



## **PRINCIPAL FLOOD PROBLEMS**

Low-lying areas of Guilford County are subject to periodic flooding from the Haw and Deep Rivers, their tributaries and other tributaries. The most severe flooding on the rivers and large tributaries is usually the result of heavy rains from tropical storms, while flooding on small tributaries may result from local thunderstorms. Major floods in the county occurred in 1916, 1945, and 1954. The September 1945 flood was the maximum flood of record at the time on the Haw River, the Deep River and its East and West Forks, Reedy Fork, and Horsepen Creek. This flood approximated the 100-year event on the Deep River, Reedy Fork, and Horsepen Creek and the 50-year event on the Haw River and the East and West Fork Deep River. A severe flood in October 1954 exceeded the 100-year flood on Rock Creek. The Haw River at USGS Gauging Station 02096500 in Burlington downstream of Guilford County had its largest peak flow on record in 1996.

## **FLOOD WARNINGS**

The U.S. Commerce Department's National Oceanic and Atmospheric Administration (NOAA), keeps a round-the-clock, round-the-calendar surveillance on the nation's rivers and is prepared to issue warnings when the threat of flooding occurs. A watch on the nation's river system is maintained by NOAA National Weather Service River Forecast Centers located throughout the country. The River Forecast Centers produce flood forecasts for the major river systems and flash flood guidance for the smaller streams and headwater regions. National Weather Service offices use this guidance information to issue flood warnings and flash flood watches to the public. Flash flood warnings are issued by National Weather Service Offices, which have the local and county warning responsibility.

Flood warnings are forecasts of impending floods and are distributed to the public by the NOAA Weather Radio, commercial radio and television, and through local emergency agencies. The warning message tells the expected degree of flooding, the affected river, when and where flooding will begin and the expected maximum river level at specific forecast points during flood crest.

## **BE PREPARED**

Early flood and hurricane warnings provide time for people in threatened areas to prepare, and by doing so, to lessen their damages.

### Before the storm threatens:

- Find out if your home is subject to flooding. Flood map and risk information including Flood Insurance Rate Maps (FIRM), which identifies areas subject to a 100-year storm frequency, can be found online at website below or at your local planning & development or building inspections offices. Note, flooding can occur almost anywhere and does occur both inside and outside of the 100-year floodplain.
  - <https://flood.nc.gov/ncflood/>
  - <https://fris.nc.gov/fris/>
- Inventory your property. A complete inventory of personal property will help obtain insurance settlements and/or tax deductions for losses. Inventory checklists can be obtained from your insurance representative. Be sure to take pictures and list descriptions. Store these and other important insurance papers in waterproof containers or in your safety deposit box.
- Review your insurance policies and coverage to avoid misunderstanding later. Standard home insurance does not cover flood damage. Separate policies are needed for protection against flood damage and wind, which many people don't realize until too late.
- Develop a disaster response plan for your home and family. See Red Cross' website below on

how to create a plan:

- <https://www.redcross.org/get-help/how-to-prepare-for-emergencies/make-a-plan.html>

- In addition, consider the following suggestions:
  - Learn to recognize the warning signals your local government uses, how they will be used, and what you should do when you hear them.
  - Listen to local radio/television stations for forecasts and emergency instructions.
  - Learn your children's school and/or day care centers emergency plans.
  - Learn your work site's emergency plans.
  - Decide on an alternate location to meet if an emergency happens while your family is away from home and cannot return.
  - Know the location of the shelter nearest your home.
  - Post all emergency plans and phone numbers in a prominent place at home and at work.
  - Learn your community's evacuation routes, as you may be forced to leave your home. This is especially important in low-lying areas where flooding could make roads impassable.
  - Learn first aid. Professional medical assistance may not be immediately available.

#### When a watch is issued:

- Monitor storm reports on radio and television.
- If considering moving to a shelter, make arrangements for all pets. Pets are not allowed in shelters.
- Refill needed prescriptions.
- If evacuation has not already been recommended, consider leaving the area early to avoid long hours on limited evacuation routes.
- Check battery powered equipment. It will be needed if utility service is interrupted.
- Keep your car fueled should evacuation be necessary. Service stations may be inoperable after the storm strikes.

#### When a warning is issued:

- Keep your car fueled.
- Listen to local radio/television broadcasts for emergency instructions and the latest information.
- Follow the instructions and advice of your local government. If you are advised to evacuate, do so promptly.
- Keep phone lines open to notify local authorities of occurring events, such as fires, flash floods, tornado sightings, or injuries or damage. Do not use the telephone to obtain emergency information.
- If, and only if, time permits...there are several precautionary steps that can be taken:
  - Turn off all utilities at the main power switch and close the main gas valve if evacuation appears necessary. Do not touch any electrical equipment unless it is in a dry area, or you are standing on a piece of dry wood while wearing rubber-soles shoes or boots and rubber gloves.
  - Move valuable papers, furs, jewelry, clothing, and other contents to upper floors or higher elevations.
  - Fill bathtubs, sinks, and jugs with clean water in case regular supplies are contaminated (sanitize these items by first rinsing with bleach).
  - Board up windows or protect them with storm shutters or tape (to prevent flying glass).
  - Bring outdoor possessions (i.e., lawn furniture, trash cans, tools, signs, etc.) inside the house or tie them down securely.
- If you're caught in the house by suddenly rising waters, move to the second floor and, if necessary, to the roof. Take warm clothing, a flashlight, and portable radio with you. Then wait for help. Rescue teams will be looking for you.
- If it is safe to evacuate by car, you should consider the following:
  - Stock the car with nonperishable foods, a plastic container of water, blankets, first aid kit, flashlights, dry clothing and any special medication needed by your family.

- Do not drive where water is over the road. Parts of the road may be washed out and not visible under the water.
  - If your car stalls in a flooded area, abandon it as soon as possible. Floodwaters can rise rapidly and sweep a car (and its occupants) away.
- When outside the house, remember floods are deceptive. Avoid flooded areas, and don't attempt to walk across stretches of flood waters that are more than knee deep.

If you go to a shelter:

- Take blankets/sleeping bags, flashlights, special dietary foods, infant needs and lightweight folding chairs.
- Register every person arriving with you at the shelter.
- Do not take pets, alcoholic beverages or weapons on any kind to shelters.
- Be prepared to offer assistance to shelter workers if necessary, and stress to all family members their obligations to keep the shelter clean and sanitary.
- Carry along survival supplies:
  - First Aid Kit
  - Canned/dried food, bottled water, utensils, etc.
  - Extra family medication, prescriptions
  - Spare eyeglasses, hearing aid and batteries
- Keep important papers, such as Driver's License (or other ID), insurance policies, property inventory, special medical information, and maps to your destination, with you at all times.
- Take warm, protective clothing.
- Once in a shelter or safer area, stay there until local authorities tell you it is safe to return home.

**PROPERTY PROTECTION MEASURES**

Every year, flooding causes more property damage in the United States than any other type of natural disaster. While recent improvements in construction practices and regulations have made new homes less prone to flood damage, there are many existing homes that continue to be susceptible to repetitive flood losses. Many homeowners feel trapped in a never-ending cycle of flooding and repairing, their house is rarely the same, and its value usually declines.

However, there are ways this cycle of repetitive flooding can be broken. Throughout the country, numerous examples can be found to illustrate practical, cost-effective methods for reducing or eliminating the risk of a house being flooded again. Or in cases where flooding may be unavoidable, steps are taken to reduce the amount of damages incurred.

Flood losses have been reduced by taking temporary measures such as moving furniture and equipment to higher floors or elevations. Others have held back rising waters by sandbagging or building temporary levees.

More permanent approaches have also been used. FEMA has published guides and documents that describes various retrofitting techniques and methods that can be used to help floodproof and reduce flood damages to your building. The below publications can be downloaded at links provided or ordered from FEMA at 1-800-480-2520:

- *Homeowner's Guide to Retrofitting – Six Ways to Protect Your House from Flooding (FEMA P-312)*  
[https://www.fema.gov/sites/default/files/2020-08/FEMA\\_P-312.pdf](https://www.fema.gov/sites/default/files/2020-08/FEMA_P-312.pdf)
- *Protecting Building Utility Systems from Flood Damage (FEMA P-348)*  
[https://www.fema.gov/sites/default/files/2020-07/fema\\_p-348\\_protecting\\_building\\_utility\\_systems\\_from\\_flood\\_damage\\_2017.pdf](https://www.fema.gov/sites/default/files/2020-07/fema_p-348_protecting_building_utility_systems_from_flood_damage_2017.pdf)
- *Protecting Manufactured Homes from Floods and Other Hazards (FEMA P-85)*  
[https://www.fema.gov/sites/default/files/2020-08/fema\\_p85.pdf](https://www.fema.gov/sites/default/files/2020-08/fema_p85.pdf)

## **FLOOD INSURANCE**

Guilford County is a National Flood Insurance Program (NFIP) community where a detailed flood insurance study has been conducted and a Flood Insurance Rate Map (FIRM) developed. Property owners within the community may purchase flood insurance coverage for buildings and contents from flood damages.

In the event of flood damage, call the insurance agent or broker who sold you your flood insurance policy immediately, if your home, apartment, or business has been damaged by a flood. The agent will submit a loss form to the NFIP. This will assign an adjuster to inspect the property. That adjuster will call on you as soon as possible to inspect the damage your property has realized.

## **FLOODPLAIN DEVELOPMENT PERMITS**

All properties located in "Zone A" on the County's FIRM map are subject to regulations. Before undertaking development in "Zone A" a builder must secure a Floodplain Development Permit from the Planning & Development Department. Floodplain regulations are for any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations. The county may levy a fine and/or obtain a court order to have the owner correct the construction if built without a permit or if not built according to the approved plans.

## **DRAINAGE SYSTEM MAINTENANCE**

Streams, channels, and detention/retention basins can lose their carrying capacities as a result of illegal dumping, debris, sedimentation and growth of vegetation. When a drainage system loses a portion of its carrying or storage capacity, overbank flooding occurs more frequently and floods reach higher elevations. Dumping in streams is a violation of county and state regulations and should be reported to the Guilford County Environmental Services Division at 336-641-2082. The Guilford County Watershed / Stormwater Section reviews watershed development plans and handles drainage inquires and complaints for the unincorporated areas of Guilford County, and can be reached at 336-641-3753 or -5565.

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