

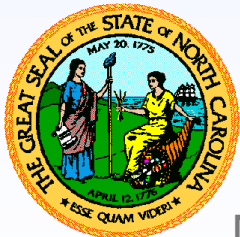
# Living on Barrier Islands A Workshop for Real Estate Professionals

NFIP Overview  
Developing in Compliance w/ the NFIP

September 28, 2022

**Eryn Futral, AICP, CFM, CZO**  
NFIP Eastern Branch Planner

NC Emergency Management, Hazard Mitigation Support Program



**North Carolina Emergency Management**





# NATIONAL FLOOD INSURANCE PROGRAM



- Identifies & maps flood hazard areas
- Provides a framework for floodplain management regulations
- Makes Federally backed flood insurance available in Communities that participate in the NFIP

# NFIP Goals

- Reduce loss of life & property
- Reduce rising disaster relief costs
- Increase importance of hazard mitigation (flood resistant construction, guide future development, & prohibit development in floodplains that would increase flood levels)
- Decrease taxpayer-funded disaster costs
- Make Federally backed insurance coverage available to property owners
- Restore & protect natural resources & functions of floodplains



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# Community Participation in the NFIP



A **VOLUNTARY** program based on a mutual agreement between the Federal government and the local community:

In exchange for adopting, implementing and enforcing a Floodplain Management Ordinance, Federally-backed flood insurance is made available to property owners throughout the community.





# Role of NFIP Participating Community

- Review floodplain development permit applications and issue/deny floodplain development permits
- **Inspect ALL development to ensure compliance with local ordinances**
- Maintain floodplain development records
- Assist in preparation & revision of floodplain maps
- Help citizens obtain information on flood hazards, floodplain map data, flood insurance, & proper construction measures



# Benefits of Participation

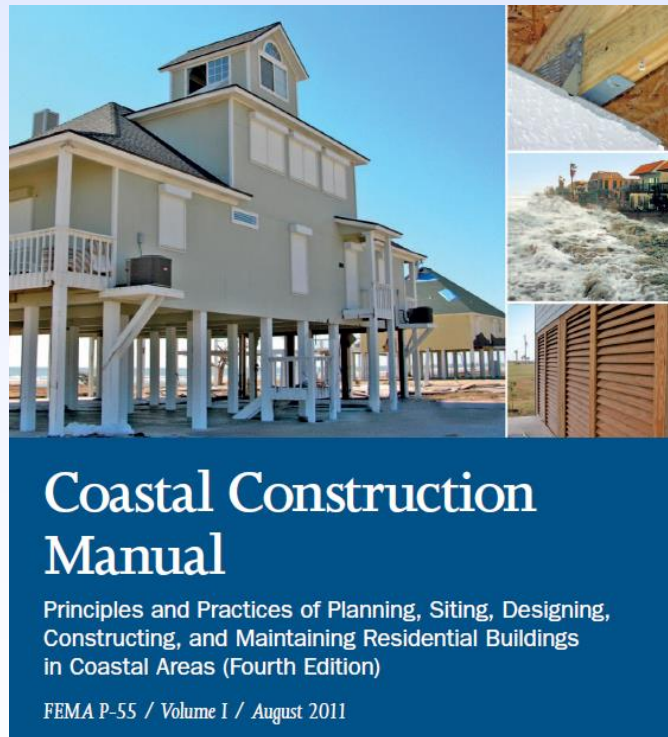
## The availability of:

- Federal grants or loans for development in Special Flood Hazard Areas (SFHAs) under Federal programs
- Federal disaster assistance to repair insurable buildings located in SFHAs
- Federal mortgage insurance/loan guarantees in SFHAs



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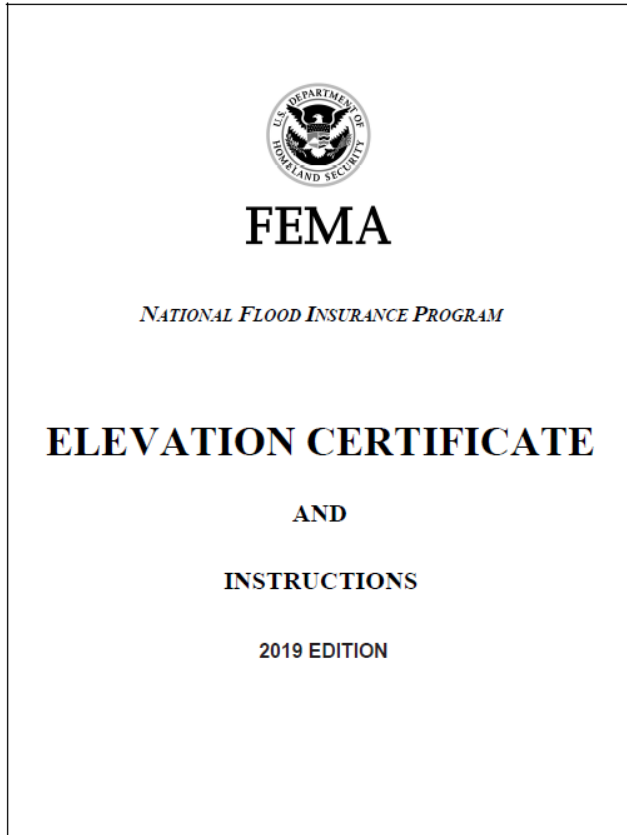
# Development Standards and Mitigation Measures



# Elevation Certificate Form

- Verify Regulatory Compliance
- Supporting documentation for map revision & amendment applications
- Provide better/recent data to insurance companies to see if a better rate is available

**NOTE:** Data collected on this form is for the construction of & utility service to a single structure ONLY – not the lot or other improvements.





# The Community's EC Review

Community Officials MUST review Elevation Certificate's (ECs) before accepting them to ensure:

- **Completeness**
- **Reasonableness/Accuracy**
- **Compliance**

NFIP requires the Finished Construction EC for all:

- **New Construction**
- **Additions**
- **Substantial Improvements**

of structures located in the Special Flood Hazard Area.



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# Question????????????????????????????????

A property owner or prospective buyer needs/wants a copy of the elevation certificate for a structure.



# Answer...

- ✓ The local permitting jurisdiction
- ✓ Insurance Company
- ✓ Surveyor

State NFIP staff do NOT have a database of ECs.



# Development

For Floodplain Management purposes

*"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."*



# Protecting Existing Structures

## Purchase Flood Insurance

## Lower Your Flood Risk

- ✓ Elevate utilities (include duct work)
- ✓ Install flood openings
- ✓ Elevate building
- ✓ Flood proof (non-residential only)
- ✓ Relocate





# Flood Openings

**Permanent Opening** in a Wall that Allows the Free Passage of Water in Both Directions, **AUTOMATICALLY**, without Human Intervention.

A Window, a Door, or a Garage Door is **NOT** Considered an Opening.

Vents **MAY** be located in a door or garage door.

# Why Flood Openings?

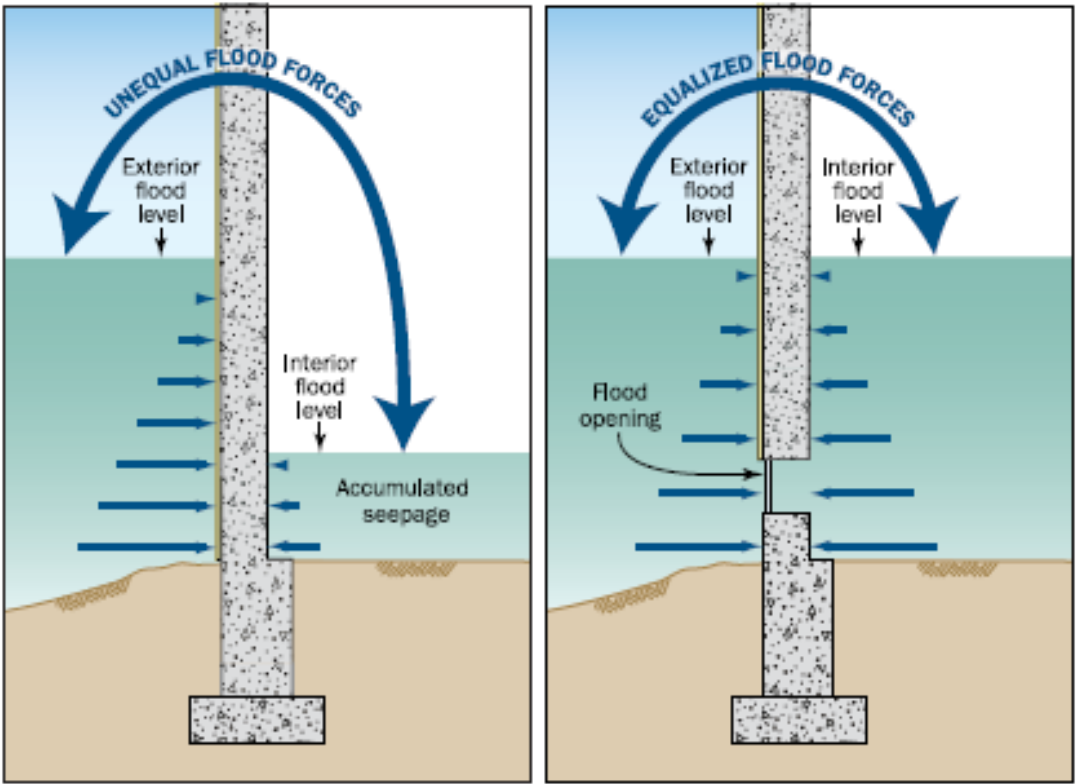


Figure 1: Equalizing flood forces (hydrostatic loads) on exterior walls



*Engineered Opening*



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*No Flood Vents Present in the Foundation Wall*



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# Air Vents Are **NOT** Flood Openings



Figure 17: Standard air vent that is unacceptable as a flood opening because it is not disabled in the open position



# Minimum Requirements for Foundation Openings

- Minimum of **two openings** on different sides of EACH enclosed area.
- The total net area of all openings must be at least **one (1) square inch for each square foot** of enclosed area.
- The bottom of all required openings shall be no higher than **one foot** above the adjacent grade at each opening.
- Openings may be equipped with screens, louvers, or other **“automatic”** coverings or devices, provided they permit the automatic flow of floodwaters in **both** directions.



# Appears to be Non-compliant

An interior inspection would be required for confirmation.

Within 1 foot of interior or exterior grade?





This is complaint





**Plexiglass cover. This is a violation!!**





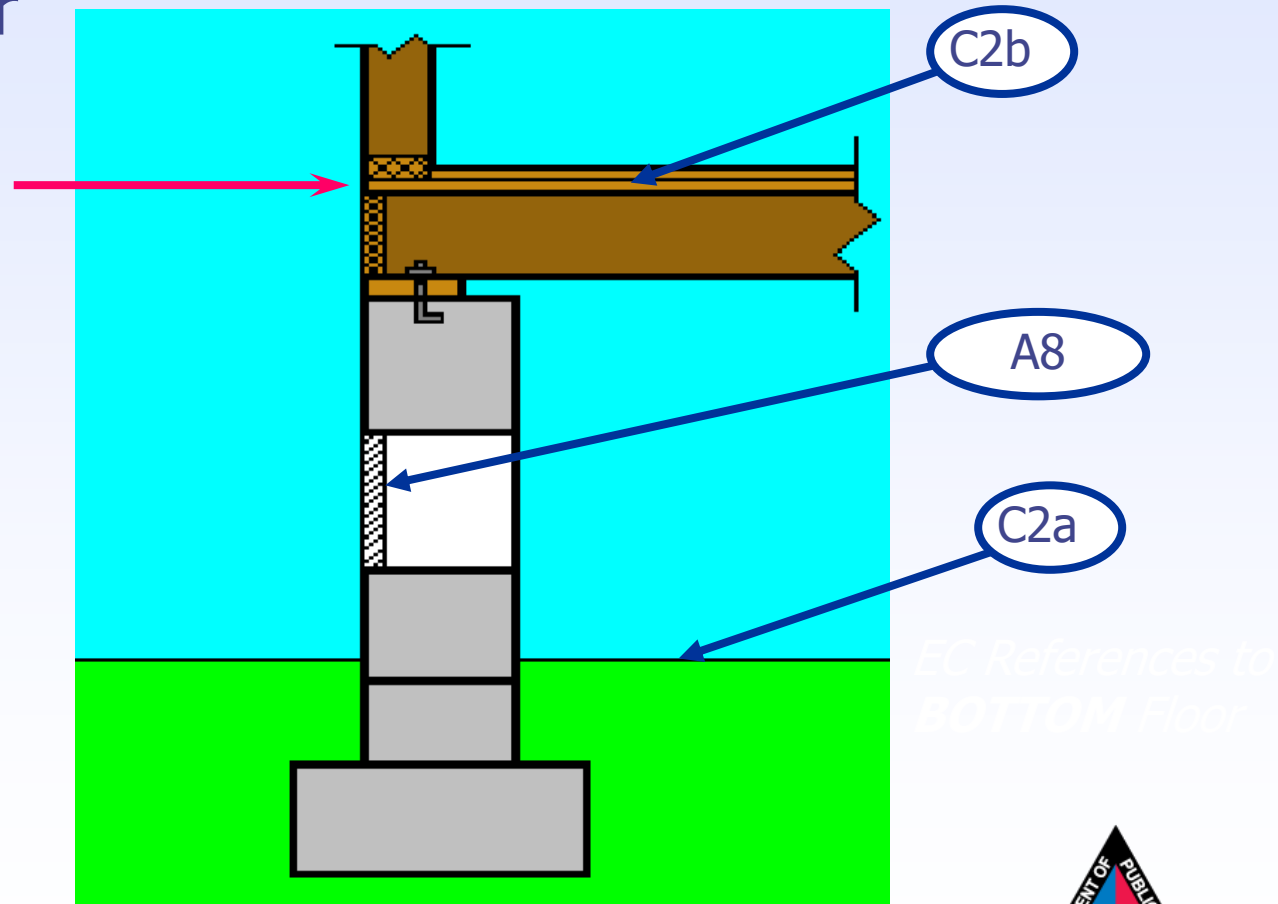
# Flood Proofing (Non-residential Only)





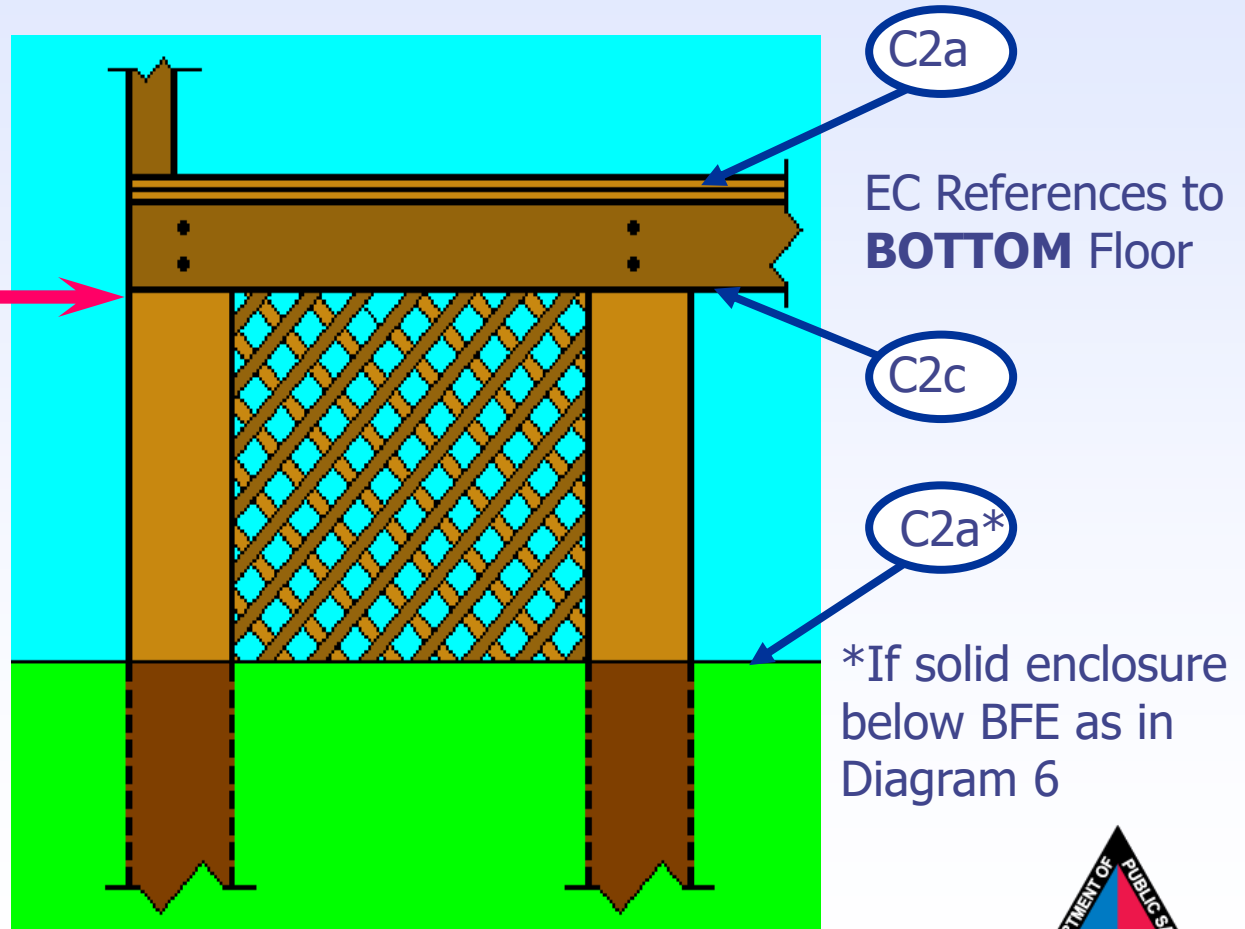
# Lowest Floor in ZONE A, AE, AH, & AO

The lowest floor is measured at the top of the sub-floor, slab or grade for regulatory & flood insurance purposes



# Lowest Floor - ZONE VE/Coastal A

Bottom of the lowest horizontal structural member supporting the lowest floor



# Regulatory Flood Protection Elevation (RFPE)

- Base Flood Elevation PLUS Freeboard (BFE + Freeboard)
- Freeboard – the elevation required by a local jurisdiction above the base flood elevation
- Higher standard adopted by the local jurisdiction
  - Higher level of protection for structures
  - Community Rating System (CRS) Points = increased flood insurance discounts (in the SFHA and out)

Example: BFE of 9' + 2' local freeboard =  
RFPE of 11'



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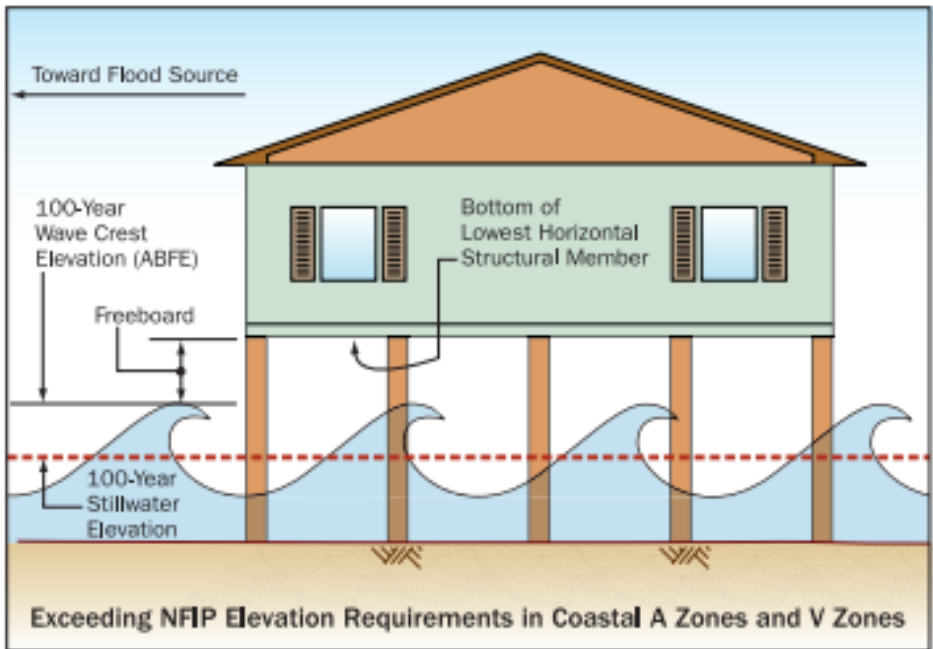
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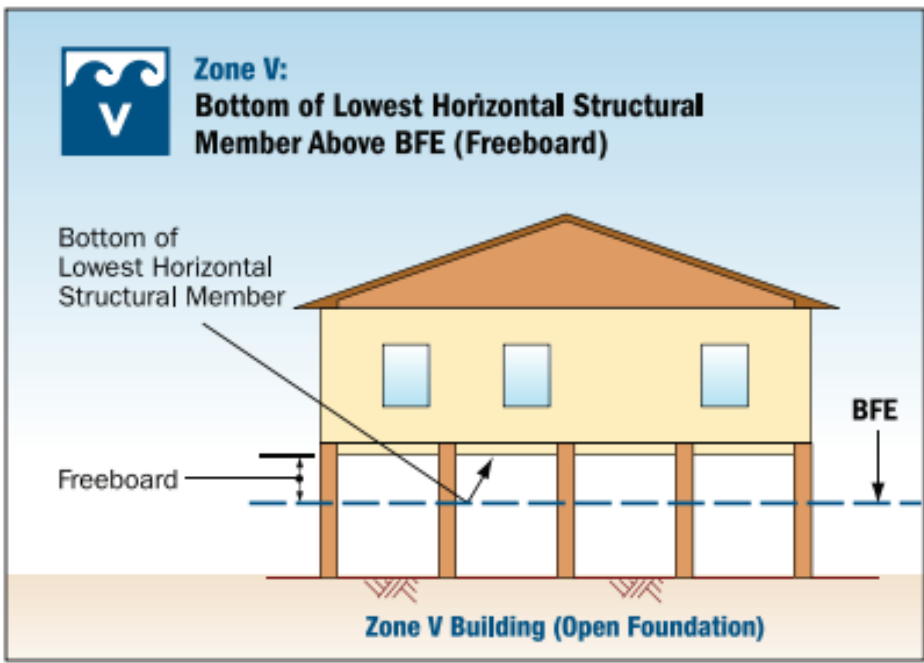








**Figure 7. Recommended construction in Coastal A zones and V zones.**



# Protecting Utilities





# Protecting Building Utility Systems From Flood Damage

Principles and Practices for the Design and Construction of  
Flood Resistant Building Utility Systems

FEMA P-348, Edition 2 / February 2017



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## Properly anchored propane tank



*Coastal A and VE Zones – Elevate or Bury  
A, AE, AO, AH, and A99 - Anchor*



# Online Resources

ReadyNC – <http://readync.org>

Flood.NC.gov – <http://flood.nc.gov>

FRIS – <http://fris.nc.gov>

FIMAN – <http://fiman.nc.gov>

FloodSmart - <http://floodsmart.gov>

FEMA – <http://fema.gov>



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# Flood Risk Information System



Am I at risk of flooding?

General Public

Enter all or part of your address and click GO.

Address, City, or ZIP

OR select a county

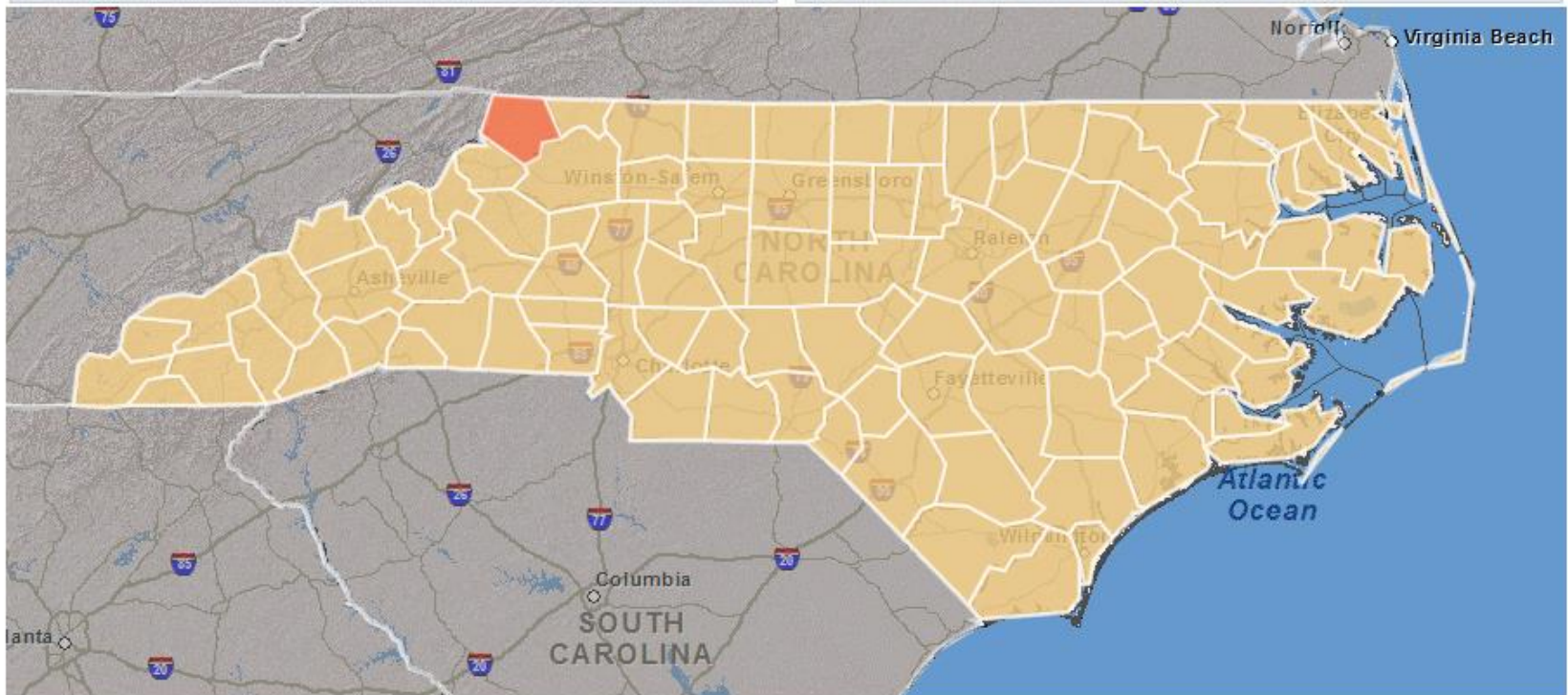
County  Ashe, North Carolina



## Benefits of Floodplain Mapping

Floods are among the most frequent and costly natural disasters in terms of human hardship and economic loss. North Carolina's Digital Flood Insurance Rate Maps (DFIRM) enable business leaders and residents to more accurately predict flood hazards and prepare for flood risks.

Go to [flood.nc.gov](http://flood.nc.gov) for more information.



# FRIS Map Functions

## Search for Properties

The screenshot displays the FRIS web application interface. At the top, a dark navigation bar contains the 'FRIS' logo, a 'Map Theme' dropdown menu, and several icons: a magnifying glass (search), a question mark (help), a stack of layers (layers), a list icon (table of contents), a lightbulb (notifications), a scale bar, and a location pin. A red arrow points from the magnifying glass icon to the search panel below.

The search panel is a light blue form with the following fields:

- County:** Beaufort (dropdown menu)
- DFIRM:** (empty dropdown menu)
- Places:** CITY OF WASHINGTON (dropdown menu)
- Streams:** (empty dropdown menu)
- Address:** 239 West Main Street, Washington, NC (text input with a magnifying glass icon)
- Coordinates:** Lat - Lon (Decimal Degrees) (dropdown menu)
- Latitude-Northing-Y:** (empty text input)
- Longitude-Easting-X:** (empty text input with a magnifying glass icon)

The map below shows a coastal area with a grid overlay. A red rectangle highlights a specific area. The map features various colored regions (yellow, green, blue) and labels for 'River Road' and 'Chocowinity Bay'. Grid numbers are visible along the edges, such as 5687, 5697, 5696, 5695, 5684, 5684, 5684, 5684, 5654, 5664, 5674, 5684, 5684, 660, and 660.



# FRIS DFIRM Map Symbology

**FRIS** Map Theme 🔍 ? 📄 📌 📏 📍

Who Am I : General Public Effective

### Flood Information

Map Location

Flood Zone: **AE (Floodway)**

Flood Source: Jacks Creek

Base Flood Elevation: 8.1 ft More

County: Beaufort

Political Area: City Of Washington

CID: 370017

Panel: 5676 Download

Map Number: 3720567600K

Panel Effective Date: 6/19/2020

Latitude: 35.55012

Longitude: -77.05845

### Legend

Flood Hazard Areas

- Zone VE
- Zones A, AH, AO, A99, V
- Zones AE, AE: 1% Annual Chance Flood Hazard Contained In Structure, 1% Annual Chance Flood Hazard Conditions
- Zone AE: Floodway, 1% Annual Chance Flood Hazard Conditions:
- Floodway, 1% Future Conditions Contained In Channel: Floodway
- Zone AE: Community Encroachment Area, 1% Annual Chance Flood

Risk Information  
Financial Vulnerability  
Flood Insurance  
FIS Reports  
Map Export  
Data Export



# FRIS DFIRM Map Symbology



Who Am I : General Public | Effective

### Flood Information

Map Location

Flood Zone: **AE**

Flood Source: Pineygrove Branch

Base Flood Elevation: 31.2 ft | More

County: Beaufort

Political Area: Beaufort County

CID: 370013

Panel: 5696 | Download

Map Number: 3720569600K

Panel Effective Date: 6/19/2020

Latitude: 35.56341

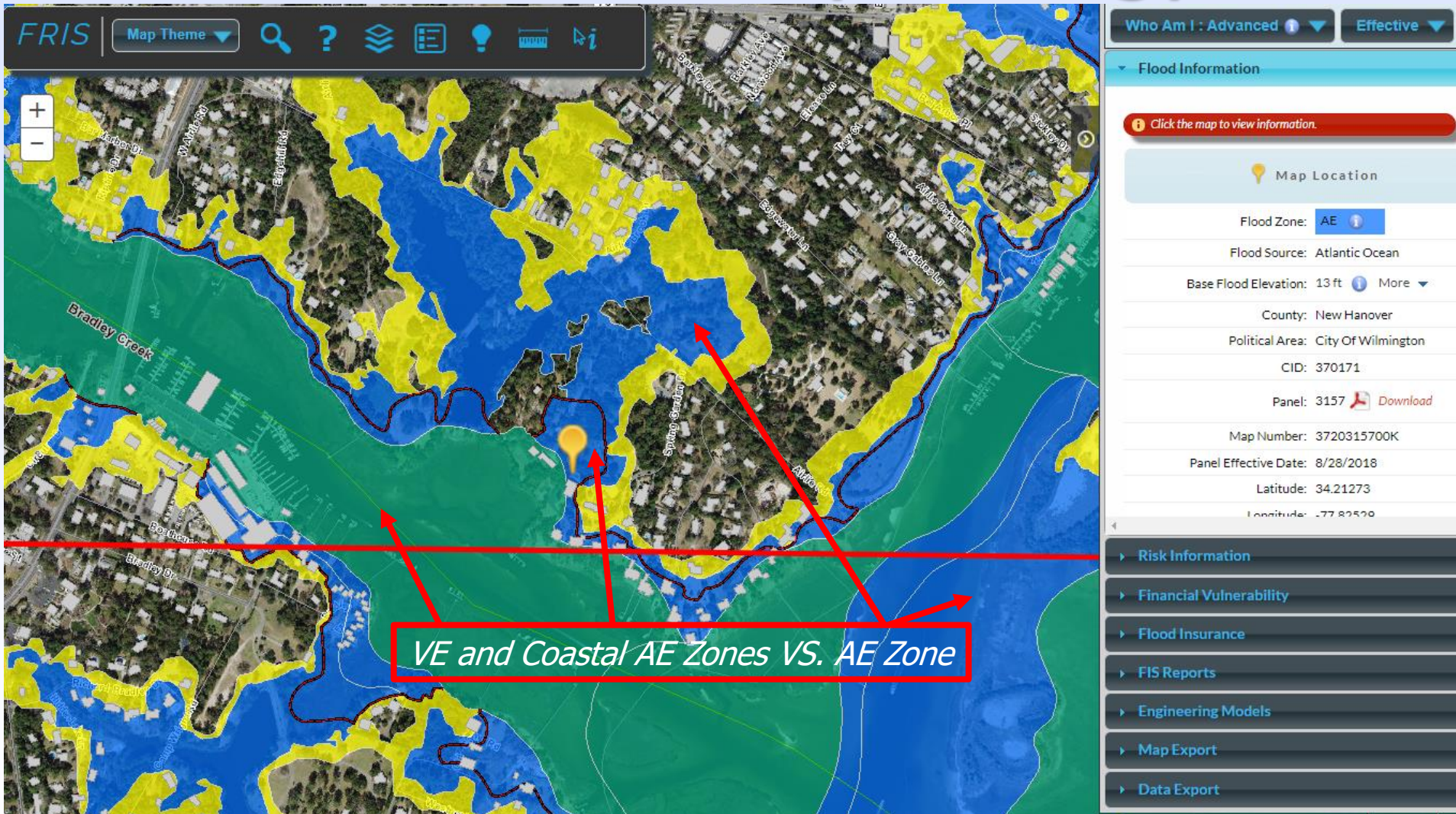
Longitude: -76.99474

- Risk Information
- Financial Vulnerability
- Flood Insurance
- FIS Reports
- Map Export
- Data Export





# FRIS DFIRM Symbology





# ReadyNC.org

Plan And Prepare ▾

Stay Informed ▾

Recover And Rebuild ▾

Get Involved ▾

News

## Before Storms Hit

If you live, work or play in a North Carolina coastal county, when it's time to evacuate, you need to Know Your Zone.

[Learn your zone](#) 

# KNOW YOUR ZONE

**A B C D E**



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# Flood.NC.gov

flood.NC.gov

Go to FRIS site

Go to FIMAN site

Home Property Risk Mapping Program Find a Document Events Floodplain Management LOMC Mitigation Flood Warning Industries

Do You Know Your Flood Risk?

Search an address

Use my current location



## Property Risk

Learn about flood risk at a specific address, to include flood hazard, structural and content impacts, potential insurance rates, mitigation opportunities and the location of flood warning sites near you.

Learn More



Real Estate Agent



Insurance Agent



Professional Engineer/Surveyor



Community Official



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# Flood.NC.gov

flood.NC.gov

[Go to FRIS site](#)

[Go to FIMAN site](#)

[Home](#) [Property Risk](#) [Mapping Program](#) [Find a Document](#) [Events](#) [Floodplain Management](#) [LOMC](#) [Mitigation](#) [Flood Warning](#) [Industries](#) ▾

Property Risk  
ESTIMATOR



Calculate Risk Level



Insurance Costs  
ESTIMATOR



Calculate Premiums



Events & Training

[See More >](#)

## Real Estate Agents

### For Agents Who Sell Real-Estate in a Flood-Hazard Area

*"Potential buyers want to know how to mitigate flood hazards on property within the flood plain."*

#### Important Links:

[NC Flood Risk Information System](#)  
[FEMA Map Service Center](#)  
[North Carolina NFIP Updates](#)  
[Find Meetings & Training](#)



More Answers from the  
Quick Guide

[See All >](#)

## Frequently Asked Questions

- ❓ How do I determine if the structure is in the SFHA?  
Check the Flood Risk Information System Website: [FRIS](#)
- ❓ Will an elevation certificate be required?  
A Post-FIRM structure should have an elevation certificate completed at the time of construction. An EC is required for rating the flood insurance policy.
- ❓ Do Pre-FIRM structures require an elevation certificate?



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# FIMAN



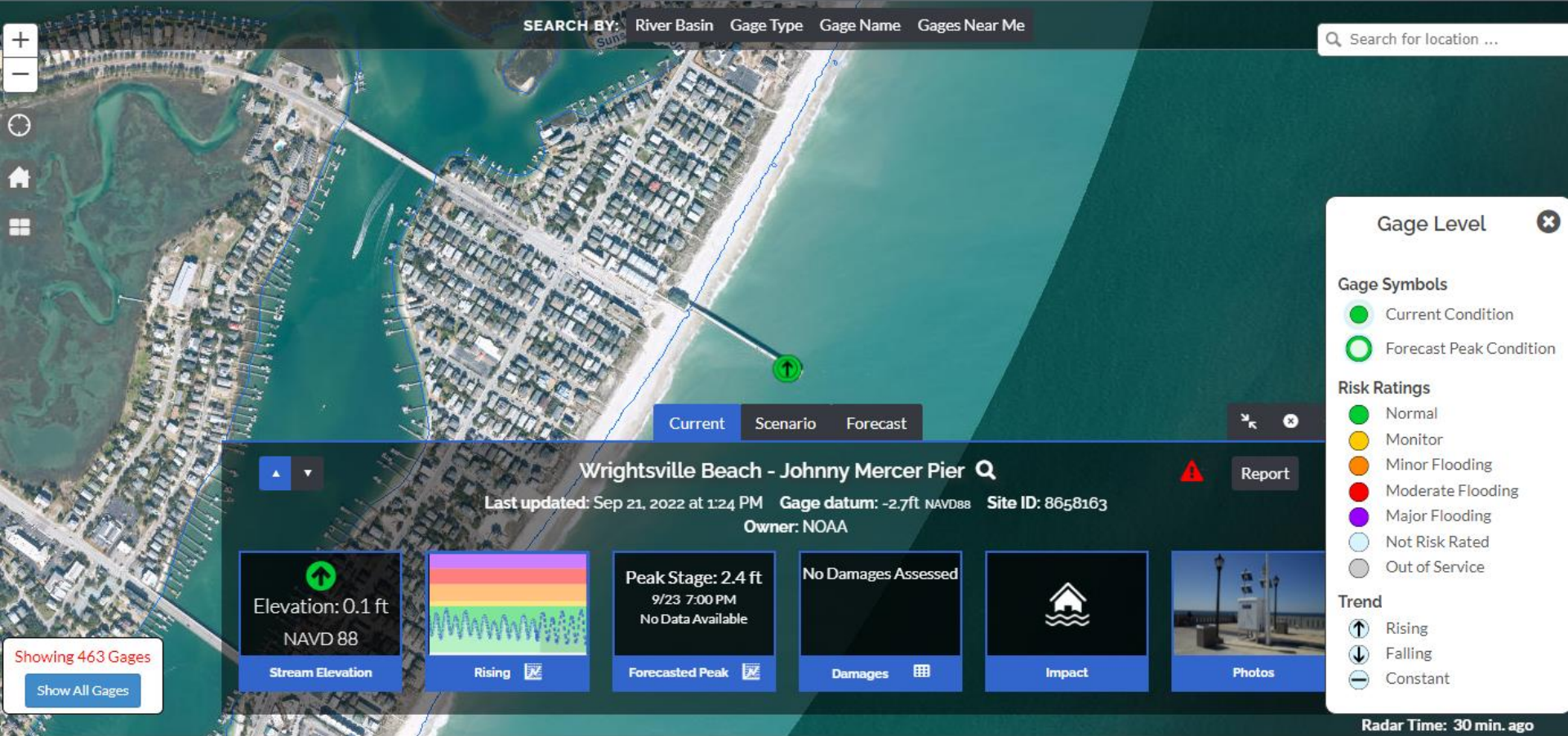
FIMAN Flood Inundation Mapping and Alert Network

[ABOUT](#) [MAP](#) [SUBSCRIBE](#) [UNSUBSCRIBE](#) [LOGIN](#)

[Search Gages](#) [Gages Summary](#) [Legend](#) [Building Legend](#) [Weather Radar](#)

SEARCH BY: [River Basin](#) [Gage Type](#) [Gage Name](#) [Gages Near Me](#)

Search for location ...



### Gage Level

**Gage Symbols**

- Current Condition
- Forecast Peak Condition

**Risk Ratings**

- Normal
- Monitor
- Minor Flooding
- Moderate Flooding
- Major Flooding
- Not Risk Rated
- Out of Service

**Trend**

- ⬆️ Rising
- ⬇️ Falling
- ⬇️ Constant

Radar Time: 30 min. ago



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# FloodSmart.gov

Visit FloodSmart for Agents

Buying a Policy ▾

Renewing a Policy ▾

Flood Risks and Costs ▾

Before and After a Flood ▾

Flood Zones and Maps ▾

## This is an official site of the National Flood Insurance Program.

The NFIP offers flood insurance to help you protect the life you've built and recover more quickly after a flood.

[Get Coverage](#)



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# Contact Information

**Steve Garrett**  
NC NFIP Coordinator  
(919) 825-2316  
[Steve.Garrett@ncdps.gov](mailto:Steve.Garrett@ncdps.gov)

**Eryn Futral**  
Eastern Branch NFIP Planner  
(919) 819-1734  
[Eryn.futral@ncdps.gov](mailto:Eryn.futral@ncdps.gov)

**Milton Carpenter**  
Community Development Planner  
(919)825-2302  
[Milton.carpenter@ncdps.gov](mailto:Milton.carpenter@ncdps.gov)

**Matthew Stillwagon**  
Central Branch NFIP Planner  
(919) 825-2289  
[Matthew.Stillwagon@ncdps.gov](mailto:Matthew.Stillwagon@ncdps.gov)

**Stacey Fuller, CFM**  
Community Development Planner  
(919) 825-2315  
[Stacey.fuller@ncdps.gov](mailto:Stacey.fuller@ncdps.gov)

**Terry Foxx**  
Western Branch NFIP Planner  
(828) 228-8526  
[Terry.foxx@ncdps.gov](mailto:Terry.foxx@ncdps.gov)

**Jintao Wen**  
NFIP Engineer  
(919) 825-2317  
[Jintao.Wen@ncdps.gov](mailto:Jintao.Wen@ncdps.gov)





# Questions?

## Thank You for having me!



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