# THE IMPORTANCE OF PLANNING FOR DISASTER AND RECOVERY

"Lessons Learned from Irene: Disaster Preparedness"

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North Carolina Department of Cultural Resources
Connecting to Collections Workshop

*Graveyard of the Atlantic Museum*

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# Prologue

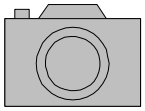
**U**nfortunately, the best way to learn about storm preparation is to experience property damage to one's home. Having lived through hurricanes, tornados, and other strong storms, we have gained practical knowledge about how to be better prepared for a severe weather event. In assisting owners of older homes who have experienced property damage, we have also learned that each event has new and unexpected challenges.

**T**arps, buckets and other inexpensive supplies on hand saved homeowners and insurance companies many thousands of dollars in likely repairs and frustration following Hurricane Irene. When portions of the roof on our house blew-off along with chimney caps, we experienced substantial leaks in five rooms. With supplies on hand and quick action, we were able to prevent more extensive damage to our home during the storm. We were also lucky to have prepared a list of trades people who helped us temporarily patch the roof the day after Irene. While there is no way to be fully prepared for a disaster and recovery, steps that you take beforehand can help in reducing the potential for property damage, heartache, and frustration.

# Personal Safety

Of upmost importance in planning for recovery from any disaster is **Personal Safety**! Structural damage, fallen electrical wires, fallen trees and limbs, gas leaks and other storm-related damage are all major safety threats. When uncertain or uncomfortable with the level of damage, homeowners should seek professional advice for any aspect of preparing for and dealing with a disaster. Your own personal safety and that of your family must take **absolute priority**!

# Pre-Disaster Planning



## Documentation

**Video and/or Photograph your Home and Personal Belongings**

A critical and often overlooked step is documenting one's home and belongings **before** a disaster happens. In the event of damage or loss, you may need to provide proof to your insurance company of the pre-disaster condition of your home or that you owned the items that you're claiming. Electronic or other copies of this documentation should be stored off-site in a secure location.


## Insurance

**Review your Insurance Documents**

Do you have adequate homeowner's insurance coverage in the event of a disaster? Homeowners should review their policies to see what is or isn't covered. Homeowners should also schedule a policy review with their agent. Periodic reviews should be scheduled with your insurance agent to include changes to property and/or contents.

## Mortgage Company

**Review your Mortgage Company's Policy on Insurance Claims**

A loss to your property can be more complicated than you think. If you sustain damage and have a mortgage, expect the insurance check to be made payable to the property owner(s) and the mortgage company. If the damage is minor, the mortgage company will likely sign the check and give it to you, although this depends on your company's policy. To help ensure that storm damage repairs will be made, mortgage companies typically set up a restricted escrow account for insurance funds. Accessing repair funds (made payable to the homeowner and/or contractor(s)) typically requires the submittal of documents such as the following: a notarized borrower's affidavit; copy of signed repair contract(s); contractor's W-9 form; and contractor's affidavit. Mortgage companies typically arrange for home inspections of completed work prior to dispersing repair funds.

# Assessment

**Inspect your Property for Potential Risks and Weaknesses**

What are the potential disaster risks and weaknesses at your property? Do you have overhanging tree limbs or a weakened tree that could fall on your house during a storm? Is your roof secure enough to withstand strong winds? Are there structural weaknesses in your home that could lead to serious problems during a storm? Is your home prone to flooding or likely to be in the path of a storm surge? Conducting a thorough property inspection (exterior and interior) to assess potential storm damage risks is strongly recommended.

***Structural Crack in Foundation Pier***

Inspections should be carried out by persons who are skilled and experienced in working with older and historic buildings. Whoever conducts the assessment should prepare a written list of potential storm damage risks. Items on the list should be ranked according to severity.

**An inspection should consider the following:**

- **Structural weaknesses in the foundation, framing system, porches, and chimneys**
- **Overhanging tree limbs or weakened trees that could fall on your home**
- **Weakness or damage in your roofing system including flashing**

  *Metal roofing panels, for example, are prone to wind damage if not adequately secured – especially on the ends and eaves.*

  *Inspect flashing carefully, especially around chimney stacks, dormer windows, and other rooftop penetrations.*

- **Improperly installed or unclean gutters**

  *Gutters should be clean of debris, secure, and in good working order.*

- **Improper rainwater runoff**

  *Water should drain away from your house and not puddle around the foundation or seep into the crawlspace or basement.*

- **Windows and doors should be secure enough to withstand high winds and driving rain**
- **Obstacles in your yard or close by that could become airborne and damage windows or doors during a storm**
- **Gaps between an exterior chimney and the house where water could enter**

- **Potential electrical concerns such as non-GFCI exterior outlets and lack of water-resistant covers**
- **Roof or gable vents that may allow water entry during a storm**

# Permanent and Temporary Repairs

Few older homes are without current repair and maintenance needs. As feasible, repairs identified in the pre-disaster inspection should be made as soon as possible with priority given to the most critical areas such as structural and roofing weaknesses.

***Gaps in the mortar of this chimney are a source for rainwater entry especially during storms. Deteriorated and missing mortar in masonry foundations and chimneys can be a source of partial or complete structural failure during high-wind events. Permanent or even temporary tuck-pointing with appropriate mortars can reduce the potential for structural problems and further deterioration.***

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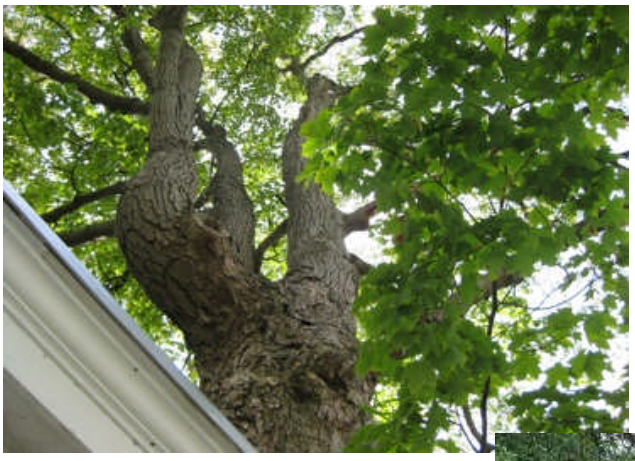
*The porch posts on this home are secured to the porch roof framing only by a few nails. High winds from a storm could uplift the roof potentially causing structural damage to the porch and house. Additional uplift protection should added such as reinforcement through concealed straps or tie-downs. Temporary straps (hurricane straps) could also be added until a permanent fix is made.*



*Overhanging tree limbs and dead branches should be trimmed and removed where necessary. A qualified tree specialist should inspect the condition of trees around a house and advise on pruning needs. Your local County Extension office may have the names of qualified arborist.*

# Storm Preparation

While one cannot be fully prepared for a disaster, pre-storm efforts to protect your property may well reap huge benefits. Following an assessment of your property, prepare a storm preparation list. Below is a partial list based on our experience assisting historic property owners who have sustained storm damage to their homes. Your list may differ depending on your assessment.

## Develop Relationship with Contractors:

Reaching a qualified contractor, carpenter, or roofer experienced in working with older buildings immediately following a storm can be difficult. One of the major post-storm complaints that we hear is the difficulty that property owners have in contacting contractors. Even if a homeowner is able to reach a contractor, he may already be "booked" with repairs for several months. Researching and developing relationships with contractors prior to a storm can be helpful.

## Homeowners Pre-Storm "To Do" List

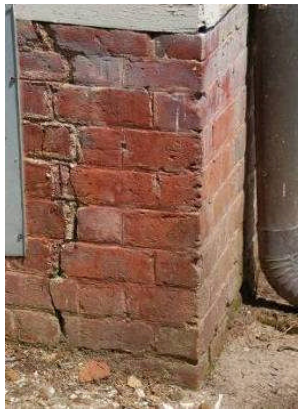
### I. Exterior

**Loose Objects:**
Trash cans, signs, lawn furniture, water hoses, children's, and pets' toys, and other loose objects can became dangerous projectiles during a storm. It is essential to tie-down loose objects or move them to a secure location.

**Doors & Windows:**
Secure all doors and windows. Windows and doors are extremely vulnerable to flying projectiles. Shutters and plywood provide additional protection.

**Gable and Roof Vents:**
If gable vents cannot be closed off temporary covers may be needed to keep out blowing rainwater. If possible, make certain attic vents (especially turbine ones) are adequately secure. Buckets should be placed where possible under rooftop fans and vents.

**Gutters, Downspouts, and Drains:**
Excessive rainfall and poor site drainage can lead to a multitude of moisture related problems. One inch of rain on 1,000 square feet of roofing produces 600 gallons of water. House settlement and structural problems in foundations are common problems seen following a storm producing heavy rainfall.



If there is time prior to a storm, clear gutters and downspouts of leaves and debris. If downspouts empty around the foundation of the building, consider adding temporary extension pipes to carry water away from the building. Be sure to secure the extension pipes.

***Temporary corrugated extensions added to downspouts and held in place with bricks to carry water away from a building.***

## II. Interior

**Move objects away from windows, doors, and fireplaces:**
The areas in a building most likely to fail during a severe storm are windows, doors, roofs, and chimneys. Be sure to remove objects such as prints or paintings from above fireplaces. Moisture seepage around masonry fireplaces is common after excessive rainfall from a storm. In areas of potential flooding, move objects/furniture to the second floor or another secure location.

*Water Seepage/Damage through Chimney (Hurricane Irene)*

**Shut off gas to building:**
LP Gas should be cut off at the tank; Natural Gas should be shut off at the exterior valve. Gas lines can be damaged during a storm. It is better to play it safe. Use caution when turning gas back on.

**Shut off partial/full power:**
If a building will not be occupied during a storm, consider turning the main power breaker off. It the building has a security and a fire alarm/suppression system, consider leaving the breaker on for that system. If the building is occupied, be prepared to shut off the power in the event of electrical current surges that can damage appliances, heating and air conditioning units, and other items. Breakers should be shut off for exterior outlets and any exterior outlets which are vulnerable to moisture as hurricane force winds can blow moisture into exterior frame wall cavities. Use caution when turning power back on.

**Flood Prone Areas:**
If your home is at risk of flooding, a professional assessment is recommended. Additional action such as structural measures may be needed depending on the construction and condition of your home and the risks. Prior to evacuation of your home, all utilities such as electricity and gas should be shut off. Personal possessions that may be damaged should be moved to a safe and secure location.

**Evacuation:**

If possible, ask someone to check on your property if you are away or you evacuate your home prior to a storm. Traveling back to your property immediately following a storm may be difficult or not possible for a few days. Find out what your county's protocol is for re-entry such as the need to have two forms of identification.

## III. Supplies

The following items are recommended to have on hand in the event of a storm. This list is **partial** as individual property needs will vary. It does not include the basic storm supplies list such as flashlights, battery-powered radio, potable water and other essential needs.

**Buckets:** Several large and small ones to collect water. If you have fireplaces, have at least one bucket per firebox. Additionally, you may have "surprise" leaks that occur during a storm.

**Towels, Blankets, Rags, Mop:** For water clean-up and to control seepage at the base of doors, windows and other areas prone to leak. Towels can become saturated quickly; plan to have more than you think you might need on-hand.

**Roll of Plastic:** You may need to cover objects or windows following the storm.

**Tarps and Ropes:** Necessary for emergency roof repairs or covering areas where there are leaks. Roll roofing, flashing, and sheet tin are also helpful.

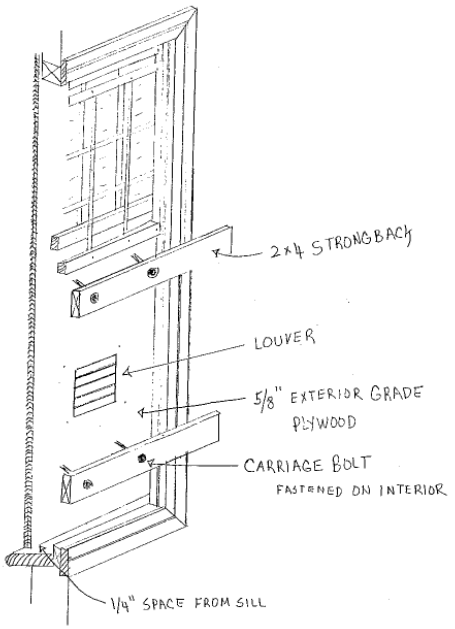
**Plywood and Lumber:** Essential for temporary window, door, and roof patches. See drawing below illustrating a temporary window panel that is simple to construct and easy to install and remove. This temporary panel does not require nailing or screwing the plywood to the exterior window frame.

**Camera:** Still or video camera (with fresh batteries) to document property damage.

## Temporary Window Panel:

**Supplies Needed:**

- **One sheet of 5/8" exterior plywood (recommended)**
- **Two 2 x 4s (for strong backs – see below)**
- **Carriage bolts, washers and nuts**
- **Louver – if ventilation is needed.**



## Additional Supplies

In addition to the list of essential supplies above, we have found it helpful to have the following on hand for storm preparation and post-storm recovery:

**Caulk:** Helpful for temporary patches to seal gaps

**Duct Tape:** A multitude of uses

**Lumber, Nails and Screws:** Helpful to have on-hand for temporary repairs

**Fans and Dehumidifier:** To promote drying

**Generator and Fuel Supply:** Back-up power source. Heed safety warnings for operation

**Downspout Extensions:** Corrugated plastic drain tile works well for most downspout types. The pipes can be secured to the ground by running them though cinderblocks with holes.

***For additional information and technical assistance please contact:***

**The Restoration Services Branch**
**State Historic Preservation Office**
4617 Mail Service Center
Raleigh NC 27699-4617
Fax: 919-807-6599
www.hpo.ncdcr.gov (*See website for disaster recovery technical advice)*