



SUBSTANTIAL DAMAGE MANAGEMENT PLAN 2024

Engineering Services

Raleigh Stormwater

raleighnc.gov



Raleigh

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INTRODUCTION

As a member of the National Flood Insurance Program (NFIP), the City of Raleigh, North Carolina, is mandated to evaluate substantially damaged properties following any hazardous event, such as flooding, wind storms, fires, and other events that cause damage to a structure. As the administering agency for the City of Raleigh's Floodplain Management Ordinance, the Floodplain Management Section of the City's Stormwater Division has prepared this Substantial Damage Management Plan to identify potentially vulnerable structures and plan for post-event actions should the structures be substantially damaged by flooding.

This plan was submitted to the *City of Raleigh Council and City Manager's Office* on August 16, 2024.

This comprehensive plan is available for transmittal to the Federal Emergency Management Agency (FEMA) Regional Office, Region IV, and to the North Carolina NFIP State Coordinating Office from the City of Raleigh Floodplain group, which can be reached by calling 919-966-3777 or via email at floodplain@raleighnc.gov.

Regulatory and Legislative Authority

The City of Raleigh has adopted cumulative substantial damage regulations through its Floodplain Management Ordinance. The Stormwater Division closely tracks cumulative substantial damage and substantial improvements over a five-year rolling period. The City's substantial damage language is established in the Unified Development Ordinance (UDO) Chapter 9, Article 9.3. Special Flood Hazard Area Regulations, and defined in Ordinance Chapter 12, Article 12.2. Definitions, adopted in 2013 and amended as needed to meet the changing requirements of the City in accordance with the standards and procedures in Sec. 10.2.2. can be found in Section 1 of the Appendix. This commitment to adaptability ensures that the City's regulations are always in line with the latest standards and procedures.

Assessment of Vulnerability to Substantial Damage

Substantial improvements within the City of Raleigh are tracked during the permitting process in EnerGov, a permitting and licensing software. All permit applications for structures on the Flood Hazard Boundary Map are screened to determine if the proposed construction activity would result in a substantial improvement determination. The Flood Hazard Boundary Map(s) consists of the FEMA Special Flood Hazard Areas and 1% Future Condition Flood Hazard Areas on the Flood Insurance Rate Map (FIRM), drainage basin study maps, flood hazard soils, additional distance requirements, and flood storage areas required by the UDO.

As per UDO Section 11.4.6. Limitations on Issuance of Permits for Construction in Flood-prone Areas: no building permit shall be issued for any new construction or substantial improvement of residential structures located or to be located in an SFHA, delineated as provided in Article 9.3. Special Flood Hazard Area Regulations, unless the lowest floor (including basement) and attendant mechanical, electrical, heating, ventilation, and air conditioning equipment, and any other service facility is elevated at least to the regulatory flood protection elevation. A registered professional engineer or architect shall certify on the building plans that all parts of the structure below the regulatory flood protection elevation are designed to withstand the flood depths, pressure, velocities, impact, and uplift forces associated with the one-hundred-year flood at the location of the structure. All new construction and substantial improvements that fully enclose areas below the regulatory flood protection elevation, which are usable solely for parking of vehicles, building access, or storage in an area other than a basement and which are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of flood waters. Designs for meeting this requirement must be certified by a registered professional engineer or architect. Prior to the use or occupancy of the structure, a registered land surveyor shall certify the elevation of the lowest floor to the nearest 1/10 of 1 foot in the mean sea level datum.

Prior Substantial Damage

Several large river systems drain through the City of Raleigh, including Crabtree Creek, Walnut Creek, and the Neuse River. As a result, the community's primary flood risk areas include considerable reaches of riverine floodplain. Residential, commercial, and industrial developments in floodplain areas are subject to riverine and flash flooding during various storms, including hurricanes, tropical storms, and other heavy rain events. Certain areas throughout the City are also subject to local drainage flooding due to stormwater conveyance and storage capacity issues.

The City of Raleigh has a long history of flooding, particularly in low-lying areas and along streams during periods of heavy rain. Over the last several decades, increasing development and, therefore, impervious areas have led to more frequent flash flooding that can occur suddenly, posing a significant risk to many areas of the community. The City's vulnerability to flooding has been documented over the years, with instances of both slow-rising river floods and rapid flash floods.

The most severe storm to impact the City in recent history was Hurricane Fran in September 1996, which caused significant flooding, power outages, road closures, and structural damage across Raleigh. Hurricane Matthew in October 2016 brought historic rainfall amounts to North Carolina. Still, the City of Raleigh only received approximately 7 inches of rain and experienced relatively minimal flooding impacts compared to other areas of the State.

Hurricane Fran brought heavy rains and high winds to the Piedmont region of North Carolina, leading to widespread flooding and wind damage across the City of Raleigh. Once conditions were deemed safe following the storm, substantial damage determinations were issued for many residential and commercial properties.

Properties Vulnerable to Substantial Damage

Properties vulnerable to becoming substantially damaged include critical facilities located in the floodplain and properties within designated repetitive loss areas, as seen in the map found in Section 3

of the Appendix. Critical facilities include schools, medical facilities, fire and police stations, water and wastewater distribution systems, and other emergency operations facilities cataloged in the North Carolina Risk Management Portal. The City’s repetitive loss areas were developed to include properties on FEMA’s Repetitive Loss List and adjacent properties with comparable flood risk based on mapped flood zones and recorded local drainage issues. The property list comprises a relatively even mix of residential, commercial, and non-residential buildings. Most residential buildings are single-family dwellings built slab-on-grade or on a crawl space.

The City’s substantial damage property database contains a list of properties in spreadsheet format. The Floodplain Management group maintains a map of potential substantial damage properties in GIS and PDF format. The data stored for each property is further discussed in the Property Database section of this plan.

Properties listed as vulnerable to substantial damage are reviewed and updated annually by the City’s Floodplain Management group. Updates to the property list and map are made as needed based on official flood map changes, new mapping generated during watershed planning studies, flood insurance claims and repetitive loss data analyses, drainage complaints, flooding observations during storm events, and changes to infrastructure as the result of completed capital improvement projects and other flood mitigation efforts.

The Substantial Damage Management Team

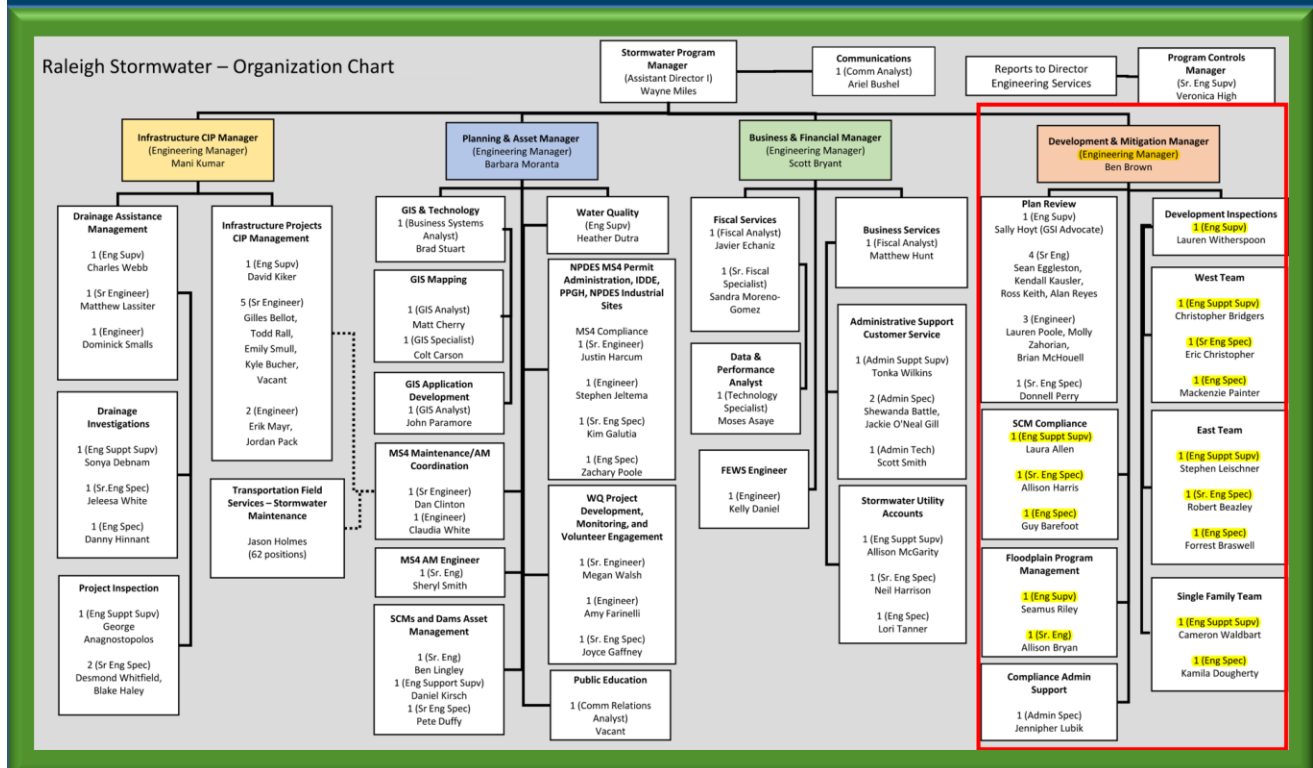
The substantial damage assessment team was formed by selecting positions that required relevant experience and applicable training certification requirements.

Team Members and Primary Responsibilities During Assessment Operations

- 1 Engineering Manager - Damage assessments
- 2 Engineering Supervisors - Damage assessments
- 4 Engineering Support Supervisors - Vehicle operations and/or damage assessments
- 1 Senior Engineer – Damage assessments
- 3 Senior Engineering Specialists – Vehicle operations and/or photography
- 4 Engineering Specialists – Vehicle operations and/or photography

If additional team members are needed, they will be pulled from other divisions within the Engineering Services Department.

Assessment Team



The Stormwater Division has fifteen city-owned vehicles available for substantial damage assessments. As there are five three-person teams, the majority of the designated vehicle fleet will not be required unless impacts are significant and additional team members are required.

Post-Flood Actions

Substantial Damage Determination Process

Following an impact event in the City of Raleigh, a comprehensive approach to substantial damage assessment is undertaken. A fifteen-member inspection team comprising Stormwater Division employees, many Certified Floodplain Managers (CFM), is mobilized to assess damage across the City. This effort involves collaboration among various divisions within the Engineering Services Department.

The City is divided into four quadrants, each assigned dedicated teams for conducting windshield surveys and damage assessments within the regulatory floodplain. Data collected during these assessments is meticulously recorded using FEMA's Substantial Damage Estimator Tool preloaded on City laptops. Physical assessment forms are available in the event of technical issues. All data recorded

on paper forms will be uploaded to the tool as soon as possible. Substantial damage determinations are made using output results from the tool.

The data is immediately incorporated into the City of Raleigh's EnerGov permitting process so that all new permit applications can be cross-referenced with this data. In all instances of property improvements, the City of Raleigh upholds its commitment to safety and compliance by continuing with existing cumulative substantial improvement protocols.

It is important to note that these procedures may vary depending on the specific requirements of the situation and the entities involved in the survey process. However, the City of Raleigh ensures adherence to standardized protocols and best practices to guarantee consistency, accuracy, and effectiveness in assessing substantial damage.

During the assessment phase, team members distribute Flood Response Preparedness (FRP) bags to every substantially damaged structure in the regulatory floodplain. The bags contain information on the importance of knowing your flood hazards, having flood insurance, how to properly protect people and property, grants and mitigation options, and protecting natural floodplain functions. Refer to Section 2 of the Appendix for specific examples of content included in FRP bags.

Notifications

The City notifies property owners of substantial damage determinations by email and through the messaging portal in EnerGov. This includes detailed instructions on the repairs or modifications needed to bring the property into compliance with current floodplain regulations, applicable deadlines, and any relevant findings from inspectors or assessments. In addition to notifications via email and EnerGov, the City delivers physical copies of substantial damage determinations when multiple structures are affected during the same event. Monthly monitoring details begin 30 days after a substantial damage determination is issued.

Violations and Enforcement

If a property owner or responsible party is found in violation of the building code, they are subject to an initial civil penalty of \$50.00. This penalty must be paid within 48 hours of receiving a citation for the violation. The citation serves as formal notice of the violation and the associated penalty. If the initial \$50.00 penalty is not paid within the 48-hour period, an additional penalty of \$25.00 is imposed. This additional penalty applies if the City initiates a civil action to recover the owed amount. The total penalty, therefore, can increase if the violation remains unaddressed.

The City of Raleigh has the authority to accept full payment of all penalties owed in settlement of the civil claim. However, this settlement is contingent upon the property owner or responsible party addressing the violation. The City will only accept payment if the violation has been abated or otherwise brought into compliance with the regulations. For ongoing violations, each day the violation continues constitutes a separate offense. To address a continuing violation, the City must first issue a written notice to the property owner or responsible party. This notice is delivered through personal service, registered mail, or certified mail with a return receipt requested. It details the nature of the violation, the required corrective actions, and the deadline for completing these actions. The notice also warns that failure to comply within the specified time frame will result in additional civil penalties.

If the corrective actions are not completed within the period specified in the notice and after any appeals are heard, the City will assess additional penalties. These penalties amount to \$100.00 per day

for the continuing violation. This daily penalty continues until the violation is resolved or compliance is achieved.

Appeals Process

Property owners who disagree with a determination of substantial damage have the right to an appeal. Appeals require the property owner to submit a single, itemized contract for repairs required to return the structure to the pre-damaged condition and/or a Broker's Option of Value, depending on the characteristics of the appeal. Property owners can also appeal the requirements resulting from a substantial damage determination by providing an Elevation Certificate showing the property already complies with current elevation standards.

Pre-Event Action on Substantial Damage

The City of Raleigh has developed a comprehensive training program for the Substantial Damage Management Team to ensure they are proficient in using FEMA's Estimator Tool and in determining substantial damage. This program consists of multiple two-hour training sessions held each year that focus on the following:

1. FEMA's Estimator Tool Training

- Introduction and Overview: Basics of the tool, including navigation and primary functions.
- Data Entry and Analysis: Step-by-step guidance on entering data and interpreting the results.
- Exercises: Practical exercises using real-life scenarios to apply the tool effectively.
- Troubleshooting: Common issues and resolutions.

2. Determining Substantial Damage:

- Regulatory Framework: Understanding FEMA's criteria for substantial damage.
- Assessment Techniques: Evaluating damage and substantial damage thresholds.
- Documentation and Reporting: Documenting practices and reporting accurately.

Through interactive workshops, team members participate in simulated damage assessments to gain the skills and knowledge needed to efficiently and effectively use FEMA's Estimator Tool to make substantial damage determinations. Team members are provided guidance material to use during training and in the field.

Evaluation of the Plan

Annual evaluation reports are available for transmittal to the FEMA Regional Office, Region IV, and the North Carolina NFIP State Coordinating Office. The plan and annual update reports are publicly available on the City's website. Requests for physical or digital copies can be made over the phone by calling the Floodplain Management group at 919-966-9777 or via email at floodplain@raleighnc.gov.

The Substantial Damage Management Plan's annual evaluation involves a comprehensive review of its effectiveness, accuracy, and relevance. The Floodplain Management group conducts the review. The resulting report is distributed to all City Council members, the City Manager, and relevant City departments.

Review stages:

1. Analyze the plan's implementation data, including the total number of substantial damage cases addressed over the last year, and the continuing vulnerability of all the structures in the SFHA. Update property database. This stage also involves updating the property database as needed.
2. Review and substitute team members as needed. Confirm team member responsibilities for the next cycle year.
3. Revise annual training content and techniques as needed.
4. Collect feedback from local officials and team members regarding the procedures and methodologies utilized during plan implementation.
5. Assess the procedures outlined in the plan to ensure they remain effective, current, and logistically practical.
6. Identify and address any issues or gaps in the plan based on experiences and feedback.

The annual evaluation is conducted during the first quarter of the year to ensure the revised plan is ready for implementation before hurricane season begins.

The Property Database

The City's substantial damage property database contains a list of properties in Excel spreadsheet format. The spreadsheet is stored on the Stormwater Division's SharePoint site and updated annually by the Floodplain Management group.

The following information is stored for each property in the database:

- Latitude and longitude
- Parcel PIN
- Property Owner Name
- Street Number, Name, and Suffix
- City, State, and Zip Code
- NFIP Community Name and ID
- County
- Structure Type
- Year Built
- Square Footage
- FIRM Date, Panel, and Suffix
- FIRM Zone
- FIRM Zone Detail (Floodway, Future Conditions etc.)
- Base Flood Elevation

Data was obtained from the Wake County and Durham County tax databases, the North Carolina Flood Risk Information System, and the City of Raleigh building GIS layer. Surveyed lowest floor elevations may be added as the data becomes available through City watershed planning study efforts and other capital improvement projects.

To ensure the privacy of personally identifiable information, all property data is stored in an internal database inaccessible to the public. Repetitive loss properties are not individually identified in the database but are included in broader repetitive loss area polygons.

Populating FEMA’s SDE (SDP2 Credit)

The Floodplain Management group reviewed the properties identified in Step 1 of the SDP and the data gathered in Step 4 of the SDP to ensure that all of them were included in the SDE. The group’s senior engineer located and compiled the information for each property, ensured that it was in the necessary format, and entered the data into FEMA’s SDE software.

The screenshot displays the 'Property Details' section of the SDE Substantial Damage Estimator 3.0. The form is divided into three main columns: Property Data, Parcel Information, and NFIP Information. The data entered is as follows:

Property Data	Parcel Information	NFIP Information
Structure Owner First Name: AADUN, MOUNIB F ADUN, GHADA C	Parcel Number: 1735785084	NFIP Community Name: City of Raleigh
Structure Owner Last Name: [Empty]	Lot Number: [Empty]	NFIP Community ID: 370243
Street Number: 5812	Year of Construction: 1966	FIRM Panel Number: 1735
Street Name: BEAVER	Latitude: 35.834491	FIRM Zone: AE
Street Suffix: [Empty]	Longitude: 78.535783	Date of FIRM Panel: 7/15/2022
Lane: [Empty]	Structure Type: Residential	Suffix: J
City: RALEIGH		Base Flood Elevation: 186.30
State: North Carolina		Regulatory Floodway: No
County/Parish: Wake		
Zip Code: 27604		

Example Property Data Imported into the SDE Tool

The following items of information were not available at the time of populating the SDE:

- Apartment/Unit
- Subdivision
- Lowest floor elevation

This information is missing because apartment/unit and subdivision information is not stored in the Wake and Durham County tax database GIS layers. Lowest floor elevations are not collected or stored for every structure in the City and become available through watershed studies or capital improvement projects. These elevations will be added to the database as they become available annually.

The SDE database is stored on the Stormwater Division’s SharePoint site and is updated annually by the Floodplain Management group.

Appendix

Section 1 - Definitions

UDO Article 12.2. Definitions define the following terms and responsibilities:

ADDITION (to an existing building): Any walled and roofed expansion to the perimeter of a building in which the addition is connected by a common load-bearing wall other than a fire wall. Any walled and roofed addition connected by a fire wall or separated by independent perimeter load-bearing walls is “new construction.”

ADMINISTERING AGENCY: The City of Raleigh Floodplain Management Group.

BASE FLOOD: The flood having a 1% chance of being equaled or exceeded in any given year.

BASE FLOOD ELEVATION (BFE): A determination of the water surface elevations of the base flood based on current conditions hydrology or future conditions hydrology as published in the flood insurance study. When the BFE has not been provided in a special flood hazard area, it may be obtained from engineering studies available from a Federal or State other source using FEMA approved engineering methodologies. This elevation, when combined with 2 additional vertical feet establishes the regulatory flood protection elevation in special flood hazard areas.

DEVELOPMENT (in a Special Flood Hazard Area): Development in a special flood hazard area is 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, or storage of equipment or materials.

ELEVATED BUILDING: An above-ground building built to have the top of the elevated floor above the ground by means of pilings, columns (posts and piers), shear walls parallel to the flow of water; and adequately anchored so as not to impair the structural integrity of the building during a flood up to the magnitude of the base flood. Elevated building also includes a building elevated by means of fill or solid foundation perimeter walls with openings sufficient to facilitate the unimpeded movement of floodwaters.

FLOOD HAZARD BOUNDARY MAP: The official map of the City on which appears a description of the boundaries of special flood hazard areas, including representations of the floodway, floodway fringe, future conditions flood hazard areas. The map is applicable to the community within the corporate limits and within the extraterritorial jurisdiction of the City. The flood hazard boundary map(s) consist of flood insurance rate maps and drainage basin study maps, flood hazard soils plus additional distances required in this UDO and recorded flood storage areas required by this UDO. The floodway areas, floodway fringe areas and future conditions flood hazard areas shown and illustrated on floodway hazard boundary maps are hereby adopted as official flood hazard boundary maps and floodway maps for the City and extraterritorial jurisdiction of the City. These maps and other data are hereby incorporated herein by reference and duly made a part of this chapter. The most recent maps and data officially approved by the City Council are identified in the evidence of the Council’s action and are kept on file with the City for public inspection.

FLOOD HAZARD SOILS: Those types of soils in the relatively flat areas associated with natural watercourses that are subject to periodic flooding. The types of soils and their corresponding symbols are as follows:

Name	Map Symbol
Altavista fine sandy loam, 0% to 4% slopes	AfA
Augusta fine sandy loam	Au
Buncombe soils	Bu
Chewacla soils	Cm
Congaree fine sandy loam	Co
Congaree silt loam	Cp
Mantachie soils	Me
Roanoke fine sandy loam	Ro
Wahee fine sandy loam	Wh
Wehadkee silt loam	Wn
Wehadkee and Bibb soils	Wo

FLOOD INSURANCE RATE MAP (FIRM): An official map of the city on which appears a description of the boundaries of special flood hazard areas, including representations of the floodway, floodway fringe, future conditions flood hazard areas and a delineation of the risk premium zones applicable to the community within the corporate limits and within the extraterritorial jurisdiction of the City. The flood insurance study, Wake County, Federal Emergency Management Agency, latest publication, consisting of (i) flood insurance rate maps and (ii) other pertinent data furnished by the Federal Emergency Management Agency (FEMA) and the U.S. Army Corps of Engineers, to the City, showing and illustrating floodway areas, floodway fringe areas and future conditions flood hazard areas are hereby adopted as official flood hazard boundary maps and floodway maps for the City and extraterritorial jurisdiction of the City. These maps and other data are hereby incorporated herein by reference and duly made a part of this UDO. The most recent maps and data officially approved by the City Council are identified in the evidence of the City Council’s action and are kept on file in Engineering Services for public inspection.

FLOOD OR FLOODING: The general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of streams, rivers or other inland water.

FLOODPLAIN ADMINISTRATOR: The individual appointed to administer and enforce special flood hazard area regulations.

REGULATORY FLOOD PROTECTION ELEVATION (RFPE): The elevation to which structures and uses within floodway fringe areas and future conditions flood hazard areas are required to be elevated or floodproofed. Within areas which have approved engineered flood studies, such as the FEMA flood insurance study and floodway fringe areas, this elevation will be the “without floodway” base flood elevation plus 2 additional vertical feet. Base flood elevations are shown in the flood insurance study for Wake County, Volumes 1 through 7. Within future conditions flood hazard areas, this elevation will be the future conditions flood elevation plus 2 additional vertical feet. Future conditions flood elevations are shown in the flood insurance study for Wake County, Volumes 1 through 7. For flood hazard soil areas and for areas without established flood elevations within watercourses which drain 1 square mile or more, this elevation is the topographic contour lying 5 vertical feet from the outermost boundaries of either the flood hazard soils or the made land, which traverse such soils. The regulatory flood protection elevation for flood hazard soil areas and for areas without established flood elevations

within watercourses which drain less than 1 square mile is the elevation of the outermost boundaries of either the flood hazard soils or the made land which traverse such soils plus 2 additional vertical feet, or as determined from a flood hazard soil interpretation. The regulatory flood protection elevation shall be the base flood elevation established on the drainage basin study maps plus 2 additional vertical feet.

SUBSTANTIAL DAMAGE: Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50% of the market value of the structure before the damage occurred.

SUBSTANTIAL IMPROVEMENT: Any reconstruction, repair, rehabilitation, addition or other improvement of a structure, the cost of which over a 5 year period singularly or collectively equals or exceeds 50% of the market value of the structure before the “start of construction” of the substantial improvement. This term includes structures which have incurred “substantial damage,” regardless of the actual amount of repair work performed. The term does not include any project for improvement of a structure to correct existing violations of State or local health, sanitary or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions.

Section 2 – FRP Bags

Flood Response Preparation (FRP) Bags for Storm Impacted Structures

FRP#1 is a clear plastic door hanger bag that will hold FRP projects #2-6. The bag's messaging reminds people about the importance of knowing their flood hazards and protecting people, property, and natural floodplain functions. It also includes multiple websites and a contact number.



FRP#2 is a double-sided handout of our flood hazard standards that reminds residents to build responsibly and to be aware of the zoning and permit requirements before starting repair work. These notices will only be delivered to properties within FEMA's SFHA or Raleigh's higher regulatory standard.

CHECK PERMIT REQUIREMENTS BEFORE STARTING REPAIR WORK

Planning and Development Department: (p) 919-996-2682
(e) Development.Services@RaleighNC.Gov


Apply For A Permit
Online: <https://raleighnc.gov/permits/services/how-get-residential-permit>
In-person: Planning and Development Department
Customer Service Center
One Exchange Plaza, Suite 400
Raleigh, NC 27601

New Construction
The finished first-floor elevation must be 2 feet above the FEMA Base Flood Elevation or the City of Raleigh's higher regulatory standard, as found in Chapter 9 of the Unified Development Ordinance.

Substantial Improvements
Any reconstruction, repair, rehabilitation, addition or other improvement of a structure, the cost of which over a 5-year period singularly or collectively equals or exceeds 50% of the market value of the structure before the "start of construction" must meet the same elevation requirements as a newly constructed building.

Substantial Damage
If repair costs equal or exceed 50% of the structure's fair market value, the finished first floor must meet the same elevation requirements as new construction before repairs to the structure will be permitted.

FRP#3 is a flyer that informs residents about grant opportunities to assist with flood mitigation projects.

 Raleigh

Flood Mitigation Grant Opportunities

Do you experience repetitive flood loss at your property? There are a variety of grant opportunities that residents can apply for to acquire, floodproof, and elevate properties in flood hazard zones. Contact the Floodplain Team at [919-996-3777](tel:919-996-3777) or floodplain@raleighnc.gov to learn more about your options.

Benefits

Returning these areas to green space:

- Keeps residents safe;
- Allows the floodplain to function naturally; and,
- Reduces flooding impacts.

When structures are no longer in the floodplain - the water can fan out, slow down, and soak into ground more easily.

Projects

Funding for these projects comes from Raleigh's [stormwater utility fee](#) and [FEMA's Hazard Mitigation Grant Program](#).[®]

FRP#4 NFIP's Increased Cost of Compliance Coverage (ICC) trifold brochure provides information about insurance and building back responsibly following a flood event, as well as protecting property.

Mitigation Reduces Future Flood Damage

Is your building insured through the National Flood Insurance Program (NFIP) with a Standard Flood Insurance Policy (SFIP)? If so, you may be eligible for up to \$30,000 in Increased Cost of Compliance (ICC) coverage. ICC will help cover the costs of meeting the community's rebuilding requirements that will protect your home from future flood damages.

ICC coverage can help to pay the cost of one or any combination of these four mitigation activities.

Elevate above the flood level required by your community

Relocate to a new site, preferably out of the floodplain

Demolish the building

Dry floodproof the building (primarily non-residential)

Your insurance carrier and community building department can help you to determine your ICC eligibility and the documentation you will need.

ICC Helps Reduce Future Flood Damage

Flooding badly damaged John Smith's \$200,000 home. After John reported his flood loss to his insurance carrier, an assigned adjuster inspected the property and said he may be eligible to receive ICC and should talk to his community building department.

John contacted the community building department and after an inspection of the home, it was declared substantially damaged. John and the building department jointly decided elevating his home was the best way to meet the local floodplain rebuilding requirements and reduce future flood damage.

John provided the substantial damage letter he received from his community building department to the insurance carrier. After the insurance carrier verified that the flood damages equaled at least 50 percent of the pre-flood market value, John qualified to receive ICC. After submitting a signed contract for the work, a building permit from the building department, and a signed ICC Proof of Loss form, John was ready to elevate his home*.

*Check with your insurance carrier to determine if you are able to receive a partial payment to help with the initial mitigation activity costs.

For more information about the NFIP, flood insurance, and ICC, contact your insurance carrier or visit www.FloodSmart.gov

National Flood Insurance Program

Increased Cost of Compliance Coverage

Reduces Future Flood Damages

F-663

What is Increased Cost of Compliance (ICC)?

ICC coverage is included under the National Flood Insurance Program (NFIP) Standard Flood Insurance Policy (SFIP). ICC helps policyholders with the costs incurred if they are required by the community building department to meet rebuilding standards after a flood.

ICC coverage provides up to \$30,000 to help pay for relocating, elevating, demolishing, and floodproofing (non-residential buildings), or any combination of these mitigation activities.

The ICC portion of the claim is handled separately from the building and/or contents portion of the claim. However, the combination of payments cannot exceed the maximum coverage limits available through the NFIP. For example, a policyholder cannot receive more than \$250,000 in claim payments for a residential building.

Are You Eligible to File a Claim for ICC?

Yes, if:

- 1) You have an NFIP flood insurance policy; and
- 2) Your community building department determines your home is substantially or repetitively damaged by flooding; and
- 3) The flood damage to your home is equal to 50 percent of the pre-flood market value.

"Substantially damaged" means damages of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damages occurred.

"Repetitively damaged" means the building must have flood damage on at least two occasions during a 10-year period; the cost of which to repair the flood damage, on average, equaled or exceeded 25 percent of the market value of the building on each occasion.

Starting the ICC Claims Process after a Flood

1. If your community building department determines your structure is substantially or repetitively damaged, discuss what mitigation activities will be required to rebuild in the floodplain and if any grants may be available.
2. Promptly contact your insurance carrier to file a claim for ICC and document the loss (photographs, etc.). Do not begin minor repair work before filing an ICC claim.
3. Submit to your insurance carrier the letter from your community building department declaring the building substantially or repetitively damaged, a signed contract for the mitigation activity, and the building permit that documents rebuilding requirements in the floodplain.
4. The insurance carrier will verify that the flood damage to your building equals at least 50 percent of the pre-flood market value, which is required to start the ICC claim.

Where to Get More Information

For more information about the ICC claim process, visit www.FEMA.gov/Increased-Cost-Compliance-Coverage, contact your insurance carrier, or your State NFIP Coordinator (<http://www.floods.org/>).

Things to Remember about ICC

- After it has been determined which mitigation activity you will be taking, contact your insurance carrier to file a claim for ICC. An adjuster will be assigned to you.
- Your adjuster will ask you to submit your substantial damage letter and building permit from the community building department, a copy of a signed contractor bid for the work, and a signed ICC Proof of Loss form, which the adjuster may provide to you as a courtesy.
- Before you begin the work, check with your insurance carrier to see if you are able to receive a partial payment to help cover some of the initial construction costs.
- After the work is completed, your community building department will provide written evidence the work meets the floodplain management regulations. Submit this to your insurance carrier to receive a full or remaining partial ICC payment.
- If necessary, your community building department may also be able to use ICC to supplement Federal or state grant funding for your elevation, demolition, relocation, or floodproofing (non-residential buildings).

FRP#5 Brochure for residents to learn about post-storm safety and flood prevention tips to help them protect themselves and their property during future natural disasters.

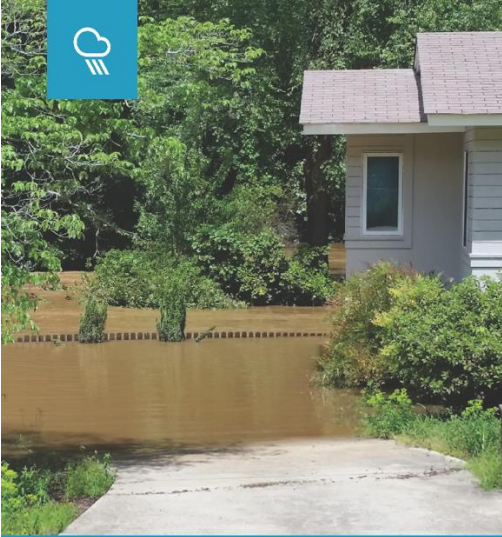


AFTER A FLOOD 


- **If you evacuated, return to your home only after local authorities have said it is safe to do so.**
- **Avoid driving through flooded areas and standing water.**
- **Avoid wading in floodwater, which can be contaminated and contain dangerous debris.**
- **Upon entering the building, do not use matches, cigarette lighters or any other open flames, since gas may be trapped inside.**
- **Take photos of any floodwater in your home and of damaged items for insurance purposes.**
- **Call your insurance agent to file a claim and report the damage as soon as possible.**
- **Before starting repairs, research local building rules and regulations to ensure you will be proceeding compliantly.**

VISIT THE FOLLOWING WEBSITES TO LEARN MORE
Protect Your Property www.fema.gov/protect-your-property
FloodSmart www.floodsmart.gov

FRP#6 Brochure for residents to learn about pre and/or post-storm reconstruction and flood prevention tips to help protect themselves and their property during and after future natural disasters.



Ways to protect your home from flood damage
Restore, Replace, and Protect

 **Raleigh Stormwater**

OUTSIDE THE HOME

For exterior areas of a property or home, consider following these steps:

Maintain proper water runoff and drainage. Routinely clean and maintain gutters and downspouts to allow easy drainage flow away from a home.

Improve lot grading. Determine how water flows or collects around a property or home to find potential trouble spots. Stormwater should drain away from a property. If necessary, change the landscaping to improve runoff.

Reduce impervious surfaces. Hard surfaces like driveways and patios cause stormwater runoff to enter storm drains and waterways. Installing a rain garden, permeable pavement, and other green stormwater infrastructure capture and soak up stormwater.

Install a rain barrel. Rain barrels are connected to gutter downspouts and collect runoff from roofs. Stored water can be used for washing vehicles and watering lawns and gardens.


INSIDE THE HOME

For interior areas below the potential flood level, consider following these steps:

Protect valuable possessions. Move important documents and other valuable items to a safer location above the potential flood level and inside watertight containers.

Seal foundation and basement walls. Close any foundation cracks with mortar and caulk or hydraulic cement, which expands and fills gaps completely. Seal walls in a basement with waterproofing products. Make sure flood drains are clear of obstructions.

2



Install flood vents. Flood vents are small permanent openings that allow floodwater to flow freely through a crawlspace or garage. Flood vents protect homes by preventing water pressure buildup that can damage walls and foundations.

Install a sump pump. With a sump pump, groundwater is drawn from around the house and directed away through stormwater pipes. A sump pump with a battery-operated backup can operate in electrical power failure.

Use flood-resistant building materials.

- Replace wooded floorboards and carpets with ceramic tile, vinyl, rubber, or other flood-resistant materials.
- Replace internal walls and ceilings with flood-resistant material such as lime plaster, cement board, concrete, or pressure-treated and decay-resistant wood.
- Replace wooden doors and window frames with metal or other flood-resistant options.

3


LEARN MORE ABOUT FLOODING

Visit [fema.gov](https://www.fema.gov) and search "Know Your Risk" to find more information about protecting your property.

Visit [floodsmart.gov](https://www.floodsmart.gov) to find information about flood preparation and flood insurance.

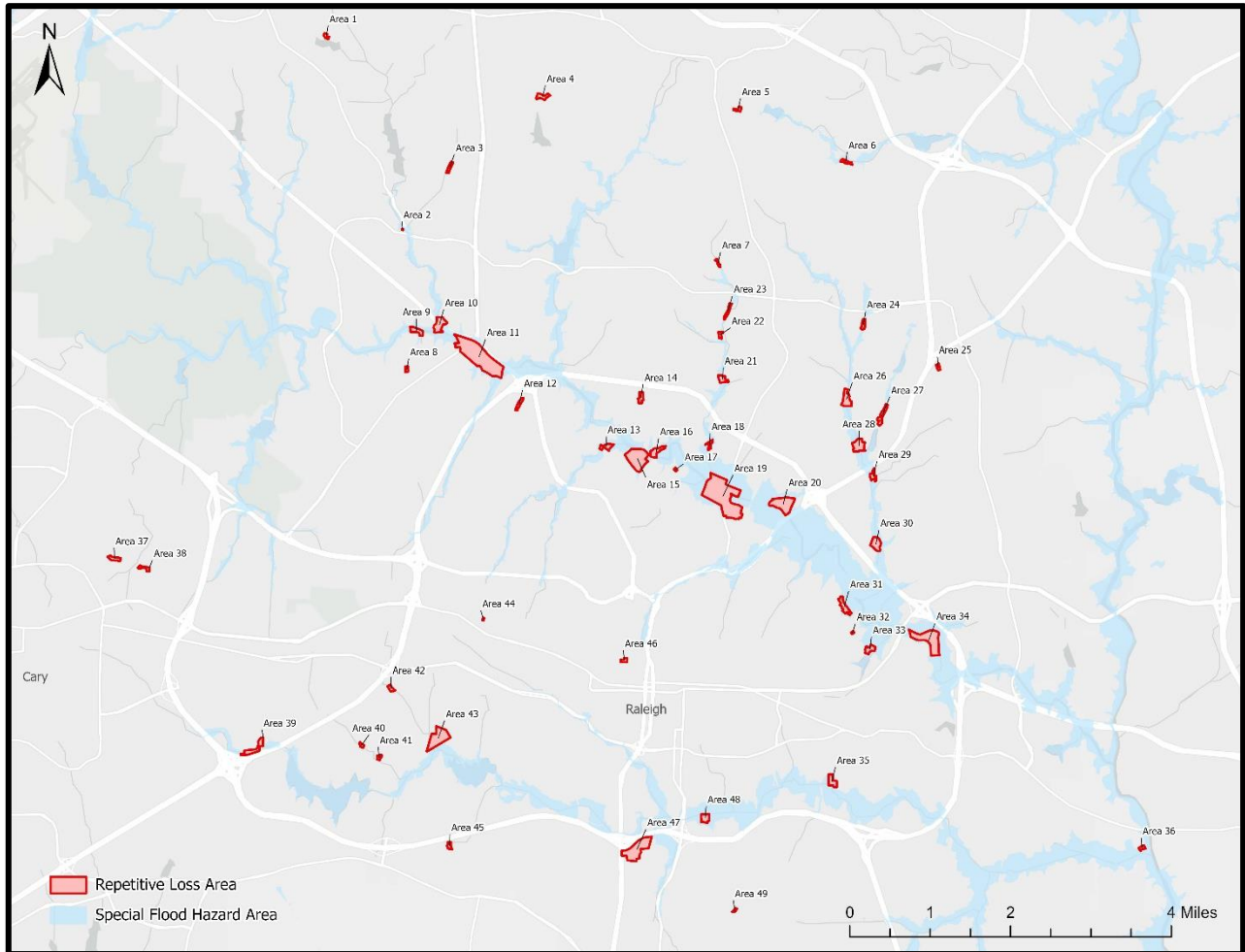
CONTACT US

For questions about flooding, send an email to RaleighStormwater@raleigh.nc.gov or call 919-996-3940.

raleighnc.gov/stormwater  **Raleigh Stormwater**

Section 3 – RL Areas Map

Map of Repetitive Loss Areas in the City of Raleigh (2024)



Inventory of Structures within Repetitive Loss Areas in the City of Raleigh (2024)

Repetitive Loss Area	Number of Structures
1	2
2	1
3	8
4	1
5	4
6	10
7	3
8	3
9	2
10	5
11	12
12	7
13	7
14	3
15	24
16	12
17	2
18	3
19	96
20	9
21	7
22	5
23	10
24	4
25	3

Repetitive Loss Area	Number of Structures
26	27
27	17
28	23
29	7
30	7
31	27
32	2
33	7
34	23
35	14
36	4
37	7
38	2
39	13
40	3
41	4
42	4
43	28
44	1
45	2
46	2
47	3
48	4
49	3