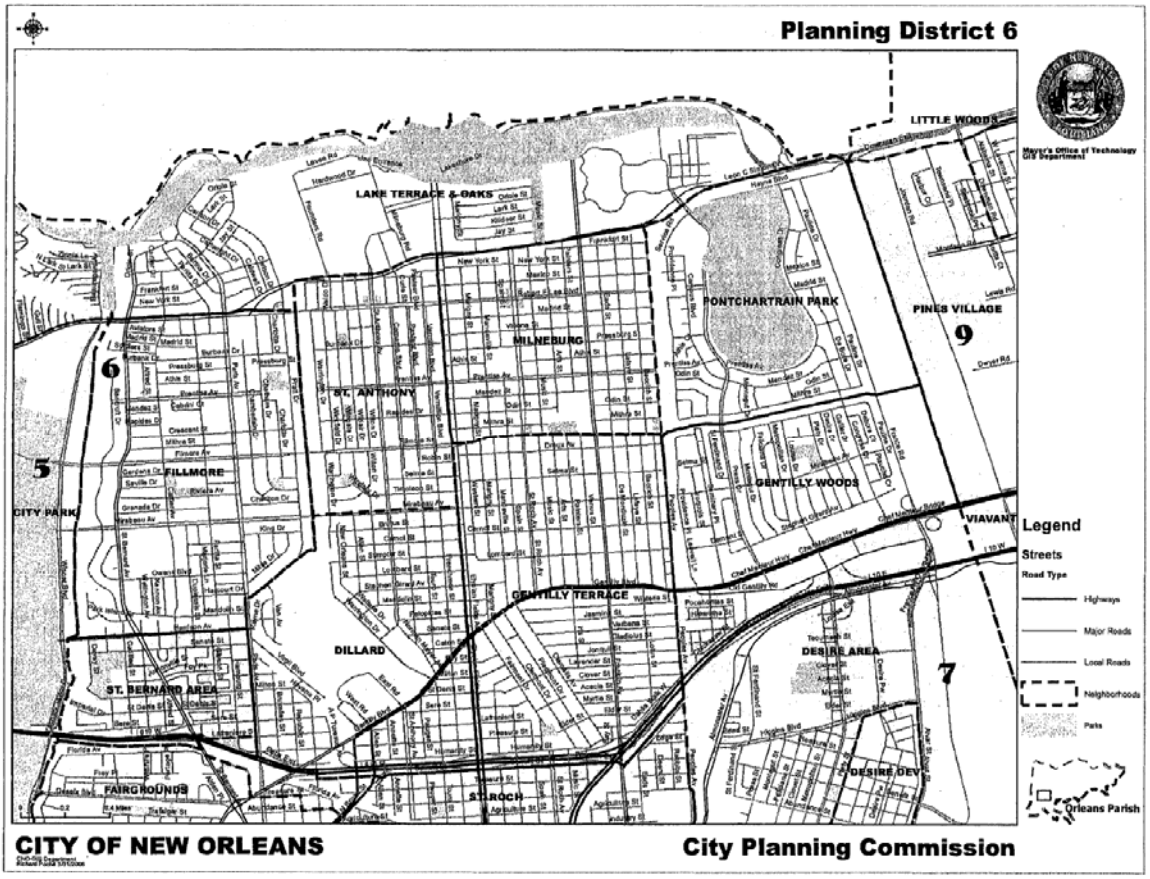
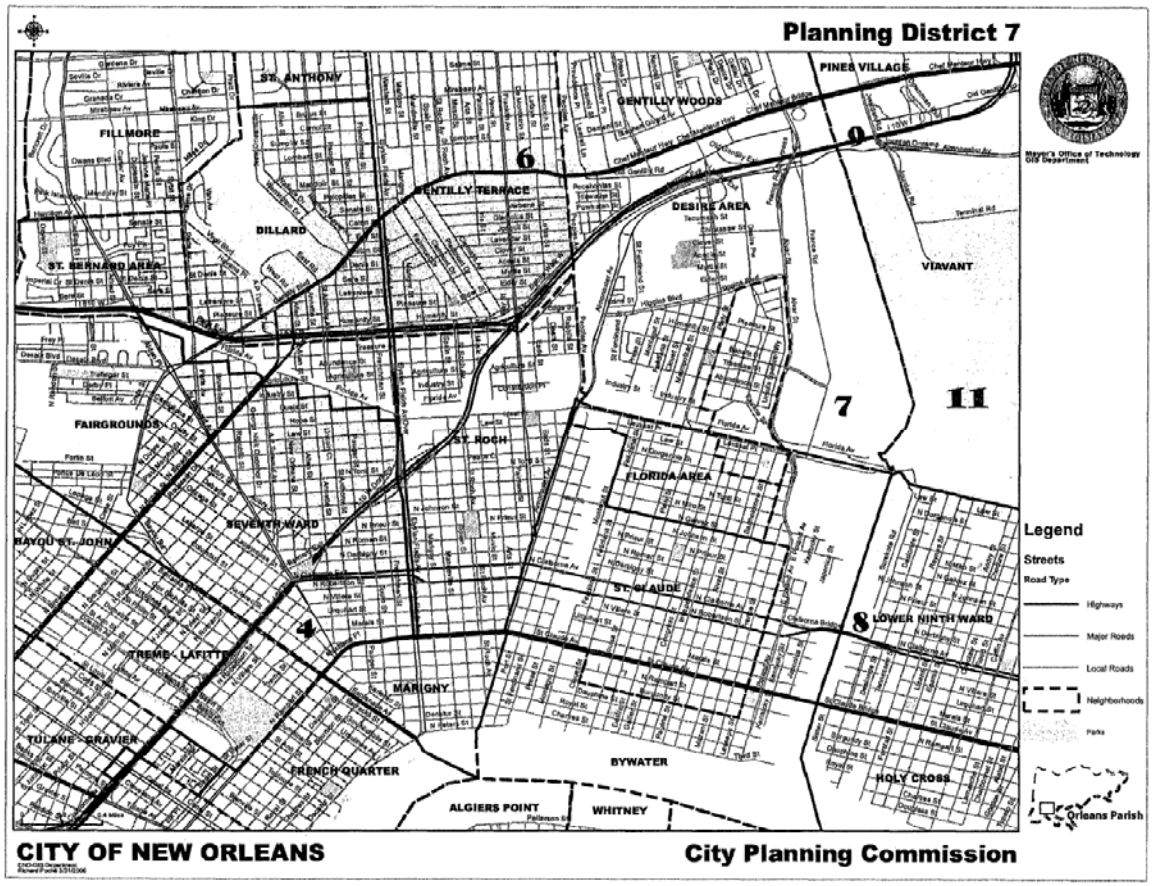
LAKE TERRACE & OAKS
LAKESHORE - LAKE VISTA
WEST END
LAKEVIEW
ST. ANTHONY
FILLMORE
CITY PARK
DILLARD
ST. BERNARD AREA
ST. ROCH
NAVARRE
LAKEWOOD
FAIRGROUNDS
SEVENTH WARD
MID CITY
BAYOU ST. JOHN
DIXON
TREME - LAFITTE
5
6
4
Legend
Streets
Road Type
Highways
Major Roads
Local Roads
Neighborhoods
Parks
Orleans Parish
CITY OF NEW ORLEANS
City Planning Commission


Planning District 6
LITTLE WOODS
LAKE TERRACE & OAKS
PONTCHARTRAIN PARK
PINES VILLAGE
MILNEBURG
ST. ANTHONY
FILLMORE
CITY PARK
GENTILLY WOODS
VIAVANT
GENTILLY TERRACE
DILLARD
DESIRE AREA
ST. BERNARD AREA
FAIRGROUNDS
ST. ROCH
DESIRE DEV
5
6
7
9
Legend
Streets
Road Type
Highways
Major Roads
Local Roads
Neighborhoods
Parks
Orleans Parish
CITY OF NEW ORLEANS
City Planning Commission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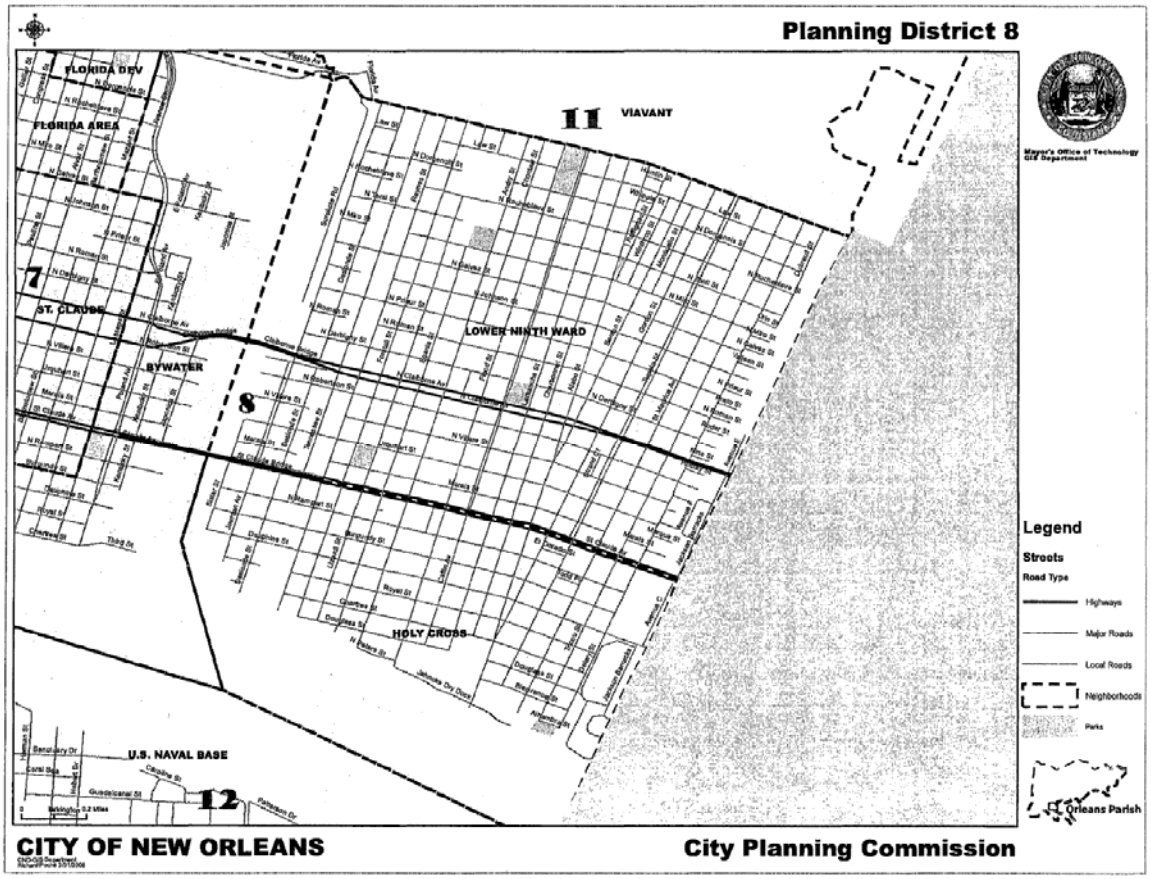
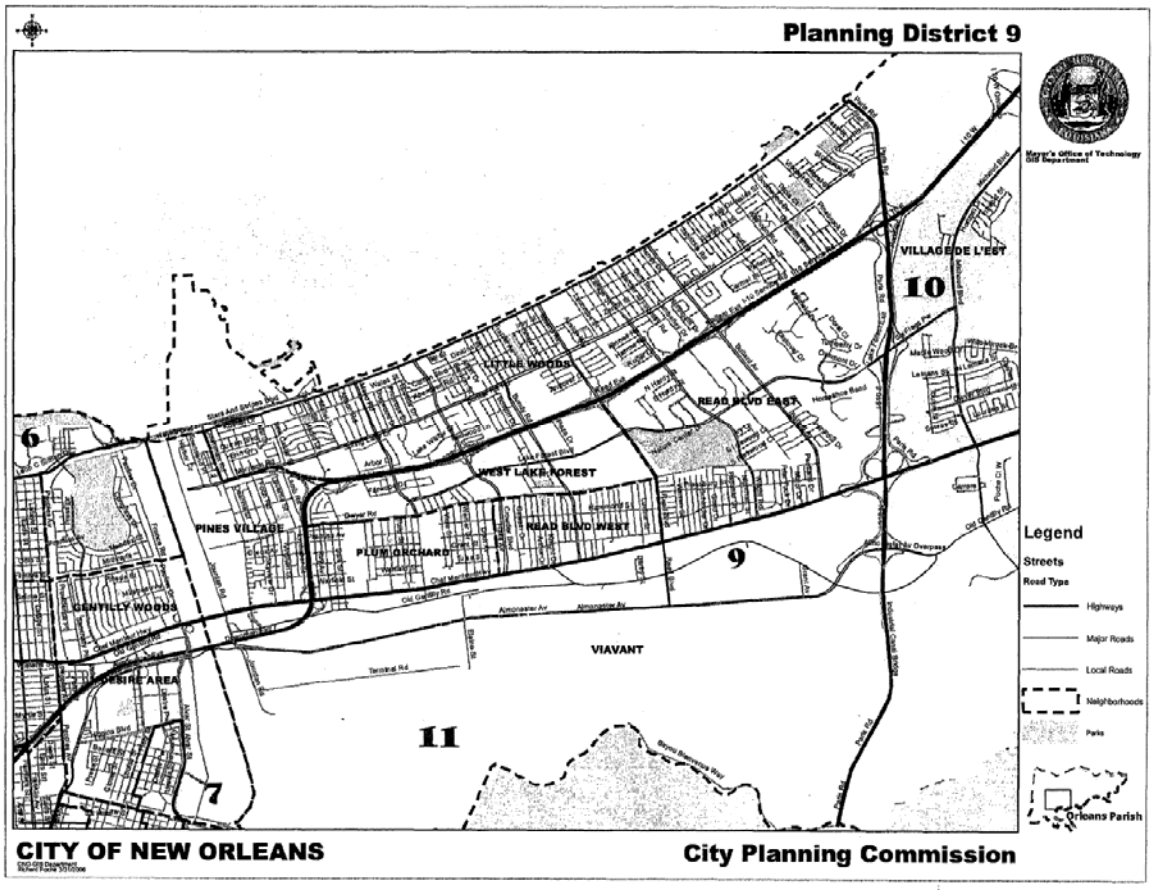
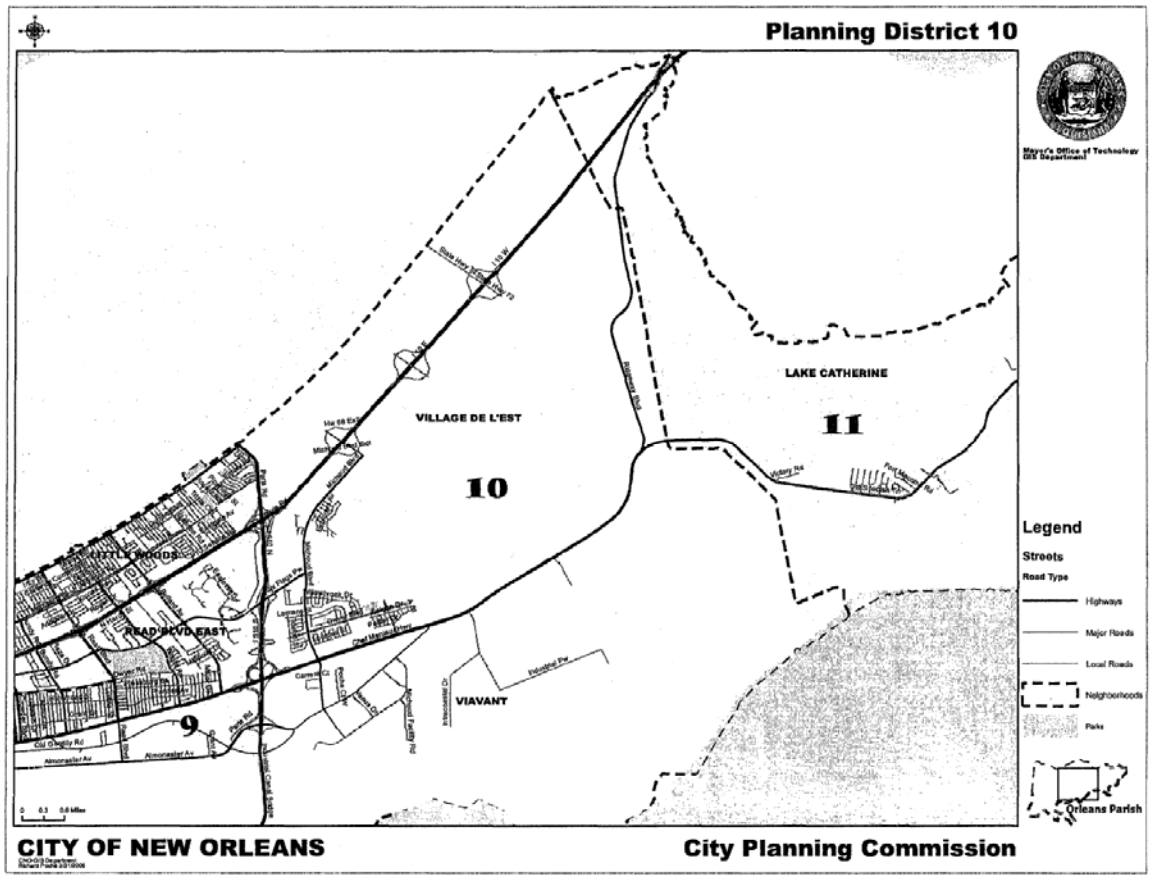
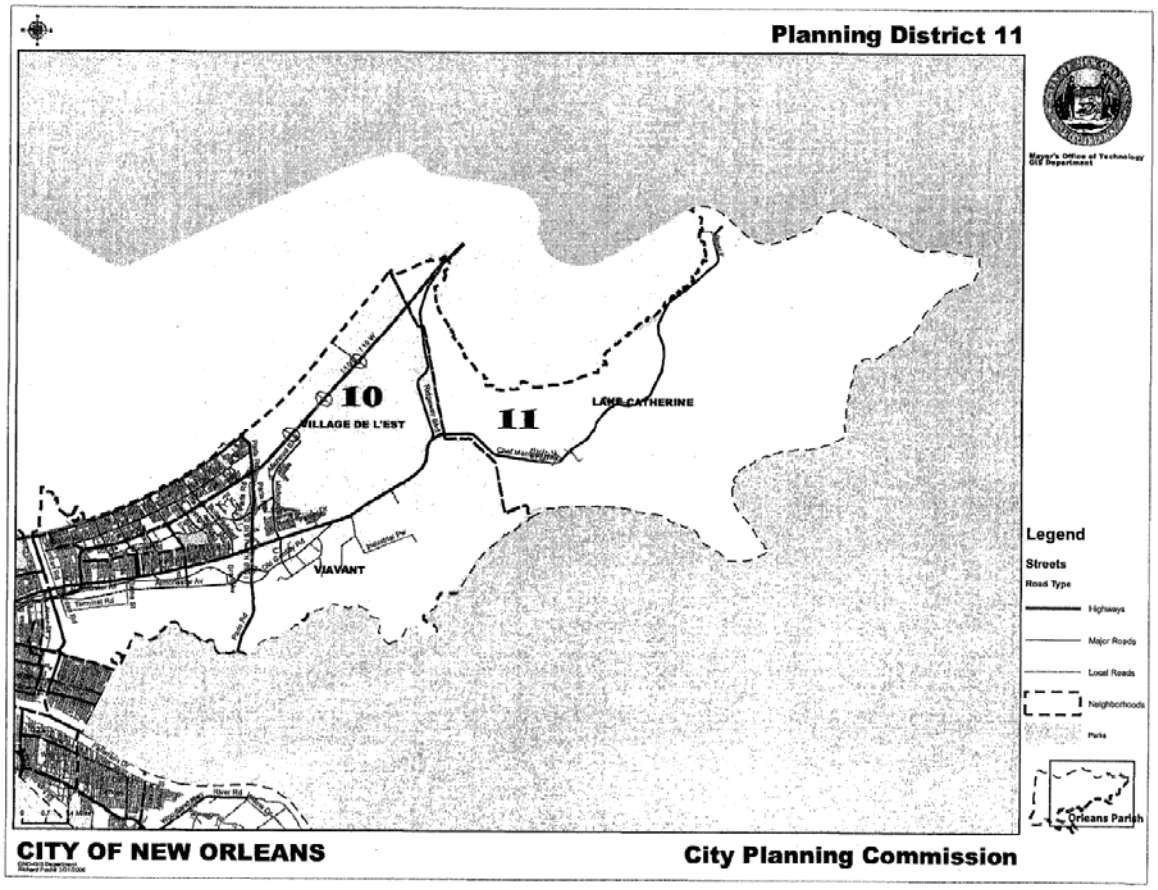
ST. ANTHONY
PINES VILLAGE
GENTILLY WOODS
FILLMORE
GENTILLY TERRACE
DESIRE AREA
DILLARD
VIAVANT
ST. BERNARD AREA
FAIRGROUNDS
ST. ROCH
FLORIDA AREA
SEVENTH WARD
BAYOU ST. JOHN
ST. CLAUDE
LOWER NINTH WARD
TREME - LAFITTE
MARIGNY
TULANE - GRAVIER
FRENCH QUARTER
BYWATER
HOLY CROSS
ALGIERS POINT
WHITNEY
6
9
7
11
4
8
Legend
Streets
Road Type
Highways
Major Roads
Local Roads
Neighborhoods
Parks
Orleans Parish
CITY OF NEW ORLEANS
City Planning Commission


Planning District 8
FLORIDA DEV
FLORIDA AREA
11
VIAVANT
7
ST. CLOUD
BYWATER
8
LOWER NINTH WARD
HOLY CROSS
U.S. NAVAL BASE
12
Mayor's Office of Technology GIS Department
Legend
Streets
Road Type
Highways
Major Roads
Local Roads
Neighborhoods
Parks
Orleans Parish
CITY OF NEW ORLEANS
City Planning Commission


Planning District 9
Mayor's Office of Technology GIS Department
VILLAGE DE L'EST
10
LITTLE WOODS
READ BLVD EAST
WEST LAKE FOREST
6
PINES VILLAGE
PLUM ORCHARD
READ BLVD WEST
9
GENTILLY WOODS
VIAVANT
11
7
Legend
Streets
Road Type
Highways
Major Roads
Local Roads
Neighborhoods
Parks
Orleans Parish
CITY OF NEW ORLEANS
City Planning Commission


Planning District 10
LAKE CATHERINE
11
VILLAGE DE L'EST
10
VIAVANT
9
READ BLVD EAST
Legend
Streets
Road Type
Highways
Major Roads
Local Roads
Neighborhoods
Parks
Orleans Parish
CITY OF NEW ORLEANS
City Planning Commission


Planning District 11
Mayor's Office of Technology
GIS Department
10
VILLAGE DE L'EST
11
LAKE CATHERINE
VIAVANT
Legend
Streets
Road Type
Highways
Major Roads
Local Roads
Neighborhoods
Parks
Orleans Parish
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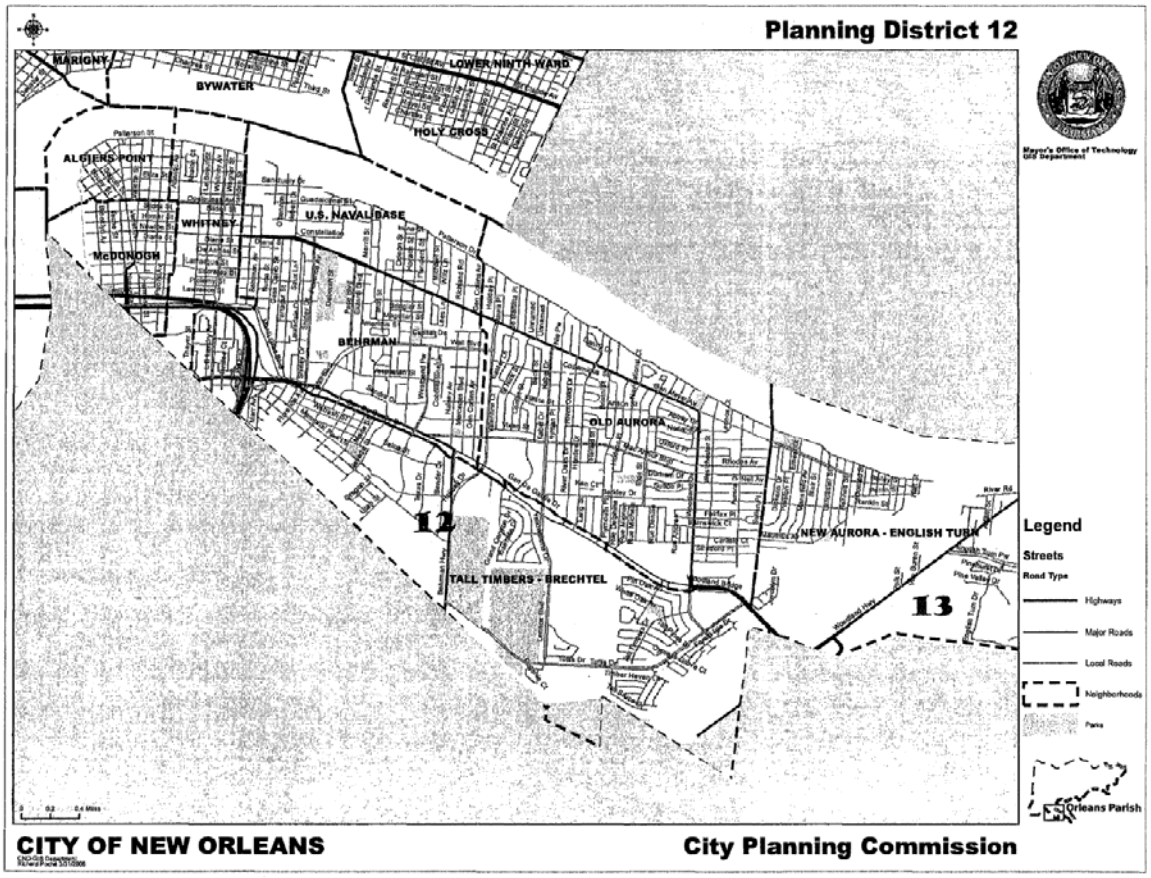
City Planning Commission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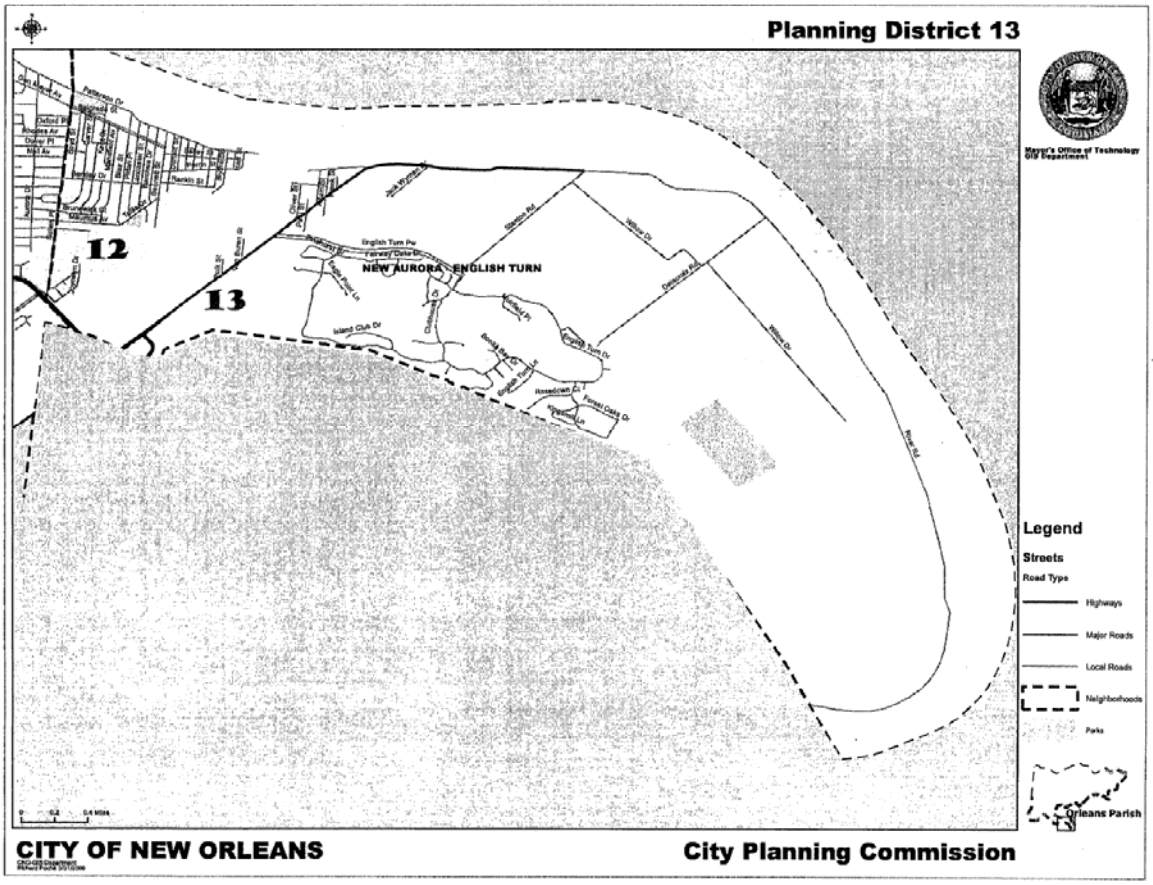
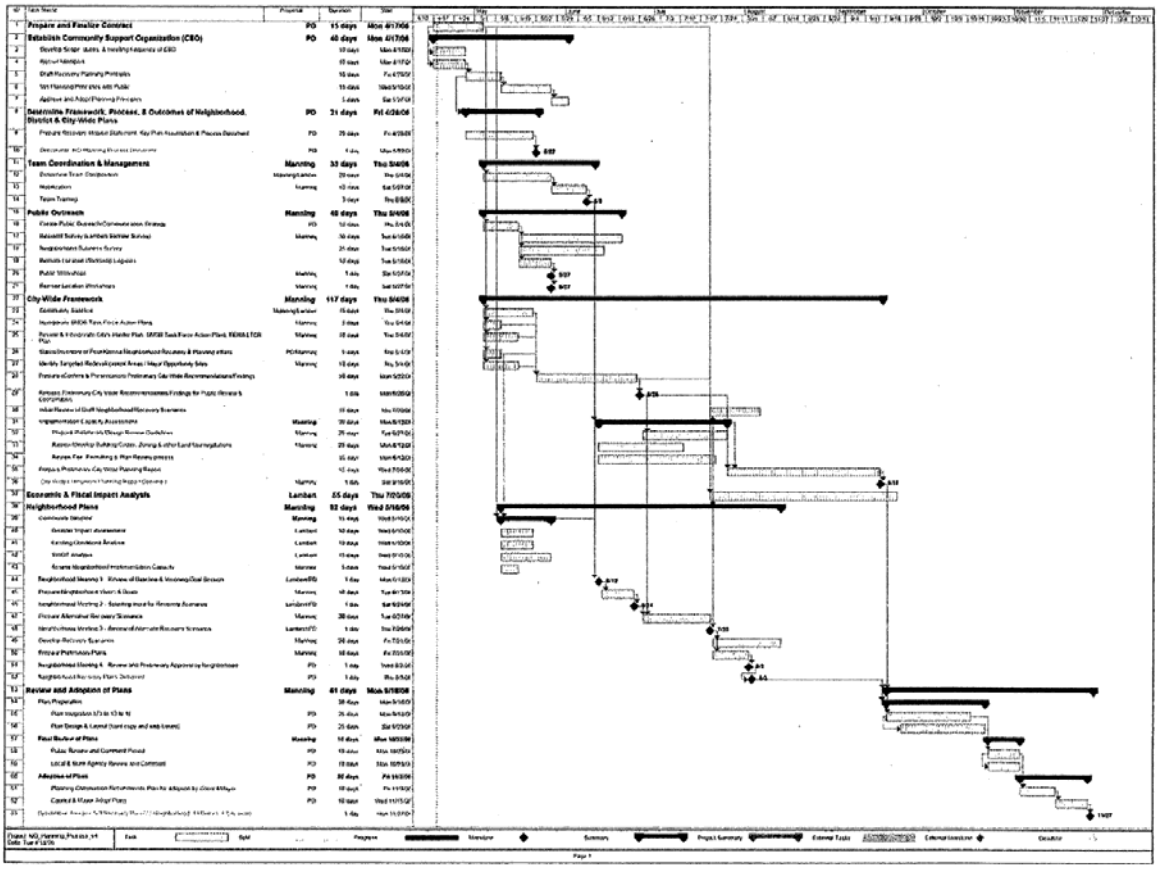
MARIGNY
BYWATER
LOWER NINTH WARD
HOLY CROSS
ALGIERS POINT
WHITNEY
U.S. NAVAL BASE
McDONOGH
BEHRMAN
OLD AURORA
NEW AURORA - ENGLISH TURN
TALL TIMBERS - BRECHTEL
12
13
Legend
Streets
Road Type
Highways
Major Roads
Local Roads
Neighborhoods
Parks
Orleans Parish
CITY OF NEW ORLEANS
City Planning Commission


Planning District 13
Mayor's Office of Technology GIS Department
12
13
NEW AURORA - ENGLISH TURN
Legend
Streets
Road Type
Highways
Major Roads
Local Roads
Neighborhoods
Parks
Orleans Parish
CITY OF NEW ORLEANS
City Planning Commission



Neighborhoods Should Lead the Planning Process.

Let Civic Officials Know What is Happening in Your Backyard.

The Greater New Orleans Foundation has created the non-profit New Orleans Community Support Organization which **will provide the means for financial and technical support for neighborhoods to facilitate and complete their planning processes.**

This is not another plan, but rather a structure for all neighborhoods to fully participate in the planning process and to integrate all neighborhood-based and other planning efforts into a unified plan. Completed by the City Planning Commission **with the help of a community-based board** and a team of experts, the city-wide plan will be strengthened if we inform government leaders **how to best allocate planning and recovery funding for your neighborhood.**

The New Orleans Community Support Organization needs your critical input.

Questions About Your Neighborhood Planning Process

What is your planning district?

_____

What is the name of your organization?

_____

Was your organization formed prior to Hurricane Katrina or a result of Hurricane Katrina?

_____

Does your neighborhood association (or community-based organization) have a planning process in place? If so, please describe:

_____

_____

_____

What are the defining boundaries of your organization?

_____

continued on back

CONTINUED

Questions About Your Neighborhood Planning Process

How many members do you have in your organization?

_____

Are you a leader within the organization?

_____

Does your planning district have an "umbrella organization" of neighborhood groups?

_____

Would you recommend someone to be the spokesperson for your organization? If so, who is that person?

_____

What is the best means of contact for this person, including phone number and email, if available?

_____

_____

What other groups, who are working within your planning district, should we attempt to contact?

_____

_____

THANK YOU for taking the time to complete this form.

Please return these forms at Neighborhoods Planning Network meetings or mail to:

New Orleans Community Support Organization
201 St. Charles Ave, Suite 4314
New Orleans, LA 70170
(fax) 504-569-1820

Please email neworleansrfq@concordia.com to request an electronic copy of this form.

Housing Condition Assessment Form

Address Information House Number: Street:	HDLC District	Municipal District	Lot #	Square#	Zoning	Neighborhood	Ward

Additional Addresses Address 1: Address 2: Address 3: Address 4:	Police District	Council District	Planning District	**Flood** Zone	Event	Elevation

Property Info

Site Address:

Square:

Lot:

Property ID:

AD MD CD

Address Info

Site Address Correction:

Address #2:_____ Address #4: _____

Address #3:_____ Address #5: _____

Land Use

Check one:

___ RS - Residential Single
___ RD - Residential Double
___ RM - Residential Multiple
___ NMU - Neighborhood Mixed Use
___ NC - Neighborhood Comm.
___ RC - Regional Commercial
___ LI - Light Industrial/Office
___ IP - Institutional/Public
___ OP - Park/Recreation/Open
___ UNK - Unknown

Structure Info

Foundation: _____ Crawl space _____ Slab on grade

Wall type: _____ Wood stud _____ Metal stud _____CMV

Exterior finish: _____ CMV _____ Brick _____ Wood _____ Vinyl _____ Stucco

No. of stories: _____

Gutted: _____ Yes _____ No Demolished: _____ Yes _____ No

Debris on site: _____ Yes _____ No Vacant lot: _____ Yes _____ No

Electrical meter: _____ Yes _____ No Water meter: _____ Yes _____ No

Down power lines: _____ Yes _____ No Water leaks: _____ Yes _____ No

FEMA (trailer): _____ Yes _____ No Blue roof (tarp): _____ Yes _____ No

Damaged Sidewalk: _____ Yes _____ No Damaged driveway: _____ Yes _____ No

Damaged curbs: _____ Yes _____ No Street condition: ____ Poor ____ Fair____ Good

Landscaping:

No. of trees: _____ Bushes/shrubs: _____ Lawn: ____Dead ____Overgrown ____Cut

Appendix C

NCPTT Building and Site Condition Assessment Forms

Detailed Building and Site Condition Assessment

Inspection

Inspection date time _____ ☐ AM ☐ PM

Inspector _____

Affiliation _____

Area Inspected
☐ Exterior Only
☐ Exterior and Interior

Page 1 of ___
Final Posting
from Page 2 ☐ **Inspected**
☐ **Restricted Use**
☐ **Unsafe**

Property Description

Building Name _____

Address _____

_____

Number of stories above ground _____ below ground _____

Approx footprint area (square feet) _____

Number of residential units _____

GPS coordinates _____

Type of Construction
☐ Wood Frame ☐ Brick ☐ Boat
☐ Steel Frame ☐ Stone ☐ Other
☐ Concrete ☐ Manufactured

Primary Occupancy
☐ Dwelling ☐ Government
☐ Other Residential ☐ Museum
☐ Public Assembly ☐ School
☐ Emergency Services ☐ Religious
☐ Commercial ☐ Cemetery
☐ Offices ☐ Other
☐ Industrial

Occupied?
☐ yes ☐ no

Repairs begun?
☐ yes ☐ no

Owner/Contact Info
_____
_____
_____
_____
_____

Potential Hazards

Is it possible to enter the building or site? ☐ yes ☐ no

Is it ***Safe*** to enter the building or site? ☐ yes ☐ no

Comments _____

_____

Electrical ☐ yes ☐ no _____
Chemical ☐ yes ☐ no _____
Mold ☐ yes ☐ no _____
Asbestos ☐ yes ☐ no _____
Lead ☐ yes ☐ no _____
Other ☐ yes ☐ no _____

Significance

		Comments
Does this property appear historic? (older than 50 years)	☐ yes ☐ no ☐ don't know	
Is there a sign or plaque?	☐ yes ☐ no ☐ don't know	
Do exterior features display a high level of craftmanship?	☐ yes ☐ no ☐ don't know	
Do interior features display a high level of craftsmanship?	☐ yes ☐ no ☐ don't know	
Is the building located in a neighborhood or district of similar building style?	☐ yes ☐ no ☐ don't know	
Does the setting (yard, fencing, garden walls, etc.) make this building unique?	☐ yes ☐ no ☐ don't know	

Designation ☐ Nat'l Hist. Landmark/District ☐ Nat'l Register/District ☐ State/Local ☐ Nat'l Register Eligibile ☐ Other...

Identifiable architectural style/features? Check all that apply.

☐ Colonial: English/French/Spanish	☐ Italianate	☐ Queen Anne	☐ Art Deco/Art Moderne
☐ Georgian	☐ Romanesque	☐ Shingle	☐ Modern/International
☐ Federal	☐ Renaissance Revival	☐ Arts & Crafts/Bungalow	☐ Vernacular/Local Style
☐ Greek Revival	☐ Eastlake	☐ Beaux-Arts	☐ Other
☐ Gothic Revival	☐ Second Empire	☐ Prairie	☐ Don't know

Comments _____

_____

Site Evaluation

			Other/Comments
Topographic	☐ Slope ☐ Steps/Terrace ☐ Walkways	☐ Minor/None ☐ Moderate ☐ Severe	
Unique features	☐ Pool ☐ Fountain ☐ Fence	☐ Minor/None ☐ Moderate ☐ Severe	
Retaining Walls	☐ Masonry ☐ Stone ☐ Wood	☐ Minor/None ☐ Moderate ☐ Severe	
Small Scale Structures	☐ Gazebo ☐ Pergola ☐ Outbuilding	☐ Minor/None ☐ Moderate ☐ Severe	
Vegetation	☐ Planting beds ☐ Hedge/Shrub ☐ Tree	☐ Minor/None ☐ Moderate ☐ Severe	

Is Archaeological Material Present? ☐ on/eroding from ground ☐ no ☐ unknown ☐ other _____

Does material include bone? ☐ yes ☐ no ☐ unknown ☐ other _____

Comments _____

_____

Developed for FEMA by the NPS National Center for Preservation Technology and Training in collaboration with the Heritage Emergency National Task Force, 9/2005.

Detailed Building and Site Condition Assessment Page 2

Exterior Evaluation

Standing water	☐ Minor/None	☐ Moderate	☐ Severe	
Collapsed or off foundation	☐ Minor/None	☐ Moderate	☐ Severe	
Foundation Damage	☐ Minor/None	☐ Moderate	☐ Severe	
Building leaning, other structural damage	☐ Minor/None	☐ Moderate	☐ Severe	
Missing architectural features	☐ Minor/None	☐ Moderate	☐ Severe	
Porch damage	☐ Minor/None	☐ Moderate	☐ Severe	
Siding Damage	☐ Minor/None	☐ Moderate	☐ Severe	
Damage to windows, doors	☐ Minor/None	☐ Moderate	☐ Severe	
Shutter damage	☐ Minor/None	☐ Moderate	☐ Severe	
Balcony damage	☐ Minor/None	☐ Moderate	☐ Severe	
Cornice damage	☐ Minor/None	☐ Moderate	☐ Severe	
Roof Damage	☐ Minor/None	☐ Moderate	☐ Severe	
Chimney, Parapet, or Other Falling Hazard	☐ Minor/None	☐ Moderate	☐ Severe	
Electrical, Mechanical, AC Systems	☐ Minor/None	☐ Moderate	☐ Severe	
Graffiti, vandalism, evidence of looting	☐ Minor/None	☐ Moderate	☐ Severe	

Interior Evaluation

Interior Condition	☐ Structural Damage	☐ Mold/Mildew	☐ Falling Plaster	☐ Sediment/Soil	☐ Hazards	
Ceilings	☐ Minor/None	☐ Moderate	☐ Severe			
First Floor flooring	☐ Minor/None	☐ Moderate	☐ Severe			
First Floor structure	☐ Minor/None	☐ Moderate	☐ Severe			
First floor walls	☐ Minor/None	☐ Moderate	☐ Severe			
Damage to upper floors	☐ Minor/None	☐ Moderate	☐ Severe			

Contents Evaluation

Is the site or building used as:	☐ Archive	☐ Art Museum	☐ Gallery	☐ Historical House Museum	☐ Library	☐ Other
Is there evidence of collections present?	☐ yes	☐ no	☐ don't know			
Conditions/ Comments	☐ Minor/None	☐ Moderate	☐ Severe			

Recommendations, Comments

Final Posting

☐ Inspected ☐ Restricted Use ☐ Unsafe ☐ Further Evaluation

Detailed Building and Site Condition Assessment Page 3

Building Name _____

Address _____

_____

Inspector _____

Attachments

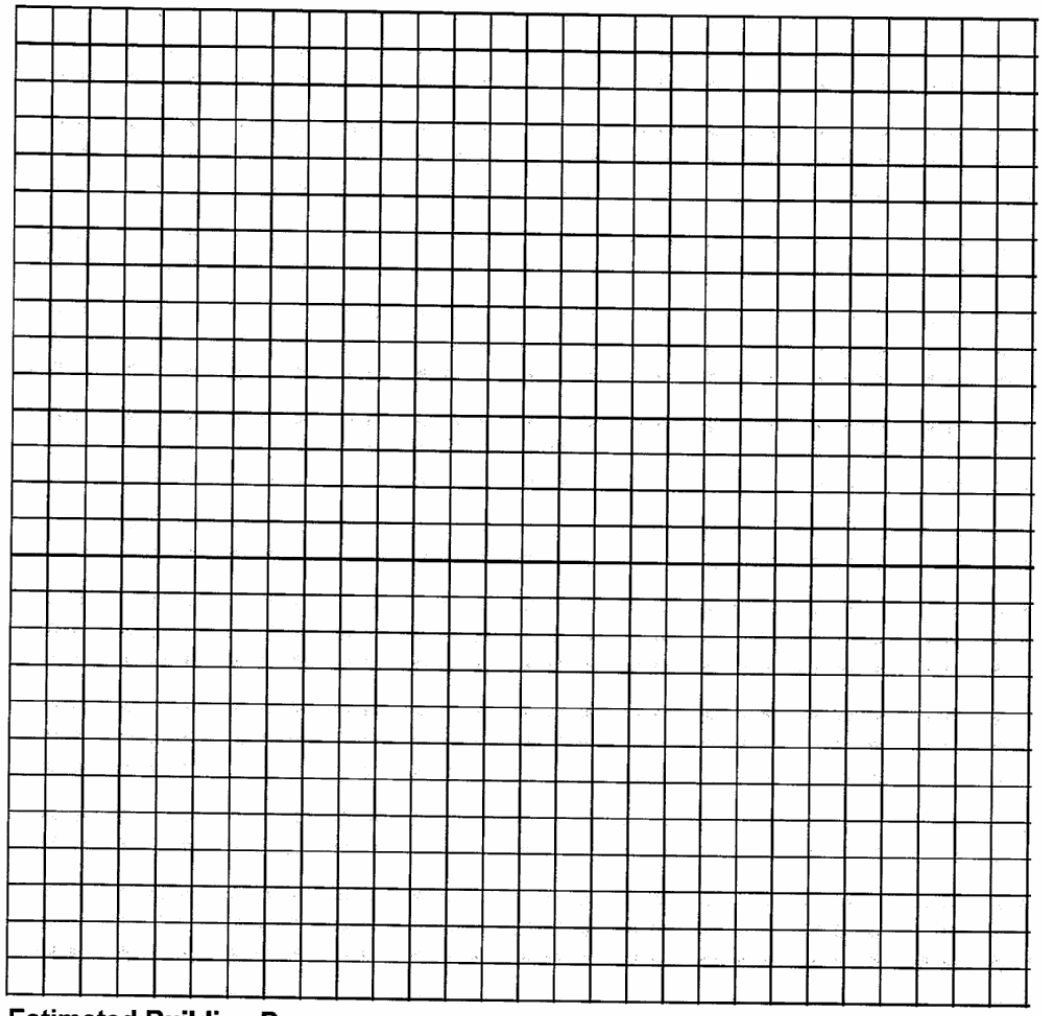
☐ *Photographs* ☐ *Documents*
☐ *Sketches* ☐ *Other*

Photo #s _____

_____

Sketch (optional)

Provide a sketch or photograph of the building or damaged portions. Indicate damage points.



Estimated Building Damage

☐ None ☐ 30-60%
☐ 1-10% ☐ 60-90%
☐ 10-30% ☐ 90-100%

Rapid Building and Site Condition Assessment

Inspection

Inspection date time _____ ☐ AM ☐ PM

Inspector _____

Affiliation _____

Area inspected
☐ Exterior Only
☐ Exterior and Interior

Page 1 of ___

Attachments
Sketches ☐ **Documents** ☐
Photographs ☐ **Other** ☐

Property Description

Building name _____

Address _____

_____

Historic district name _____

Number of stories above ground _____ below ground _____

Approx footprint area (square feet) _____

Number of residential units _____

Type of Construction
☐ Wood Frame ☐ Brick ☐ Boat
☐ Steel Frame ☐ Stone ☐ Other
☐ Concrete ☐ Manufactured

Primary Occupancy
☐ Dwelling ☐ Government
☐ Other Residential ☐ Museum
☐ Public Assembly ☐ School
☐ Emergency Services ☐ Religious
☐ Commercial ☐ Cemetery
☐ Offices ☐ Other
☐ Industrial

Occupied?
☐ Yes ☐ No
Repairs begun?
☐ Yes ☐ No
Owner/Contact Info

Characteristics

Building age ☐ 0- 25 yr ☐ 25 - 50 yr ☐ 50 -100 yr ☐ 100+ yr ☐ Verified ☐ Reported ☐ Estimated

Foundation ☐ Pier ☐ Slab ☐ Chain Wall ☐ Basement ☐ Other _____

Roof type ☐ Hipped ☐ Gable ☐ Mansard ☐ Pyramid ☐ Flat ☐ Other _____

Roof covering ☐ Slate ☐ Metal ☐ Tile ☐ Asphalt ☐ Asbestos ☐ Other _____

Wall finish ☐ Stucco ☐ Wood ☐ Vinyl ☐ Masonry ☐ Asbestos ☐ Other _____

Landscape features ☐ Walkway ☐ Driveway ☐ Fences ☐ Sculpture/Fountains ☐ Structures ☐ Other _____

Archaeological site ☐ Yes ☐ No ☐ On SHPO List ☐ Unknown ☐ Other _____

Visible artifacts ☐ Bone ☐ Pottery ☐ Metal ☐ Stone ☐ Glass ☐ Unknown ☐ Other _____

Interior condition ☐ Structural Damage ☐ Mold/Mildew ☐ Falling Plaster ☐ Other _____

Interior contents ☐ Antiques ☐ Archives ☐ Art Work ☐ Other _____

Appears historic? ☐ Yes ☐ No ☐ Don't know Is there a sign or plaque? ☐ Yes ☐ No _____

Historic designation ☐ Nat'l Hist. Landmark ☐ Nat'l Reg/District ☐ State/Local ☐ Eligible ☐ Other _____

Flood Data

Nature of water ☐ Standing ☐ Flowing ☐ Seepage ☐ Water Marks ☐ Other _____

Space where water entered ☐ Basement/Crawl ☐ First Floor ☐ Second Floor

Depth of water measured from main floor (+/-) _____

Sediment deposited ☐ On Site ☐ In Structure Site erosion ☐ Yes ☐ No ☐ Don't know

Evaluation

Investigate the building for the conditions and check the appropriate column.

Collapsed or off foundation	☐ Minor/None	☐ Moderate	☐ Severe
Leaning, other structural damage	☐ Minor/None	☐ Moderate	☐ Severe
Damage to windows, doors	☐ Minor/None	☐ Moderate	☐ Severe
Chimney, parapet, or other falling hazard	☐ Minor/None	☐ Moderate	☐ Severe
Roof damage	☐ Minor/None	☐ Moderate	☐ Severe
Foundation damage	☐ Minor/None	☐ Moderate	☐ Severe
Siding damage	☐ Minor/None	☐ Moderate	☐ Severe
Damage to electrical, mechanical, AC systems	☐ Minor/None	☐ Moderate	☐ Severe
Landscape damage	☐ Minor/None	☐ Moderate	☐ Severe

Potential Hazards ☐ Electrical ☐ Lead ☐ Asbestos ☐ Mold ☐ Other _____

Estimated Building Damage
☐ None
☐ 1-10%
☐ 10-30%
☐ 30-60%
☐ 60-90%
☐ 90-100%

Further Actions

Recommendations ☐ Add Temporary Roof Covering ☐ Board ☐ Shore ☐ Other _____

Detailed evaluation recommended ☐ Structural ☐ Environmental ☐ Archaeological ☐ Historic Significance ☐ Collections

Other recommendations _____

Barricades needed in the following areas _____

Posting

☐ Inspected ☐ Restricted Use ☐ Unsafe ☐ Historic Designation ☐ Detailed Evaluation Needed

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