

# Surveying in Floodplains:

## What to Know about FEMA's Products and Processes



**NHLSA Seminar**  
**March 24, 2016**



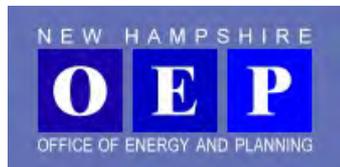
**Jennifer Gilbert, CFM, ANFI**

**Kellie Walsh, CFM**

NH Floodplain Management Program  
NH Office of Energy & Planning

**Chris Markesich, CFM**

Senior Natural Hazards Program Specialist  
Mitigation Division, FEMA Region 1



# Agenda

- Introductions
- Overview of the NFIP
- FEMA Floodplain Maps and Studies
- FEMA Elevation Certificate
- Letter of Map Changes

# NFIP Participation in New Hampshire

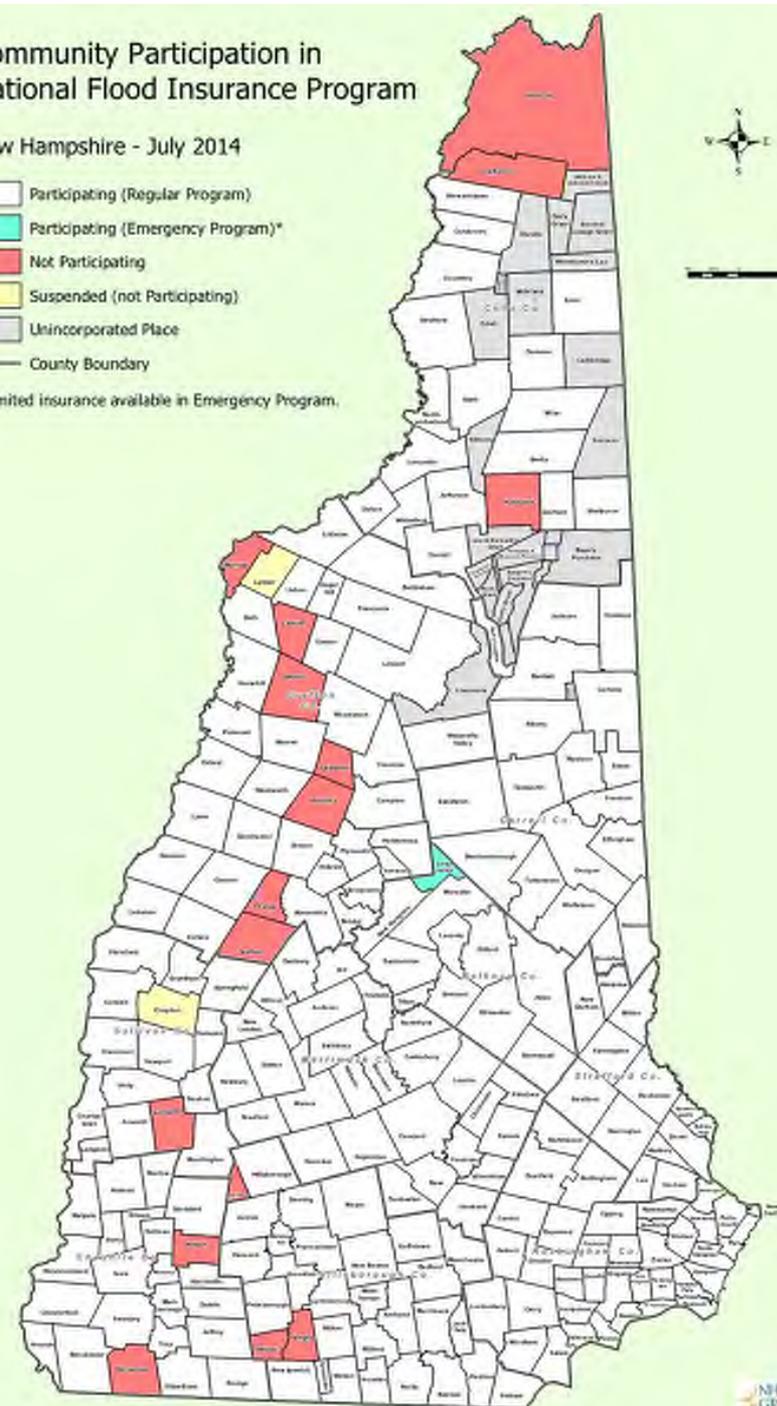
- 217 communities (92%) participate
- 18 communities (8%) do not participate

## Community Participation in National Flood Insurance Program

New Hampshire - July 2014



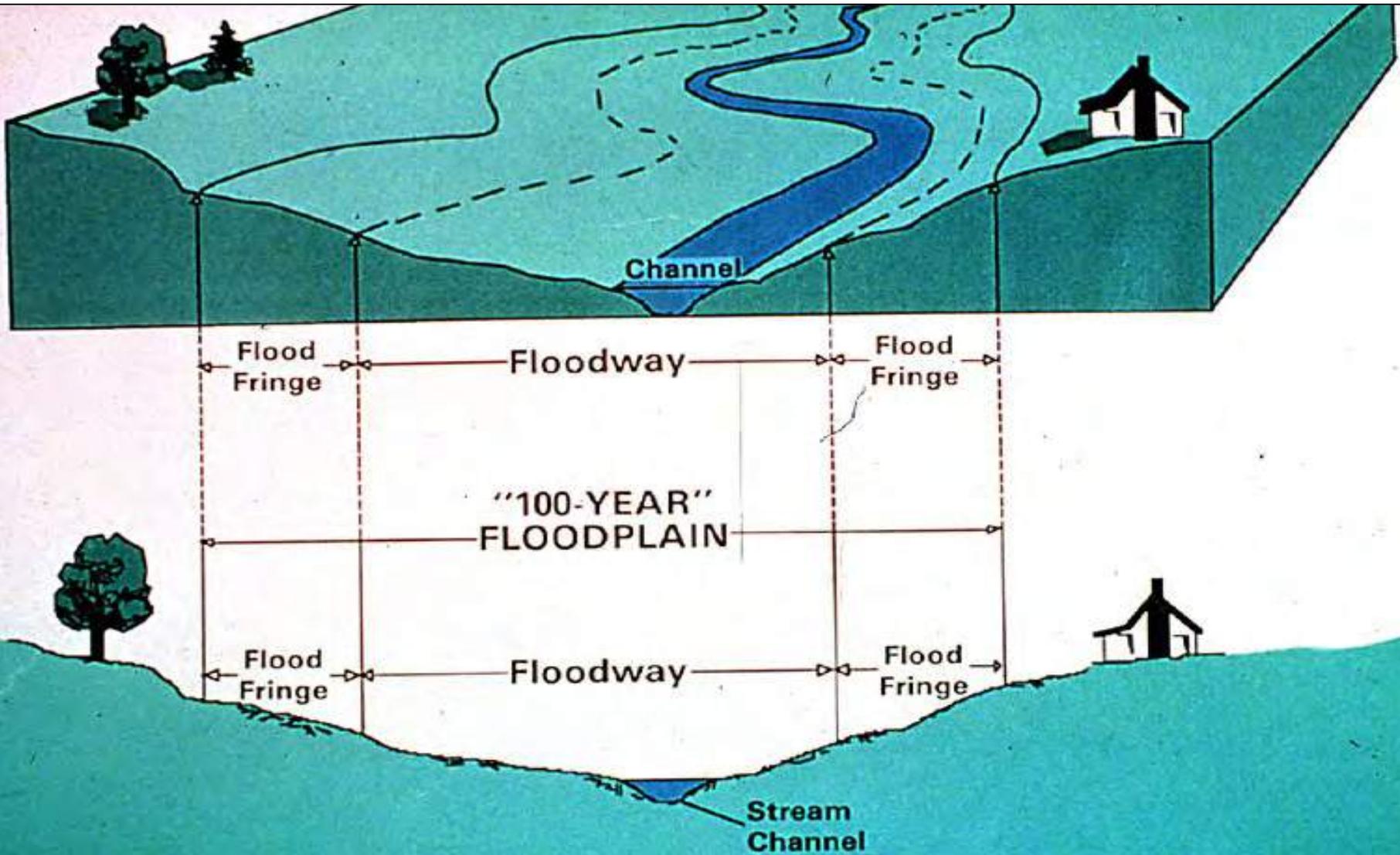
\* Limited insurance available in Emergency Program.



# National Flood Insurance Program



# Floodplain 101



# 1% Annual Chance Flood

National standard used by the NFIP for purposes of requiring the purchase of flood insurance and regulating new development



# Base Flood Elevation (BFE)

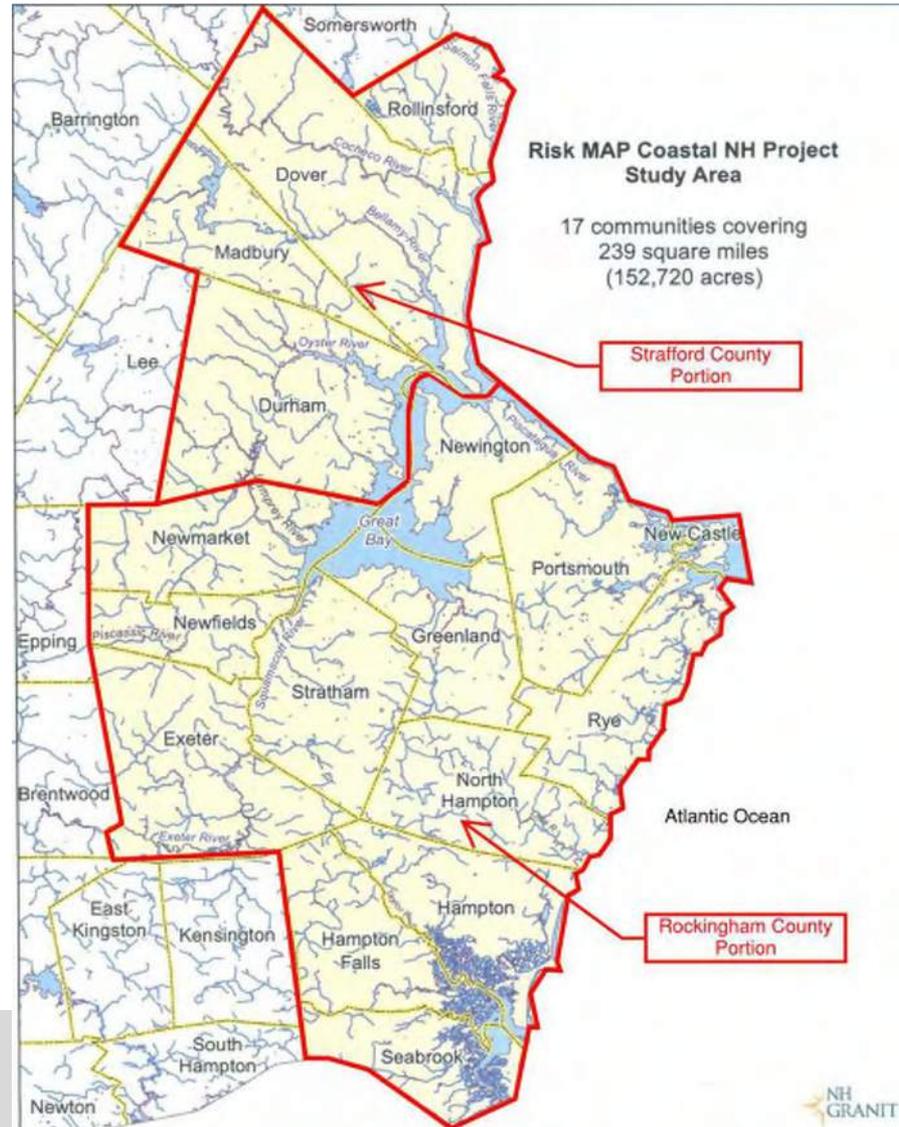
The height above sea level to which flood water would be expected to rise in a base, 100-year, or 1% chance flood event.



# Current Status of Digital Floodplain Maps in NH

County	Map Effective Date
Carroll	03/19/2013
Cheshire	05/23/2006
Coos	02/20/2013
Grafton	02/20/2008
Hillsborough	09/25/2009
Merrimack	04/19/2010
Rockingham	05/17/2005
Strafford (partial)	05/17/2005
Strafford (partial)	09/30/2015
Sullivan	05/23/2006

Belknap County – No Digital Maps



# Vertical Datum on NH Maps

## NGVD 1929

- Belknap
- Grafton
- Rockingham
- Strafford (*Non-Coastal only*)

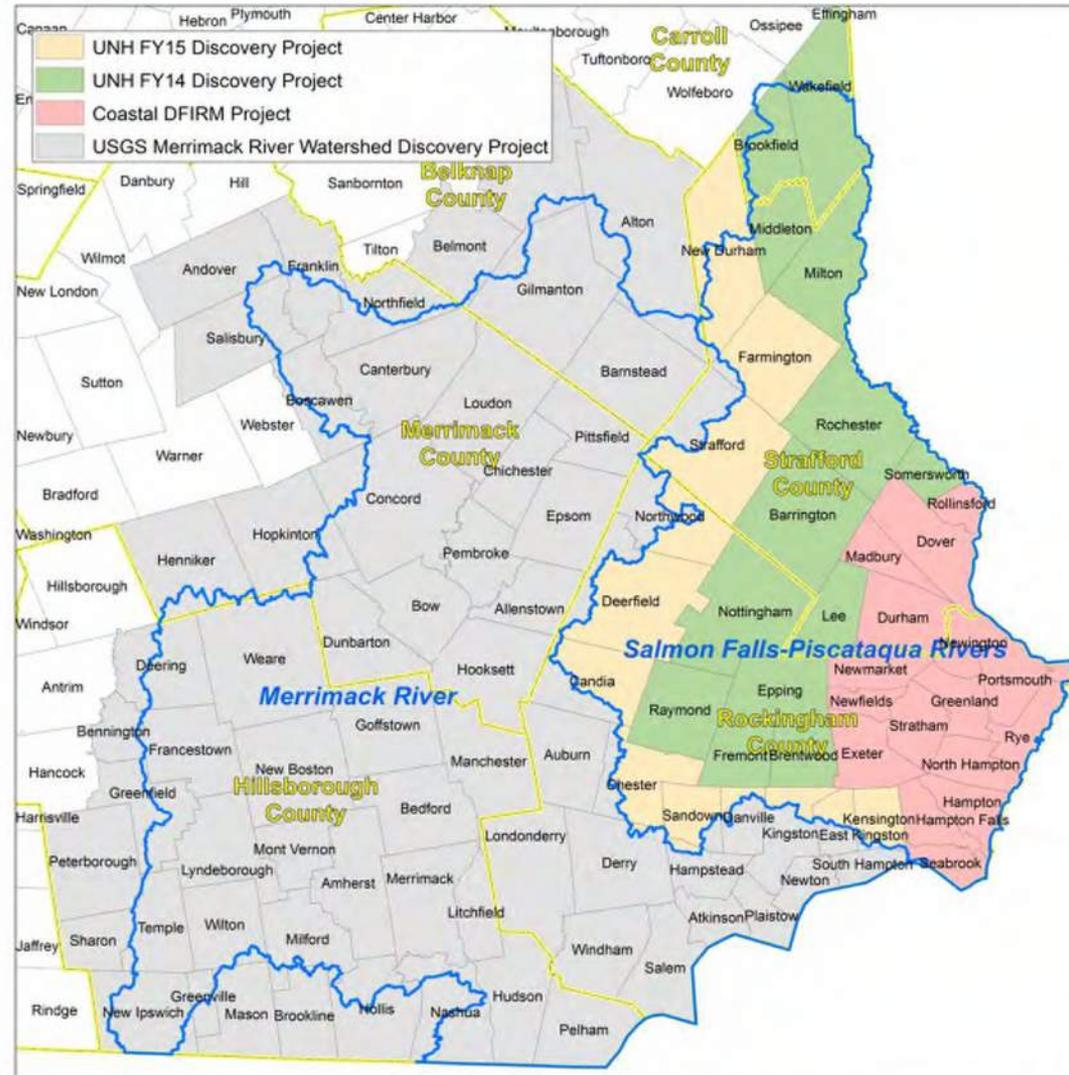
## NAVD 1988

- Carroll
- Cheshire
- Coos
- Hillsborough
- Merrimack
- Strafford (*Coastal portion only*)
- Sullivan

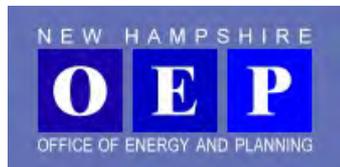
# FEMA Discovery Projects in NH

## Discovery Projects

- Remainder of Rockingham & Strafford Counties
- Merrimack River Basin
- Nashua River Watershed
- Lower CT River Watershed
- Lake Winnepesaukee Watershed



# Floodplain Mapping



# Flood Insurance Rate Maps (FIRM) and Flood Insurance Study (FIS)

## MAP INDEX

**FIRM**  
**FLOOD INSURANCE RATE MAP**  
 ROCKINGHAM COUNTY,  
 NEW HAMPSHIRE  
 (ALL JURISDICTIONS)  
 (SEE LISTING OF COMMUNITIES TABLE)

## MAP INDEX

SHEET 1 OF 2

**PANELS PRINTED:** 60, 65, 70, 80, 85,  
 90, 95, 115, 120, 145, 155, 160, 165, 170,  
 178, 180, 185, 186, 187, 190, 191, 192,  
 193, 194, 205, 210, 215, 218, 220, 230,  
 235, 236, 237, 238, 239, 245, 255, 259,  
 260, 265, 269, 270, 278, 279, 286, 287,  
 288

(SEE SHEET 2 FOR ADDITIONAL PANELS PRINTED)



**MAP NUMBER**  
**33015CIND1A**

**EFFECTIVE DATE**  
**MAY 17, 2005**

Federal Emergency Management Agency

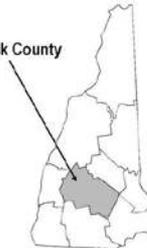
## FLOOD INSURANCE STUDY



VOLUME 1 OF 2

**MERRIMACK COUNTY,  
 NEW HAMPSHIRE  
 (ALL JURISDICTIONS)**

Merrimack County



COMMUNITY NAME	COMMUNITY NUMBER
ALLENSTOWN, TOWN OF	330101
ANDOVER, TOWN OF	330104
BOSCAWEN, TOWN OF	330105
DOWN, TOWN OF	330107
BRADFORD, TOWN OF	330108
CANTERBURY, TOWN OF	330108
CHICHESTER, TOWN OF	330109
CORNFORD, CITY OF	330110
DANBURY, TOWN OF	330111
DUNBARTON, TOWN OF	330202
EPSOM, TOWN OF	330112
FRANKLIN, CITY OF	330113
HEINIKER, TOWN OF	330114
HILL, TOWN OF	330214
HOKKETT, TOWN OF	330115
HOPKINTON, TOWN OF	330116
LOUDON, TOWN OF	330117
NEWLONDON, TOWN OF	330226
NEWBURY, TOWN OF	330226
NORTHFIELD, TOWN OF	330116
PIMBROKE, TOWN OF	330118
PITTSFIELD, TOWN OF	330120
SALISBURY, TOWN OF	330121
SUTTON, TOWN OF	330122
WARNER, TOWN OF	330123
WEBSTER, TOWN OF	330226
WILMOT, TOWN OF	330124

**EFFECTIVE:**  
**APRIL 19, 2010**



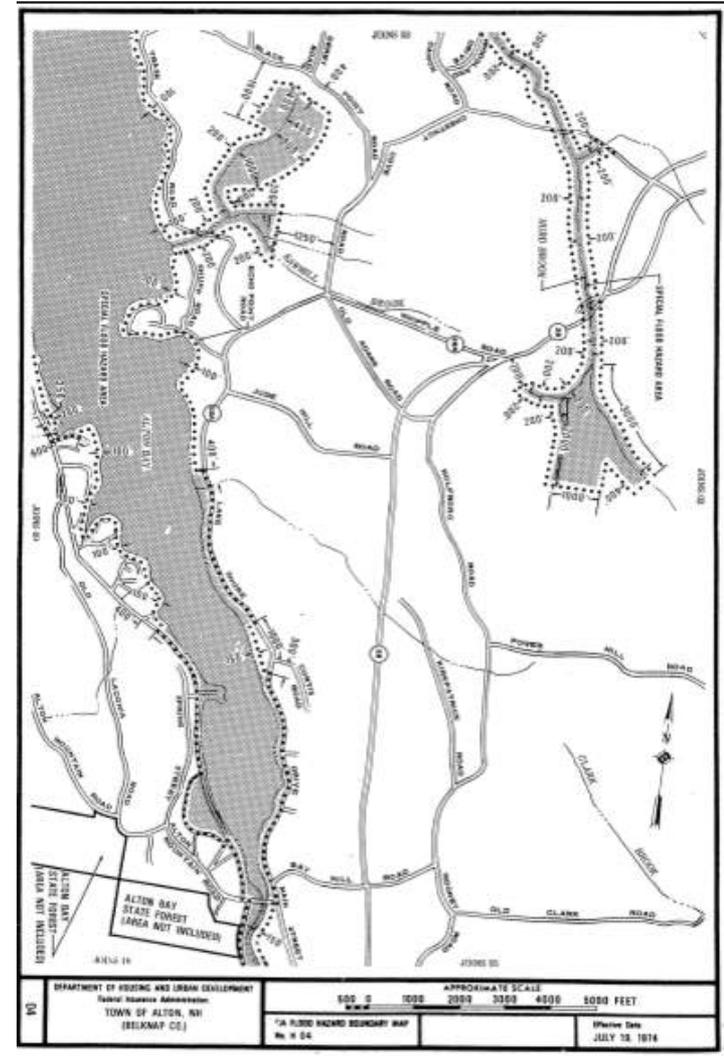
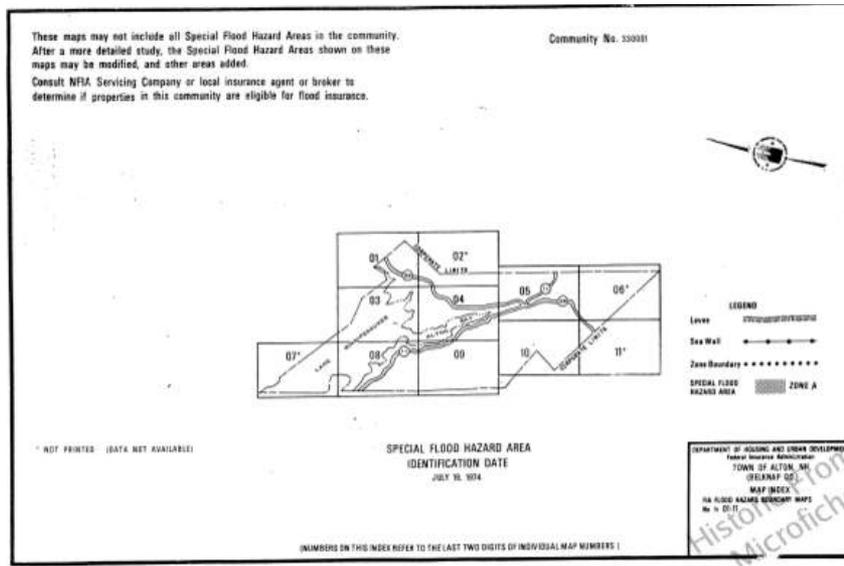
Federal Emergency Management Agency

**FLOOD INSURANCE STUDY NUMBER**  
**33013CV001A**

# Types of Maps

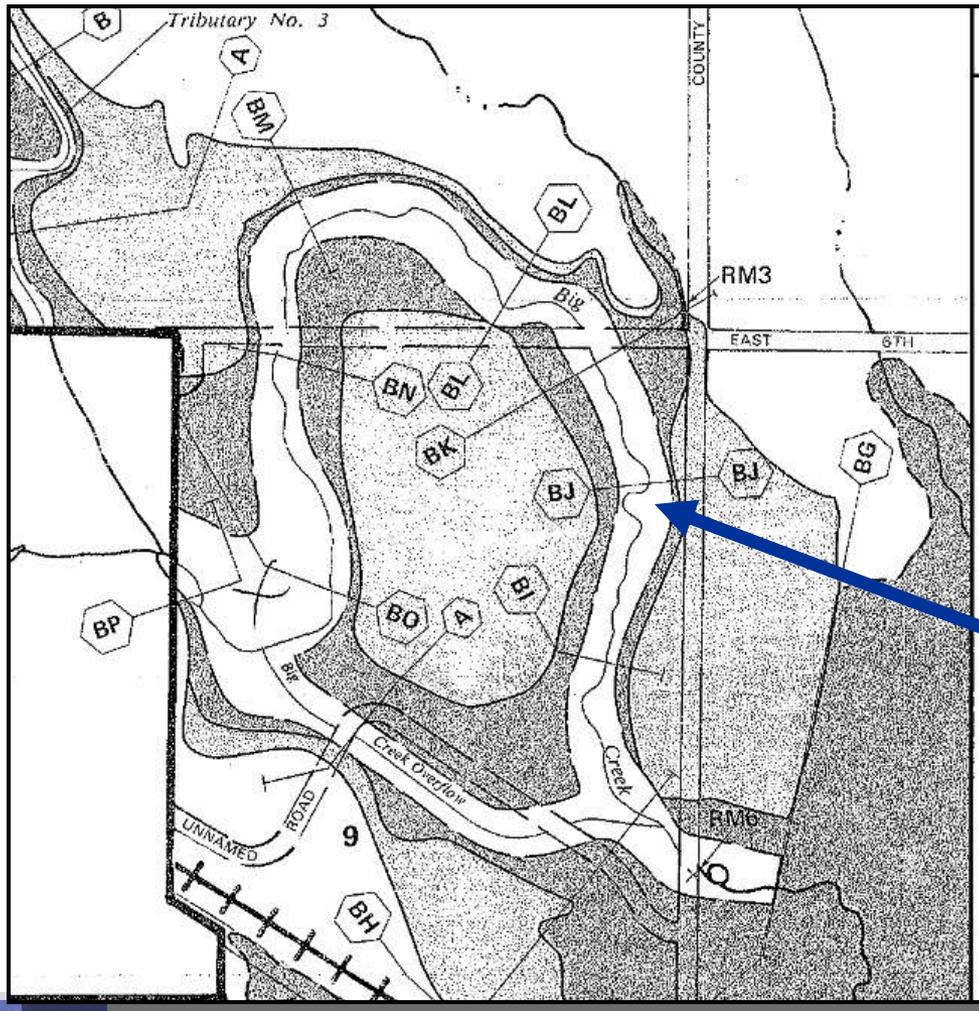
1. Flood Hazard Boundary Map
2. Flood Insurance Rate Map
3. Flood Boundary and Floodway Map
4. Digital Flood Insurance Rate Map

# Flood Hazard Boundary Map (FHBM)



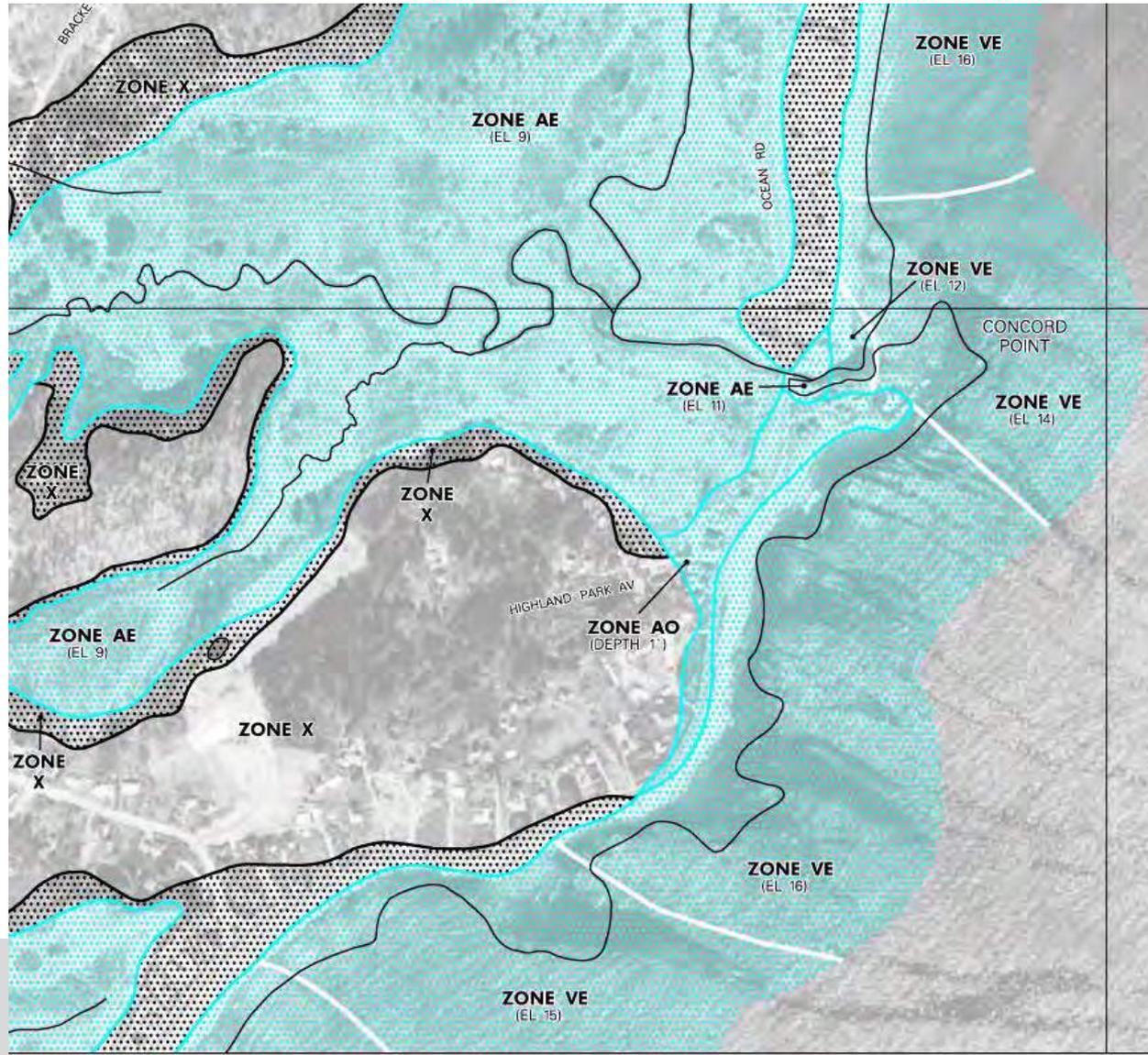


# Flood Boundary & Floodway Map

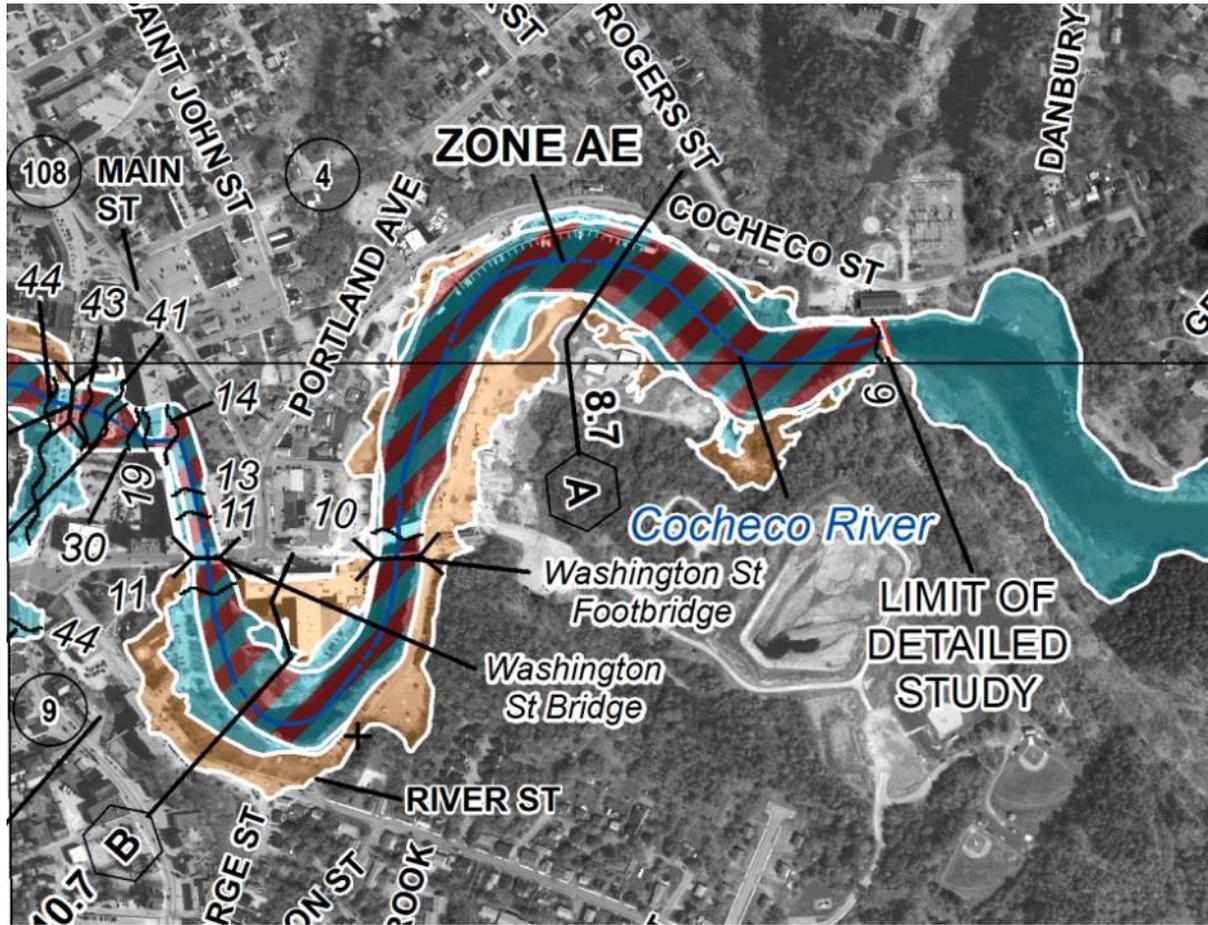


Floodway  
White Area

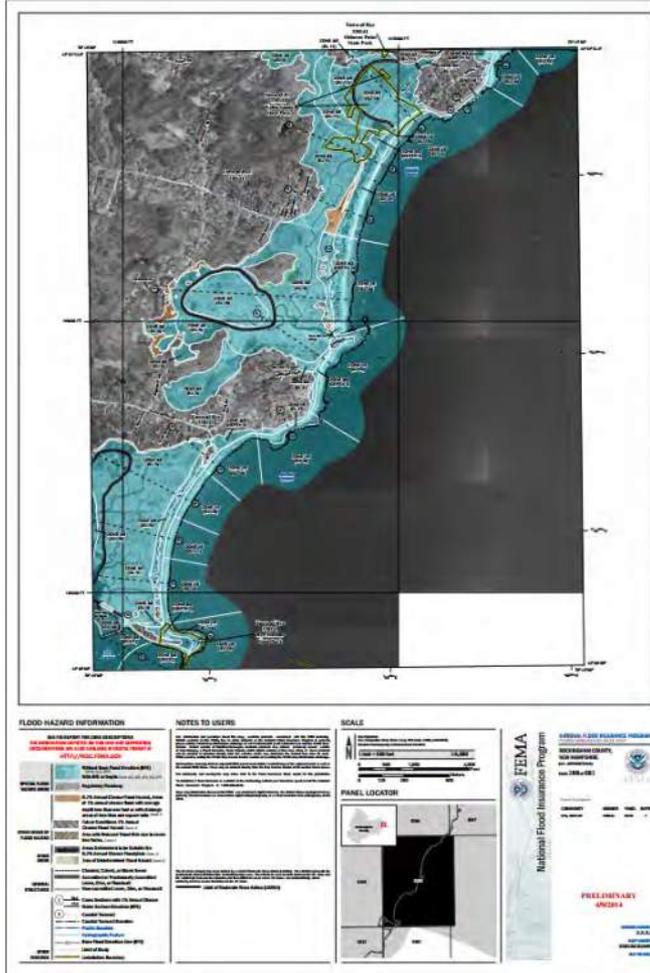
# Digital FIRMs



# New Digital FIRMs



# Preliminary Coastal Maps



# Flood Insurance Rate Map Zones

## (partial listing)

Zone	Description
A	1% annual chance flood hazard zone with no BFE determined
AE	1% annual chance flood hazard zone with BFE determined
AO	1% annual chance flood hazard zone with flood depths of 1-3 ft.; average depths determined
X (shaded)	Riverine/coastal floodplain areas between the 1% annual chance flood and 0.2% annual chance flood
X (unshaded)	Outside of the limits of the 0.2% annual chance flood
V	Coastal high hazard areas (1% annual chance flood and wave effects of 3 ft. or greater); no BFE determined
VE	Coastal high hazard areas (1% annual chance flood and wave effects of 3 ft. or greater); BFE determined

# How to Read the Maps

**Zone A** – No base flood elevation

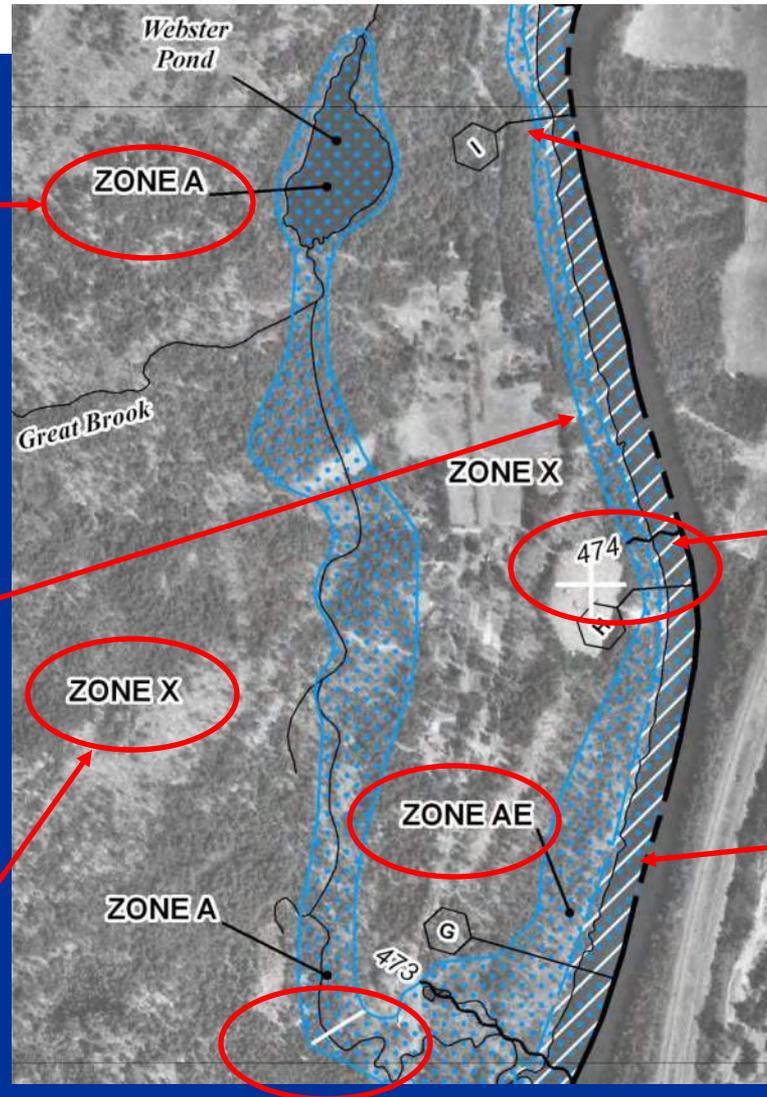
**Zone AE** – Base flood elevation

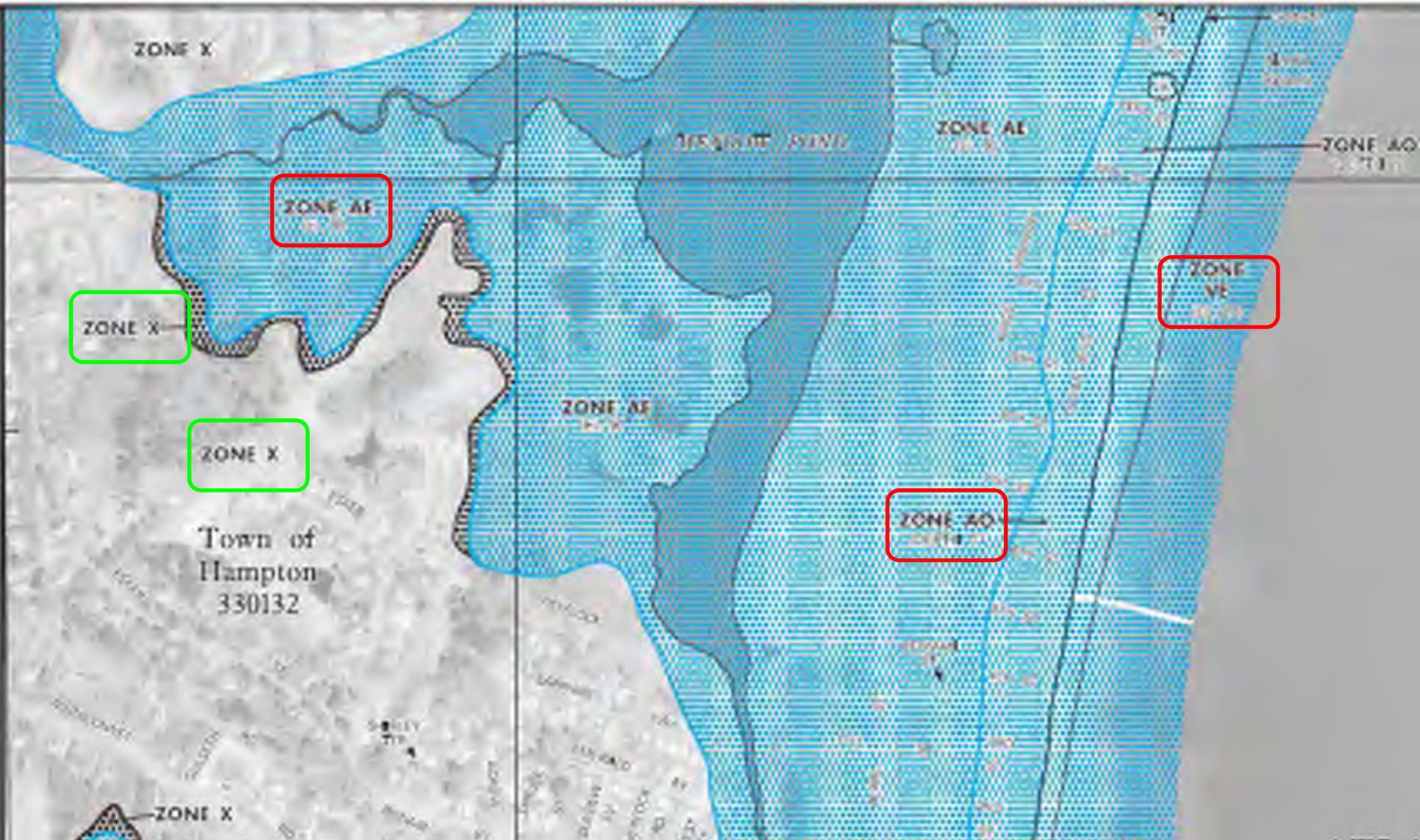
**Zone X** – Outside 100-year floodplain

Cross sections  
– see Flood Insurance Study

Base Flood Elevation

Floodway – White Hatched Area





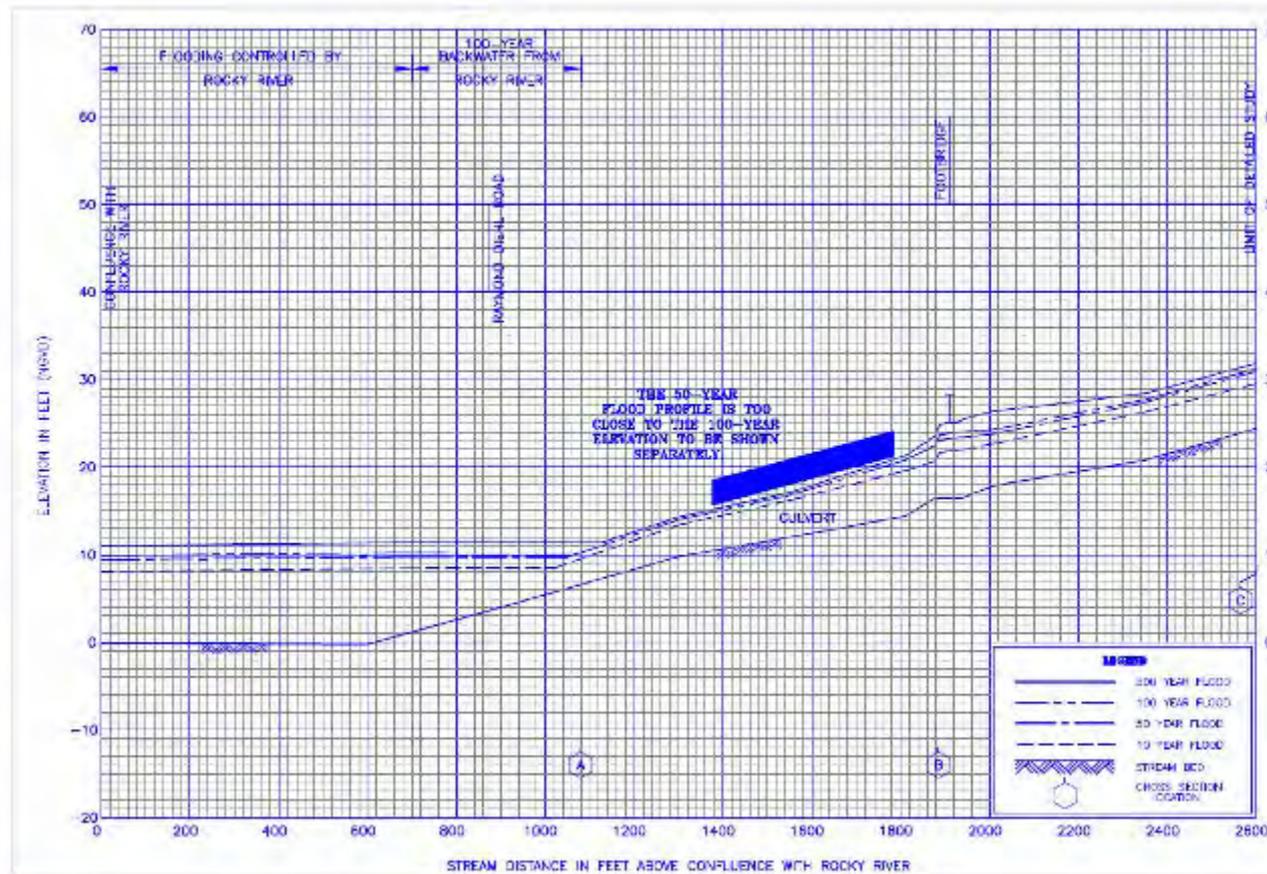
# FLOOD INSURANCE STUDY



FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NGVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Rocky River								
A	4,395	115	1,233	6.1	9.9	9.9	10.0	0.1
B	5,537	13	142	9.2	10.4	10.4	10.5	0.1
C	9,610	100	323	8.4	10.9	10.9	11.1	0.2

## FLOOD USA AND INCO

COMMUNITY NAME  
 FLOOD COUNTY  
 UNINCORPORATED AREA  
 RIVERVILLE, TOWN OF



FLOOD PROFILES  
 COBB BROOK  
 FEDERAL EMERGENCY MANAGEMENT AGENCY  
 FLOOD COUNTY, USA  
 AND INCORPORATED AREAS  
 01P

# FIS Results

- Determines community flood risks
- Estimates flood flow frequencies
- Establishes flood elevations & BFEs
- Establishes flood profiles
- Calculates floodway, if available
- Designates flood risk zones

# Where to Find Floodplain Maps



FEMA's National Flood Hazard Layer



New Hampshire Coastal Viewer

# FEMA's National Flood Hazard Layer

FEMA

FEMA Flood Map Service Center : Welcome!

**Step 1: Go To <https://msc.fema.gov/portal>**

Enter an address, a place, or longitude/latitude coordinates:

Looking for more than just a current flood map?  
Visit [Search All Products](#) to access the full range of flood risk products for your community.

**About Flood Map Service Center**

The FEMA Flood Map Service Center (MSC) is the official public source for flood hazard information produced in support of the National Flood Insurance Program (NFIP). Use the MSC to find your official flood map, access a range of other flood hazard products, and take advantage of tools for better understanding flood risk.

**Announcements**

**Browser Configuration** — To access all functionality of the MSC, Internet Explorer users should confirm [Compatibility View](#) is not enabled. In addition, users of Internet Explorer 9 and 10 should first take the following steps before using the MSC:

1. Open Internet Options under the Tools Menu
2. Click the Advanced tab
3. Scroll down to Security and confirm the following items are checked: "Use TLS 1.1" and "Use TLS 1.2"
4. Click OK to exit Internet Options

[Share This Page.](#)

# FEMA's National Flood Hazard Layer

The screenshot shows the FEMA Flood Map Service Center (MSC) homepage. The page title is "FEMA Flood Map Service Center : Welcome!". A red box highlights the URL <http://msc.fema.gov> with the instruction "Step 1: Go To". A red arrow points to the search input field, which contains the placeholder text "Enter an address, a place, or longitude/latitude coordinates". A red box highlights the "Search" button with the instruction "Step 2: Enter address & Click Search". The page also features a navigation menu on the left, a search bar, and a "Languages" dropdown. Below the search bar, there is a link to "Search All Products" and a small map showing flood zones. The page includes an "Announcements" section with a "Browser Configuration" notice and a list of steps for Internet Explorer users. A "Share This Page" button is located at the bottom of the page.

FEMA

Navigation

Search

Languages

MSC Home

MSC Search by Address

MSC Search All Products

MSC Products and Tools

- Hazus
- LOMC Batch Files
- Product Availability

MSC Frequently Asked Questions (FAQs)

MSC Email Subscriptions

Contact MSC Help

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**FEMA**

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Contact MSC Help

## FEMA Flood Map Service Center : Search By Address

Enter an address, place, or coordinates: ?

old beach road, n...

**Step 3: Click Interactive Map**

The flood map for the selected area is number **33015C0432E**, effective on **05/17/2005** ?

VIEW MAP SAVE MAP **INTERACTIVE MAP**

Show all products for this area

### Search Results—Products for RYE, TOWN OF

Letters of Map Change ?

- Revisions (0)
- Amendments (4)
- Revalidations (0)

### Locator Map

Selected Flood Map Boundary  
Printed Flood Map Boundary  
Non-printed Flood Map Boundary  
Unmapped Area

Esri, HERE, DeLorme, INCREMENT P, NGA, USGS **esri**

# FEMA's National Flood Hazard Layer

The screenshot displays the FEMA National Flood Hazard Layer web application. On the left is a navigation menu with options like 'Navigation', 'Search', and 'Languages'. The main content area shows a search bar with 'old beach road' entered and search results for '33015C0432E' effective on '05/17/200'. A red callout box highlights a pop-up message that says: 'The page at msc.fema.gov says: You are now leaving an official website of the Federal Emergency Management Agency. Links to non-FEMA sites are provided for the visitor's convenience and do not represent an endorsement by FEMA of any commercial or private issues, products or services. Note that the privacy policy of the linked site may differ from that of FEMA. [ ] Prevent this page from creating additional dialogs. [OK] [Cancel]'. Below the message are buttons for 'VIEW MAP', 'SAVE MAP', and 'INTERACTIVE MAP'. A map at the bottom shows the selected area with a red pin and a legend for 'Selected Flood Map Boundary', 'Printed Flood Map Boundary', 'Non-printed Flood Map Boundary', and 'Unmapped Area'. A 'Share This Page.' button is at the bottom left.

**Step 4: A message will pop up stating you are leaving the official FEMA website. Click Ok.**

# FEMA's National Flood Hazard Layer

Home ▾ FEMA's National Flood Hazard Layer (Official) Modify Map Sign In

Basemap

Select a basemap

Legend

NFHL (click to expand)

LOMRs

Effective

LOMAS

FIRM Panels

Effective

Coastal Gages

Gages

Cross-Sections

Base Flood Elev

Coastal Barrier

Levees

Unaccredited Levee

Accredited Levee

General Structures

Flood Structure

Bridge

Dam, Weir, Jetty

Other Structure

Flood Hazard Boundaries

Limit Lines

SFHA / Flood Zone Boundary

Other Boundaries

Flood Hazard Zones

1% Annual Chance Flood Hazard

Regulatory Floodway

Special Floodway

Imagery

**Imagery with Labels**

Streets

Topographic

Dark Gray Canvas

Light Gray Canvas

National Geographic

Oceans

Terrain with Labels

OpenStreetMap

USA Topo Maps

USGS National Map

**Step 5: Click & choose a basemap. (i.e. imagery with labels)**

**Step 6: Determine if your property is in a flood zone by using the legend.**

•1% Annual Chance Flood Hazard area (blue area) is typically the area a lender will require flood insurance if you have a mortgage.

PANEL 33015C0432E eff. 5/17/2005

PANEL 25009C0050F eff. 7/3/2012

LOMA 11-01-043A eff. 1/6/2011

LOMA 10-01-0525A eff. 2/23/2010

LOMA 12-01-1457A eff. 4/17/2012

LOMA 12-01-1457A eff. 4/19/2012

PANEL 33015C0451E eff. 5/17/2005

PANEL 15C0288E eff. 5/17/2005

Esri.com Help Terms of Use Privacy Contact

# FEMA Map Service Center



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## FEMA Flood Map Service Center : Welcome!

**Step 1: Go To <http://msc.fema.gov>**

Enter an address, a place, or longitude/latitude coordinates:

Enter an address, a place, or longitude/latitude coordinates

Search



**Step 2: Enter address & Click Search**

### About Flood Map Service Center

The FEMA Flood Map Service Center (MSC) is the official public source for flood hazard information produced in support of the National Flood Insurance Program (NFIP). Use the MSC to find your official flood map, access a range of other flood hazard products, and take advantage of tools for better understanding flood risk.

### Announcements

**Website Update** - On December 13th, changes to the Flood Map Service Center (MSC) incorporated the look and feel of the recently updated [FEMA.gov](http://FEMA.gov).

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Contact MSC Help

The buttons below let you view and print the selected flood map, download the flood map image, open an interactive flood map (if available), or expand the search to all products to view effective, preliminary, pending, or historic maps, and risk products for the community. The locator map shows flood map boundaries in your area of interest. You can choose a new flood map by clicking elsewhere on the locator map or entering a new location in the search box.

all products area

**Step 3: Use the zoom tools to zoom out & view where your property is located in relation to the map panel.**

Letters

Loca Map

The screenshot shows the FEMA Map Service Center interface. A red box highlights a specific area on the map, and a red arrow points to the zoom tools. The map displays various flood map boundaries and a legend. The legend includes: Selected Flood Map Boundary (blue outline), Printed Flood Map Boundary (dashed blue outline), Non-printed Flood Map Boundary (dotted blue outline), and Unmapped Area (hatched blue area). The map also shows a legend for flood map boundaries and a legend for flood map boundaries. The map is powered by Esri.

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Official website of the Department of Homeland Security

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Products for RYE, TOWN OF

**Step 4: Click view map**

VIEW MAP SAVE MAP INTERACTIVE MAP

Show all products for this area

Letters of Map Change ?

- Revisions (0)
- Amendments (4)
- Revalidations (0)

Locator Map

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Official website of the Department of Homeland Security

# FEMA Map Service Center

The screenshot displays the FEMA Map Service Center interface. At the top left is the FEMA logo. To its right is an 'Info' icon and a scale control set to 4%. Further right is a 'LOMC' dropdown menu set to 1. The main area shows a flood hazard map with various colored zones. On the left side, there is a vertical toolbar with a 'Help' icon at the top, followed by a thumbnail of the current map. Below the thumbnail are buttons for 'Zoom Win', 'Pan', 'Zoom In', 'Zoom Out', '1:1 Zoom In', and 'MAX Zoom Out'. At the bottom of the toolbar is a button labeled 'Make a FIRMette'. A red callout box with a white background and black text points to this button. The callout text reads: 'Step 5: A new window will appear displaying the image. Click Make a FIRMette'. To the right of the map is a legend and a title block. The title block includes the text 'FIRM FLOOD INSURANCE RATE MAP NEW HAMPSHIRE COUNTY, NEW HAMPSHIRE ALL SUBDIVISIONS' and 'FIRM NO. 10-01-0001'.

**Step 5: A new window will appear displaying the image. Click Make a FIRMette**

# FEMA Map Service Center

**Step 7: Move the pink box to cover the area you want included in your FIRMeTte**

**Step 6: Choose a paper size. Default is 8.5"x11"**

# FEMA Map Service Center

If you are having trouble creating your FIRMette click the help button or call the Map Service Center (MSC) 1-877-336-2627.

The screenshot displays the FEMA Map Service Center interface. On the left, there is a vertical toolbar with icons for 'Zoom Win', 'Pan', 'Zoom In', 'Zoom Out', '1:1', 'MAX', 'Zoom In', and 'Zoom Out'. Below these are instructions for selecting page size (Letter 8.5x11, Legal 8.5x14, Tabloid 11x17), selecting and moving areas, and creating FIRMettes. The main area shows a flood map of the Town of Rye, with various flood zones (ZONE I through ZONE VI) and a legend on the right. A red callout box points to the 'Help' button in the top left corner. Another red callout box points to the 'Adobe PDF' and 'Image File' buttons in the bottom left corner.

**Step 8: Choose either Adobe PDF or Image File**

# FEMA Map Service Center

**Step 9: You will see your FIRMette on the screen. Click Save Your FIRMette to save to your computer.**

**Save your FIRMette**

**Back**

**MAP SCALE 1" = 500'**

**PANEL 0432 E**

**FIRM FLOOD INSURANCE RATE MAP**  
ROCKINGHAM COUNTY,  
NEW HAMPSHIRE  
(ALL JURISDICTIONS)

**PANEL 432 OF 681**  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

**CONTAINS:**

COMMUNITY	NUMBER	PANEL	SUFFIX
NORTH HAMPTON, TOWN OF	330322	0432	E
RYE, TOWN OF	330561	0432	E

**MAP NUMBER**  
33015C0432E

**EFFECTIVE DATE**  
MAY 17, 2005

Federal Emergency Management Agency

COASTAL BASE FLOOD ELEVATIONS  
APPLY ONLY LANDWARD OF  
0.0 FEET NGVD

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov).

# FEMA Map Service Center

**Step 10: Once saved to your PC you can double click the file name of the FIRMette to open it in your local viewer. Print your FIRMette. (Remember to set the layout of your printer to landscape.)**

COASTAL BASE FLOOD ELEVATIONS APPLY ONLY LANDWARD OF 0.0 FEET NGVD

NUMBER	PANEL	SUFFIX
330232	0432	E
330141	0432	E

**MAP NUMBER**  
33015C0432E

**EFFECTIVE DATE**  
MAY 17, 2005

Federal Emergency Management Agency

This is an official copy of a portion of the map that was extracted using F-MIT On-Line. This copy does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information, visit the National Flood Insurance Program Store at www.msc.fema.gov

Referenced flood map. It does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information, visit the National Flood Insurance Program Store at www.msc.fema.gov

Do you want to open or save FM33015C0432E.pdf (7.27 MB) from map1.msc.fema.gov?

Open Save Save and open

# NH GRANIT GRANITViewII

WELCOME to NH GRANIT

<http://www.granit.unh.edu/>

Home  
DATA >>

Search G

**QUICK LINKS**  
 Conservation Lands Standards  
 Floodplain/DFIRM Resources  
 Links to GIS Resources  
**NH GIS Data & Metadata**  
 GRANITViewII  
 GRANITViewLite  
 NH Coastal Viewer  
 LiDAR Data Distribution  
 User Groups & Organizations

Login  
 Contact Us

GIS Event Calendar  
 March

March						
	1	2	3	4	5	
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

- data development/distribution
- spatial analysis
- online mapping
- image processing
- application development
- training
- cartography
- related technical services

We welcome your [comments](#) and/or [requests](#) for additional information.

**News & Upcoming Events**

----- News -----

[Database Update: 2015 Orthophotography Derivatives Available](#)  
 March 8, 2016

[Database Update: 2015 Orthophotography Available!](#)  
 March 2, 2016

[more news ...](#)

----- Upcoming Meetings -----

There are currently no announcements...  
[more events ...](#)

----- Upcoming Workshops -----

There are currently no announcements...  
[more events ...](#)

**Project Spotlight**

[Coordination of FY 15 Imagery Acquisition](#)

Statewide, high resolution (1-foot) imagery was collected in 2010 and is presently archived in GRANIT. Both true color (displayed here over the State Capital building in Concord) and color infrared imagery is available as files delivered on media and/or as map services. GRANIT is now coordinating a 2015 update to the statewide imagery.

Earth Systems Research Center, Institute for the Study of Earth, Oceans and Space, University of New Hampshire  
 8 College Rd, Morse Hall, Durham, NH 03824 • [granit@unh.edu](mailto:granit@unh.edu) • Phone: (603)862-1792 • Fax: (603)862-0188

Home | Data Sources | Layer Info | Drawing Tools | Measurement Tools

Site Info | Pan | Zoom In | Zoom Out | Initial View | Full Extent | Back | Forward | Identify | Map Tips | Scale: 1: 2,431,920 | Print | Export

Home | Navigation | Find Data | Scale & Extent | Tasks

Map Layers

Layer Theme: Standard GRANIT Layers (default)

- Operational Layers
  - Label Features
  - Base Layers
  - Parcels
  - Floodplains (DFIRMS)
    - DFIRM Status
    - Effective DFIRM
      - Cross Sections
      - Base Flood Elevations
      - Flood Hazard - Lines
      - Flood Hazard - Areas
  - Geodetic Control
  - Conservation Lands
  - Recreation
  - Soils
  - Water Resources
  - Wildlife
  - Environmental Data
  - Landcover/Land Use
  - Orthophotography
  - Topography

Show Legend | Filter...

Site Info | **Map Layers**

Quick Tools...

- Zoom to geography
- Create a printable map
- Extract data
- Return to initial map view
- Find data on the map
- Open map layers panel

Home | Data Sources | Layer Info | Drawing Tools | Measurement Tools

Site Info | Pan | Zoom In | Zoom Out | Initial View | Full Extent | Back | Forward | Identify | Map Tips | Scale: 1: 171,734 | Print | Export

Home | Navigation | Find Data | Scale & Extent | Tasks

Zoom to a City/Town OR County

Select either the City/Town Zoom or County Zoom to change the map extent to a given geography. Note that, if both the City/Town AND County controls are used, the City/Town Zoom will take precedence.

City/Town Zoom

Enter a New Hampshire City/Town from the drop-down list, then click zoom.

City/Town

County Zoom

Select a New Hampshire County from the drop-down list, then click zoom.

County

Quick Tools...

Standard GRANIT Layers

- Bing Roads
- Bing Aerial
- Bing Hybrid
- Light Gray Base
- National Geographic World Map
- World Physical Map
- World Shaded Relief
- World Street Map
- World Terrain Base
- World Topo Map

Layer Themes

- Standard GRANIT Layers (default)
- Geodetic Control
- Special Projects
- More map layers...

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Home Data Sources Layer Info Drawing Tools Measurement Tools

Point Freehand Line Polygon Rectangle Buffer Shape Results for... Address by Location Map Tips Display for... Filter Query Advanced Query Results Selected

Find Data Map Tips Refine Data View

Print Map

Select Layout: 8.5 x 11 Portrait

Output Format: Pdf

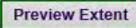
Resolution: 150 DPI

Grid: (None)

Map Scale: 1: 21,467 (Current Scale)

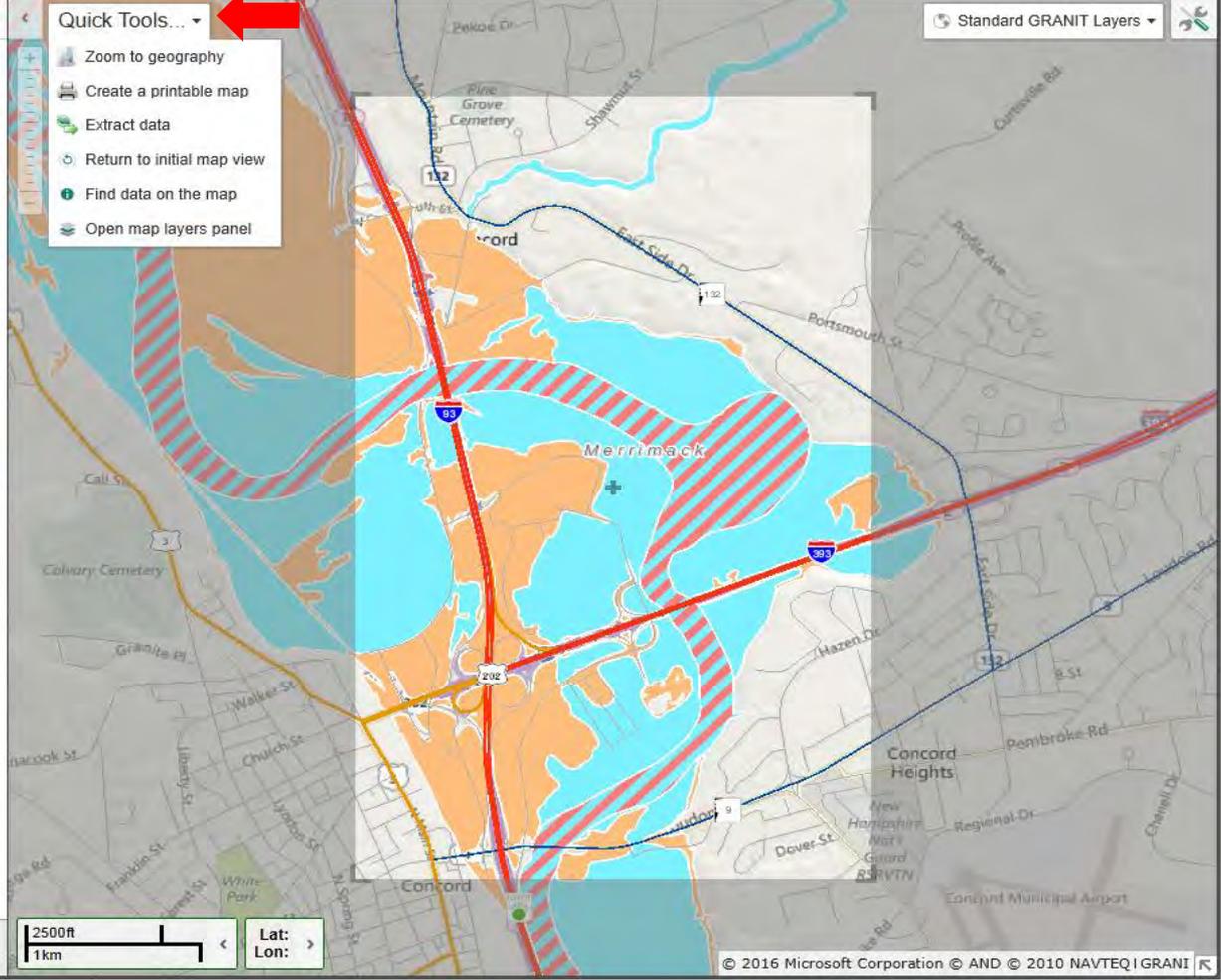
Map Title: Map by NH GRANIT

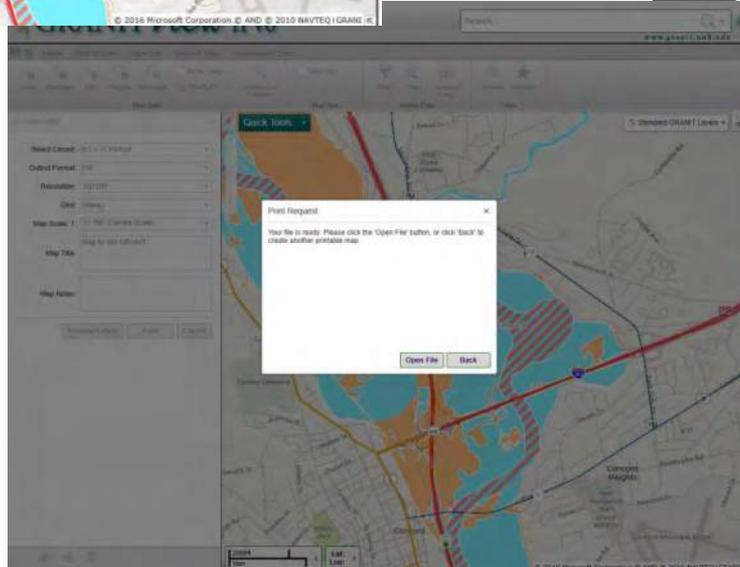
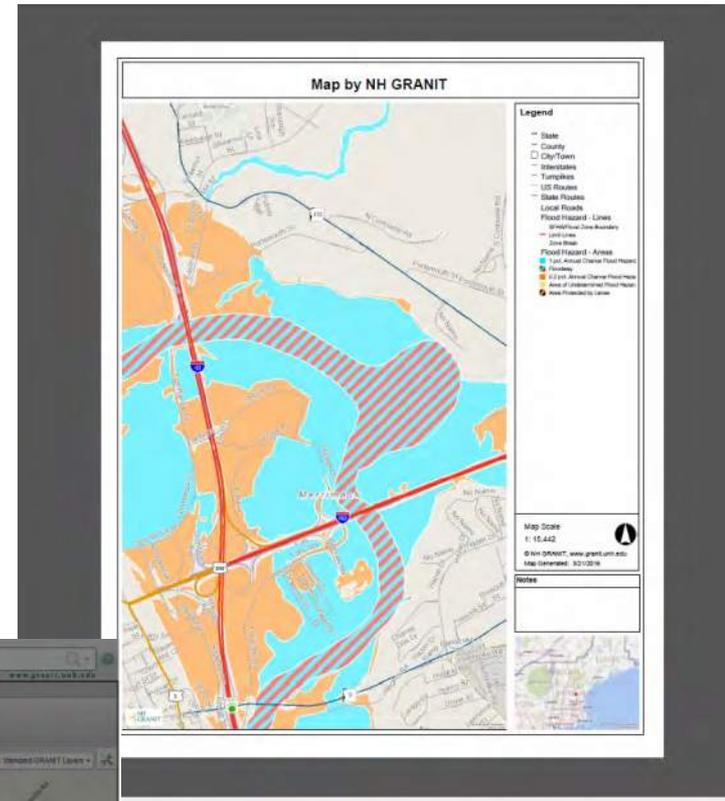
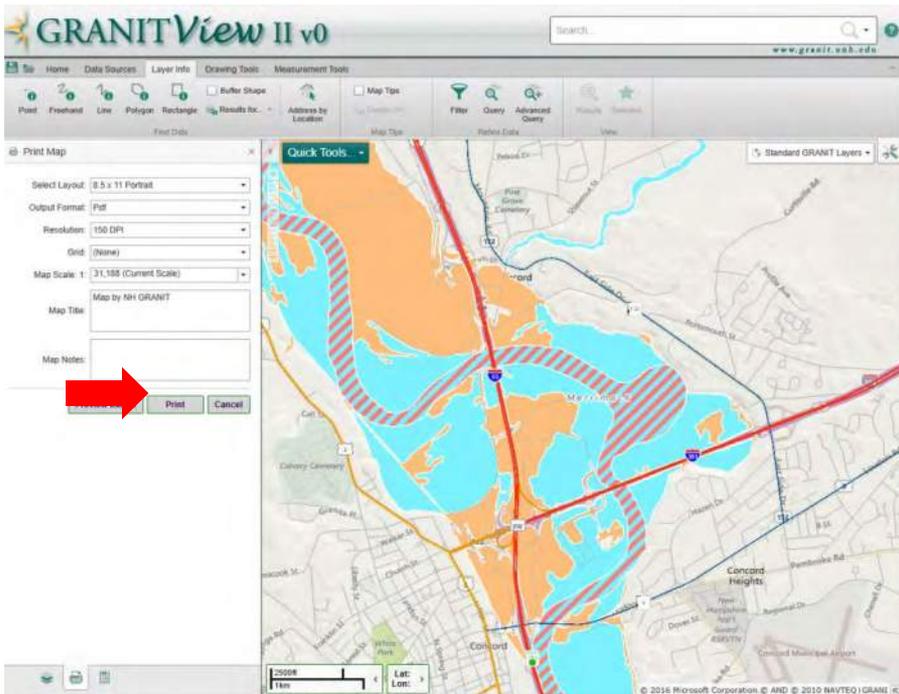
Map Notes:

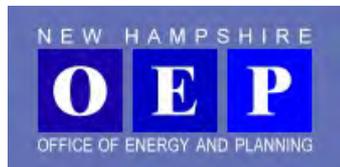
Quick Tools...

- Zoom to geography
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- Extract data
- Return to initial map view
- Find data on the map
- Open map layers panel

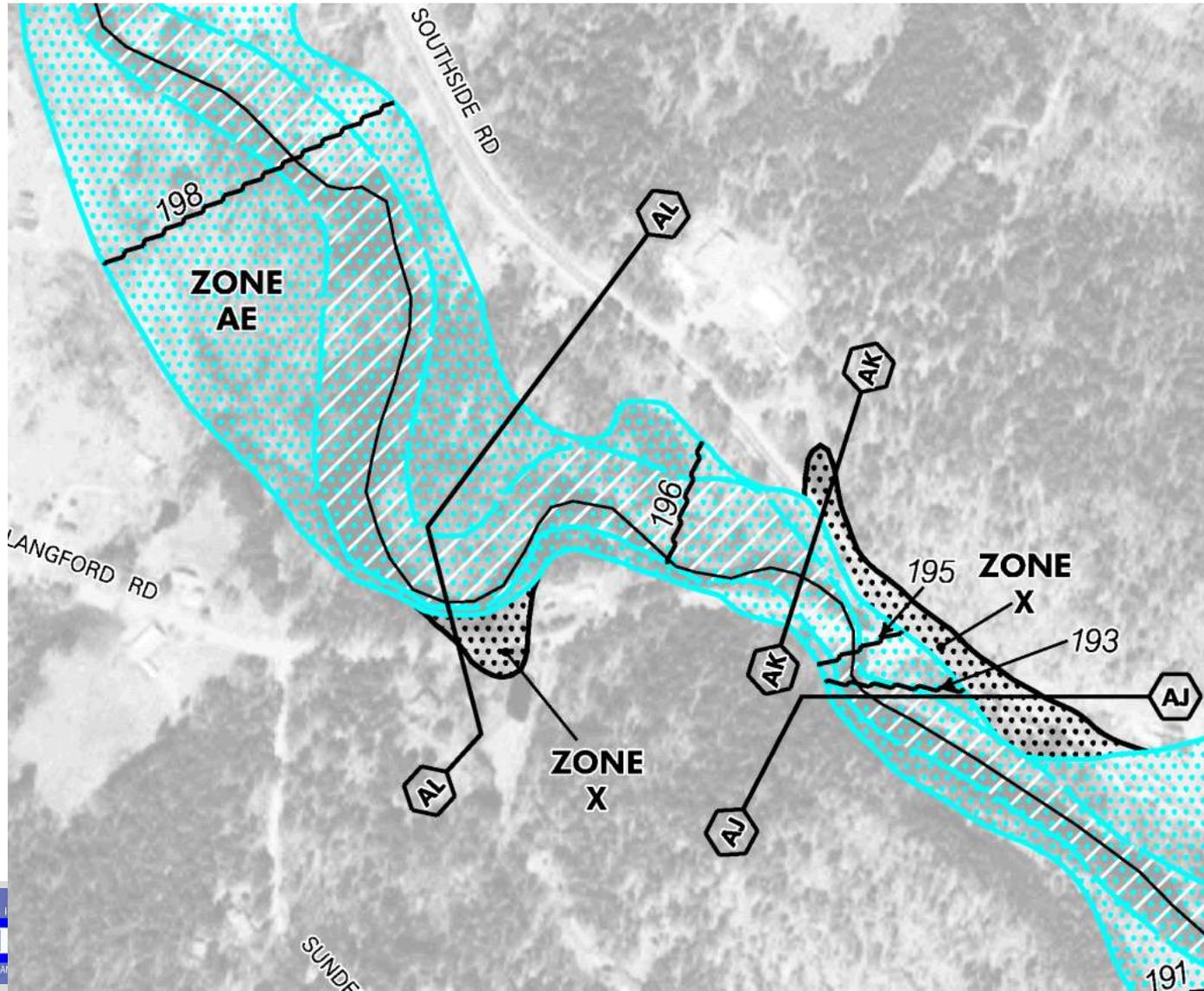




# Where to Find BFEs



# Zone AE - Riverine



FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NGVD)			
CROSS SECTION	DISTANCE <sup>1</sup>	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Lamprey River (continued)								
AA	77,760	113	502	10.5	177.1	177.1	178.1	1.0
AB	77,810	120	501	10.6	178.6	178.6	179.6	1.0
AC	78,190	156	1,197	4.4	181.0	181.0	182.0	1.0
AD	83,080	159	1,658	3.19	184.7	184.7	185.7	1.0
AE	83,910	102	1,277	4.14	185.9	185.9	186.9	1.0
AF	84,610	107	1,149	4.61	186.4	186.4	187.4	1.0
AG	84,830	279	4,359	1.21	190.1	190.1	191.1	1.0
AH	89,830	205	2,666	1.98	190.3	190.3	191.3	1.0
AI	95,610	270	3,362	1.30	190.8	190.8	191.8	1.0
AJ	97,110	51	635	6.88	193.1	193.1	194.1	1.0
AK	97,830	177	1,490	2.93	195.8	195.8	196.8	1.0
AL	98,230	177	1,490	2.93	196.4	196.4	197.4	1.0
AM	101,100	217	1,500	2.55	200.6	200.6	201.6	1.0
AN	102,430	81	684	6.39	202.6	202.6	203.6	1.0
AO	105,160	81	787	5.55	206.7	206.7	207.7	1.0
AP	107,920	138	1,629	2.68	207.9	207.9	208.9	1.0
AQ	110,110	237	2,271	1.45	211.7	211.7	212.7	1.0
AR	110,410	134	1,568	2.10	213.0	213.0	214.0	1.0
AS	113,530	96	1,041	3.17	214.4	214.4	215.4	1.0
AT	115,130	150	994	3.32	216.4	216.4	217.4	1.0
AU	116,790	203	2,305	1.43	216.7	216.7	217.7	1.0
AV	119,400	1,407	9,085	0.36	216.8	216.8	217.8	1.0

<sup>1</sup>Feet above county boundary

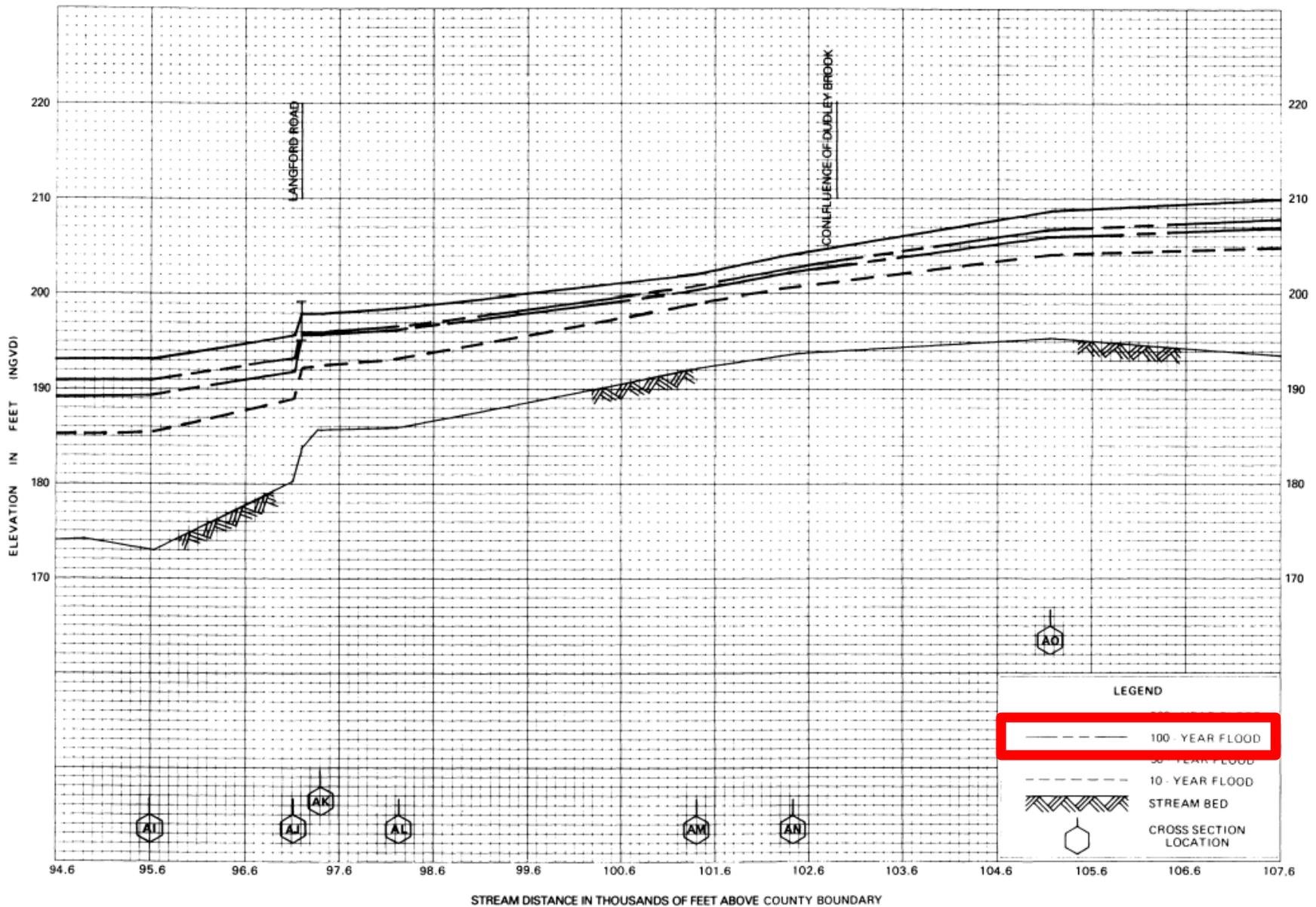
FEDERAL EMERGENCY MANAGEMENT AGENCY

ROCKINGHAM COUNTY, NH  
(ALL JURISDICTIONS)

FLOODWAY DATA

LAMPREY RIVER

TABLE 9



# Zone AE – Lakes, Ponds, Ocean

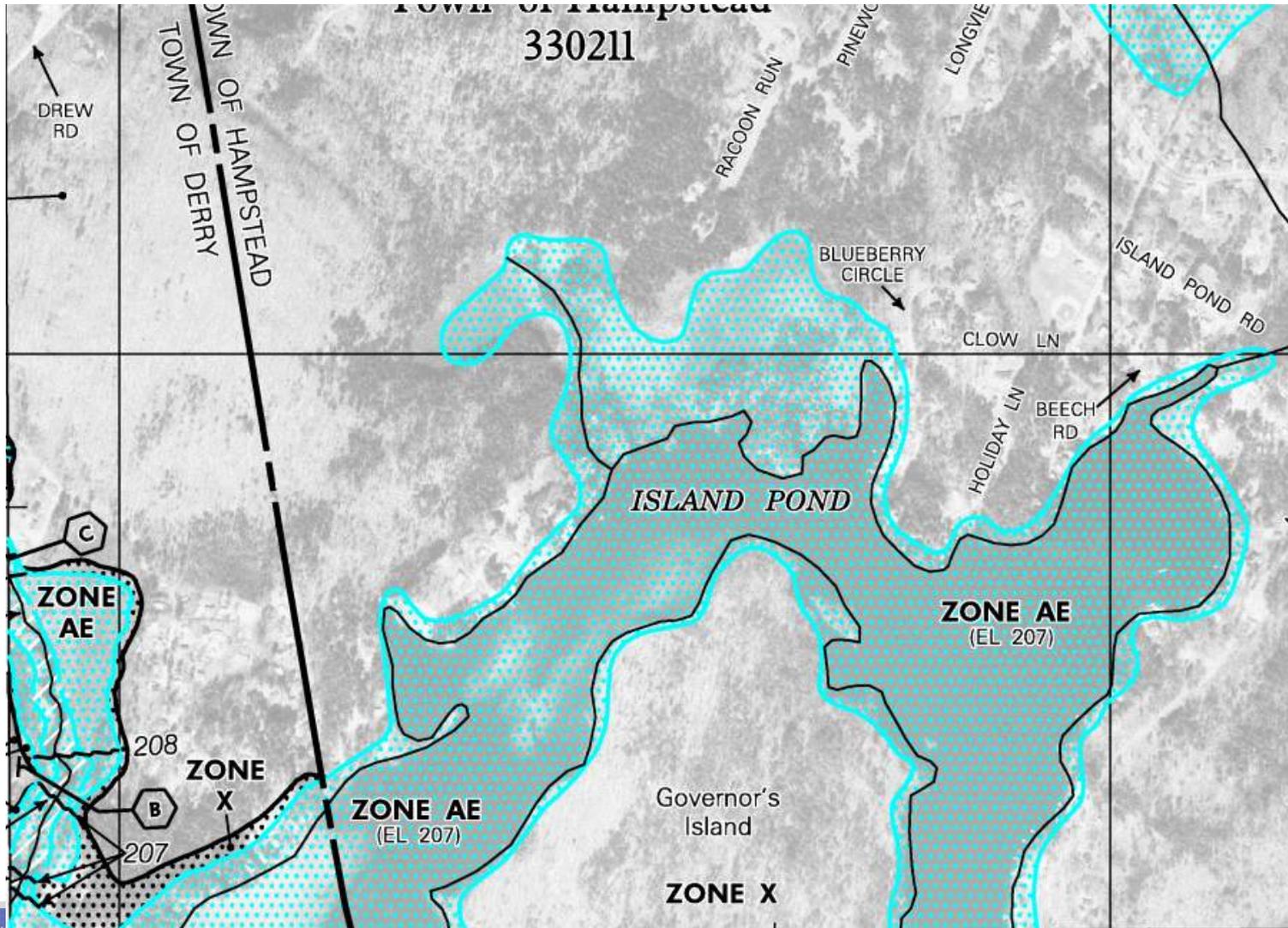


TABLE 5 - SUMMARY OF STILLWATER ELEVATIONS

FLOODING SOURCE AND LOCATION	ELEVATION (ft. NGVD) <sup>1</sup>			
	10-YEAR	50-YEAR	100-YEAR	500-YEAR
ADAMS POND At Derry	326.0	327.1	327.3	328.1
ATLANTIC OCEAN Entire shoreline within North Hampton and Rye	8.3	8.9	9.2	9.8
Entire shoreline within Hampton, Hampton Falls, New Castle, Seabrook, and Seabrook Beach	8.2	8.9	9.2	9.8
Entire shoreline within Portsmouth	8.0	8.6	8.9	9.5
BEAVER LAKE At Derry	287.9	289.3	289.6	294.0
COUNTRY POND Entire shoreline with Kingston	*	*	120.8	*
GREAT BAY Entire shoreline of the Squamscott River within the Exeter corporate limits to a point approximately 370 feet downstream of Chestnut Hill Avenue	7.1	7.6	7.9	8.4
Entire shoreline within Greenland, and Newington, and the entire shoreline of Great Bay and Lamprey River downstream of from MacCallen Dam in Newmarket	6.4	7.0	7.2	7.8
Entire shoreline of the Squamscott River within Newfield, and the entire shoreline within Stratham	6.9	7.5	7.7	8.2
GREAT POND Entire shoreline within Kingston	*	*	121.8	*
ISLAND POND At the Towns of Derry and and Atkinson's corporate limits, in Derry, and the entire shoreline within Hampstead	205.5	206.4	206.8	208.2

<sup>1</sup>National Geodetic Vertical Datum of 1929

\*Data Not Available

# Coastal Areas

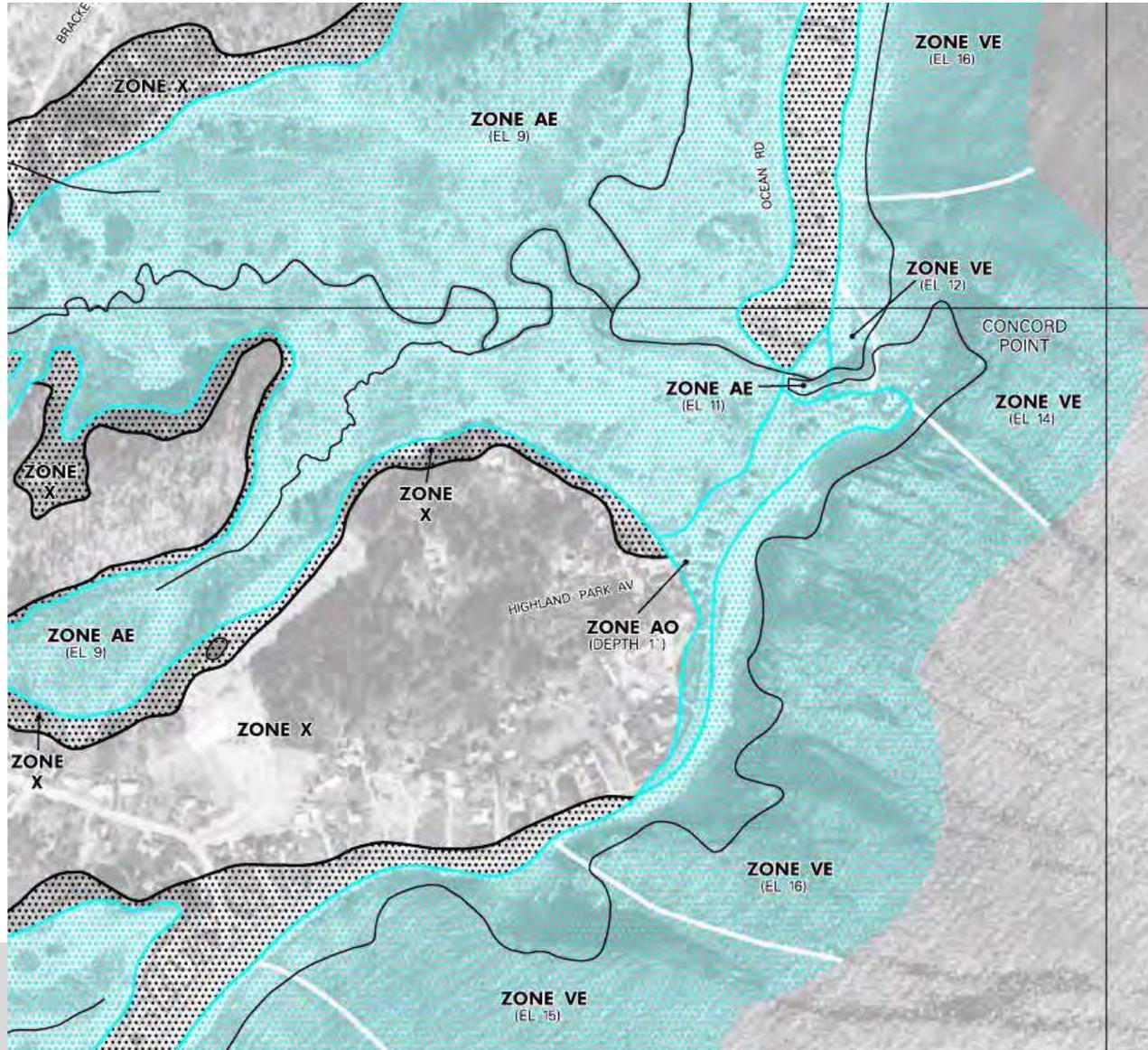


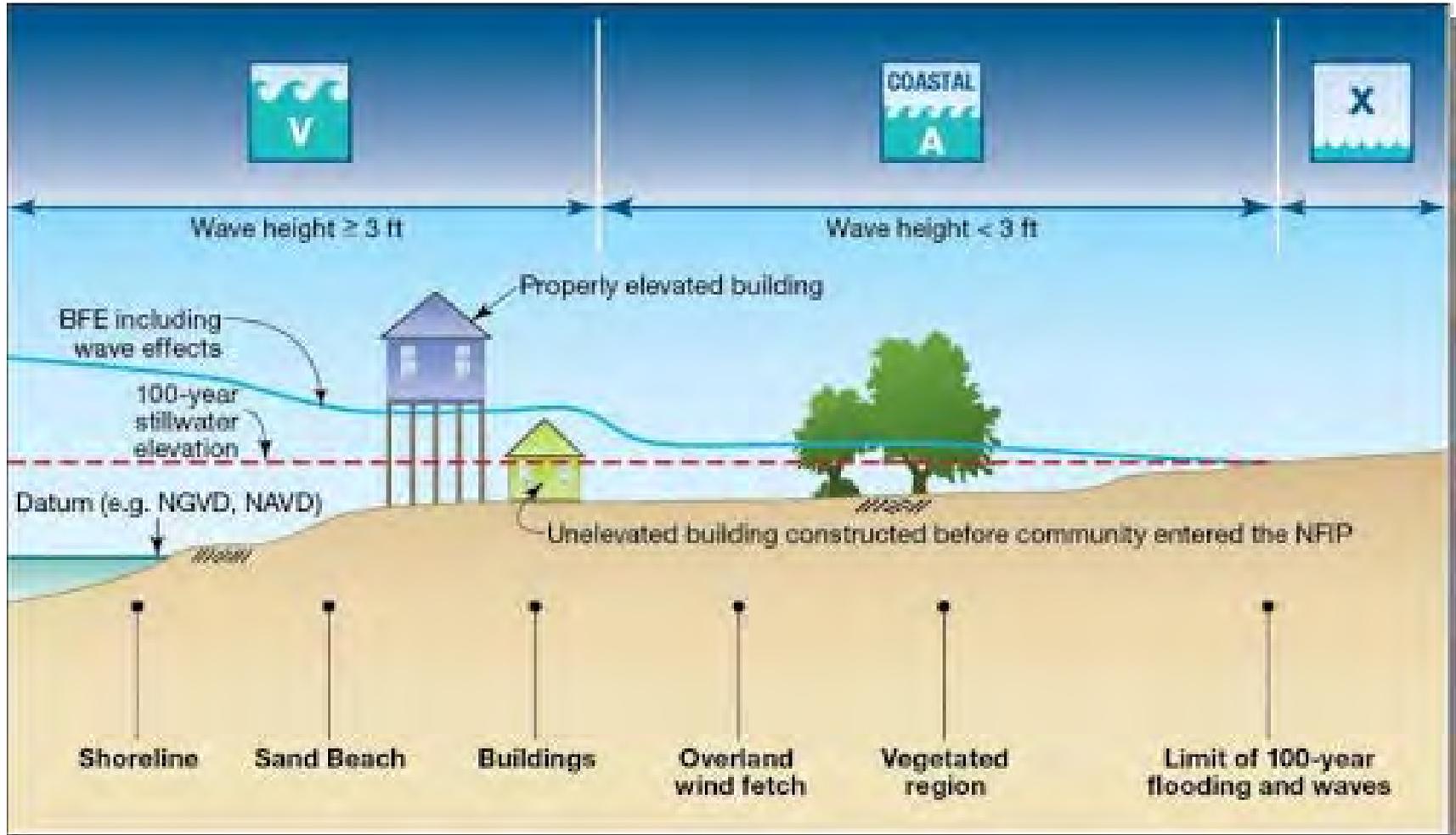
TABLE 5 - SUMMARY OF STILLWATER ELEVATIONS

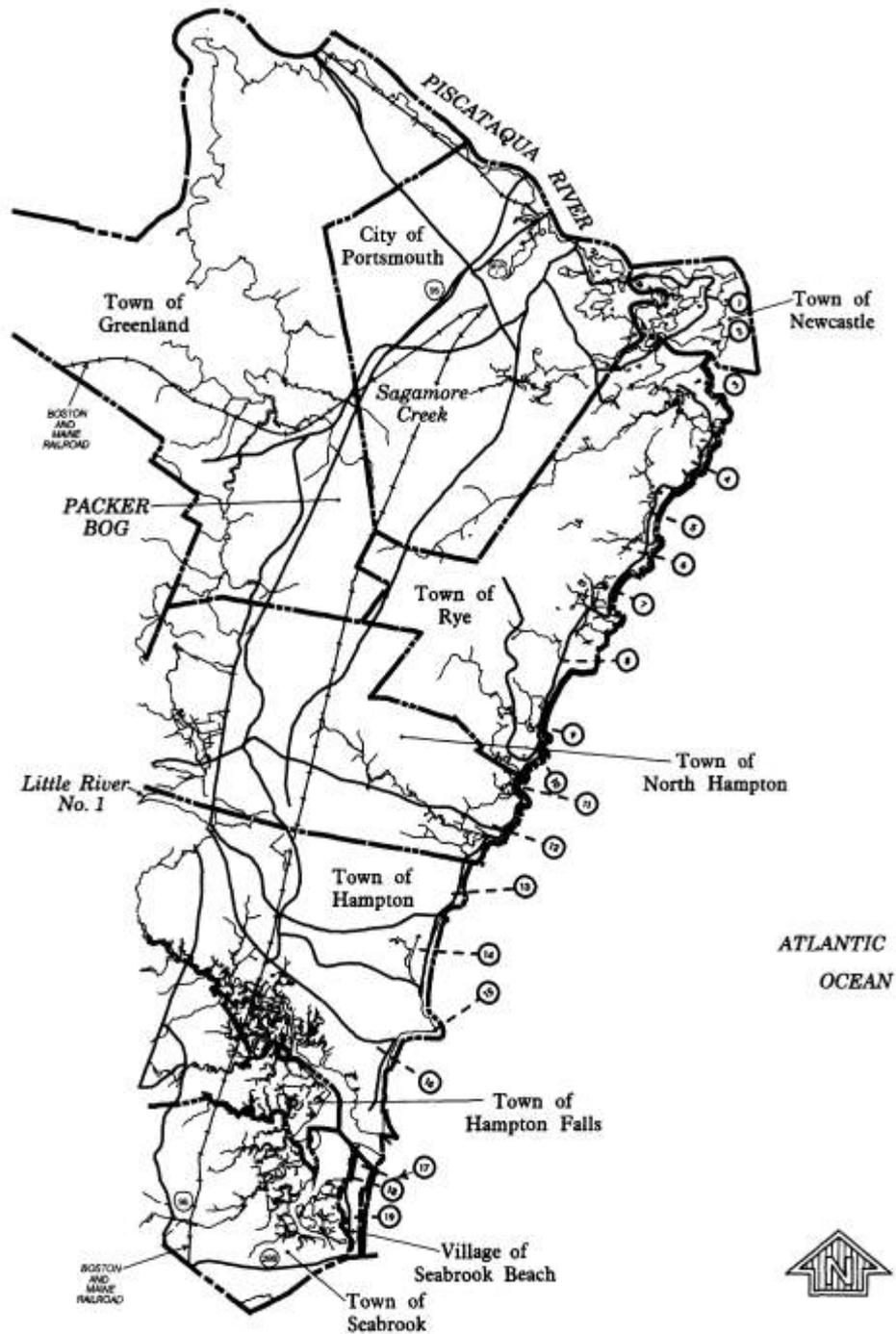
FLOODING SOURCE AND LOCATION	ELEVATION (ft. + NGVD <sup>1</sup> )			
	10-YEAR	50-YEAR	100-YEAR	500-YEAR
ADAMS POND At Derry	326.0	327.1	327.3	328.1
ATLANTIC OCEAN				
Entire shoreline within North Hampton and Rye	8.3	8.9	9.2	9.8
Entire shoreline within Hampton, Hampton Falls, New Castle, Seabrook, and Seabrook Beach	8.2	8.9	9.2	9.8
Entire shoreline within Portsmouth	8.0	8.6	8.9	9.5
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COUNTRY POND Entire shoreline with Kingston	*	*	120.8	*
GREAT BAY				
Entire shoreline of the Squamscott River within the Exeter corporate limits to a point approximately 370 feet downstream of Chestnut Hill Avenue	7.1	7.6	7.9	8.4
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GREAT POND Entire shoreline within Kingston	*	*	121.8	*
ISLAND POND At the Towns of Derry and and Atkinson's corporate limits, in Derry, and the entire shoreline within Hampstead	205.5	206.4	206.8	208.2

<sup>1</sup>National Geodetic Vertical Datum of 1929

\*Data Not Available

# Transects





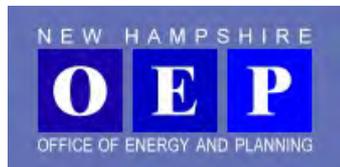
# Zone AE

TABLE 7 – TRANSECT DATA

<u>FLOODING SOURCE</u>	<u>STILLWATER ELEVATION (feet NGVD 29)</u>		<u>ZONE</u>	<u>BASE FLOOD ELEVATION<sup>1</sup> (feet NGVD 29)</u>
	<u>10-YEAR</u>	<u>100-YEAR</u>		
ATLANTIC OCEAN Transects 1-2	8.2	9.2	VE AE	11-18 9-13
Transects 3-10	8.3	9.2	VE AE AO	12-22 9-12 1'-2' (Depth)
Transects 11-12	8.3	9.2	VE AE AO	14-23 9 1' (Depth)
Transects 13-14	8.2	9.2	VE AE	12-14 9

<sup>1</sup>Because of map scale limitations, base flood elevations shown on the FIRM represent average elevations for the zones depicted

# Determining the BFE in Zone AO

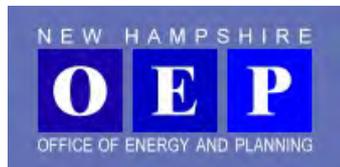


# Zone AO

Highest Adjacent Grade  
+ Depth Number on FIRM  
Flood Elevation

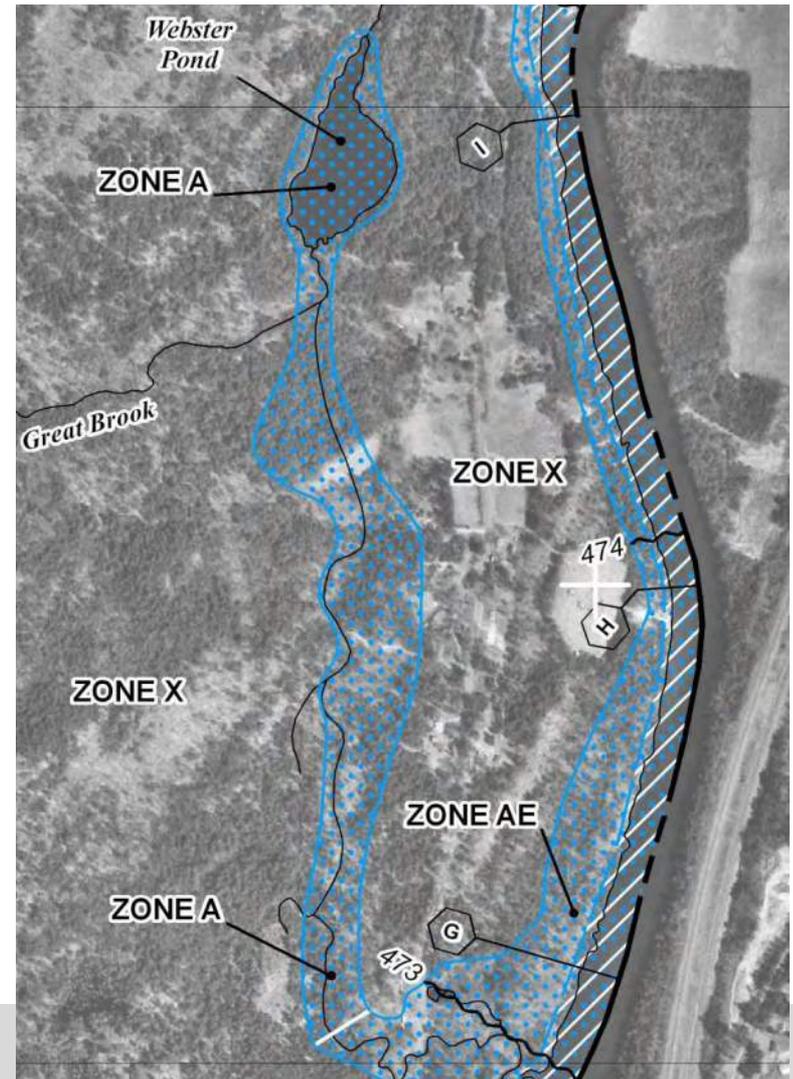


# Determining the BFE in Zone A



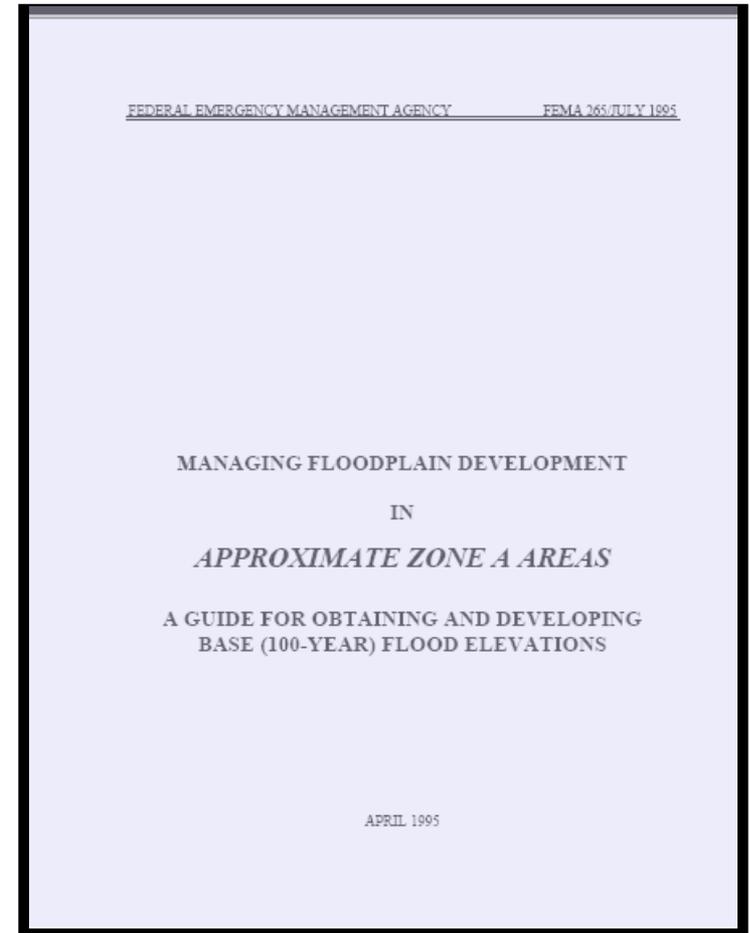
# Why are there Zone As with no BFE?

- Not cost effective in areas where there is no or little development
- Zone A Floodplain areas based on approximate methods or historical flood data



# FEMA Guidance Document

## Managing Floodplain Development in Approximate Zone A Areas



# First Step

Determine if any 100-year flood elevation data is available from:

- Federal (USACE, USGS)
- State (DOT, DES, OEP)
- Community
  - All proposals for development greater than 50 lots or 5 acres, whichever is the lesser, include BFE data within such proposals

# LOMA in Zone A with no BFE

- If no Federal/State/Local source of BFE:
  - Submit letter with LOMA application stating:
    - Checked with NFIP Coordinator and/or other sources
    - Request FEMA to determine BFE
  - Additional survey data may be needed to make determination



**NFIP** **New Hampshire's Floodplain Management Program**

Fact Sheet #6

The following guidance was created by Vermont's Floodplain Management Program.

**Surveying for a LOMA in Zone A**

**Contact:**  
Jennifer Gilbert  
Floodplain Management Coordinator  
(603) 271-1762  
jennifer.gilbert@nh.gov

**Web Site:**  
<http://www.nh.gov/oepp/programs/floodplainmanagement>

**NEW HAMPSHIRE**  
**OEPP**  
OFFICE OF ENERGY AND PLANNING

107 Pleasant Street  
Johnston Hall 3rd Floor  
Concord, NH 03301  
Phone: 603-271-2155  
Fax: 603-271-2615  
Web: [www.nh.gov/oepp](http://www.nh.gov/oepp)

To be eligible for a Letter of Map Amendment (LOMA) from FEMA, you must be able to prove that the water surface elevation of the 100-year flood (or "base flood elevation") is lower than the ground elevation at the lowest exterior point around your foundation.

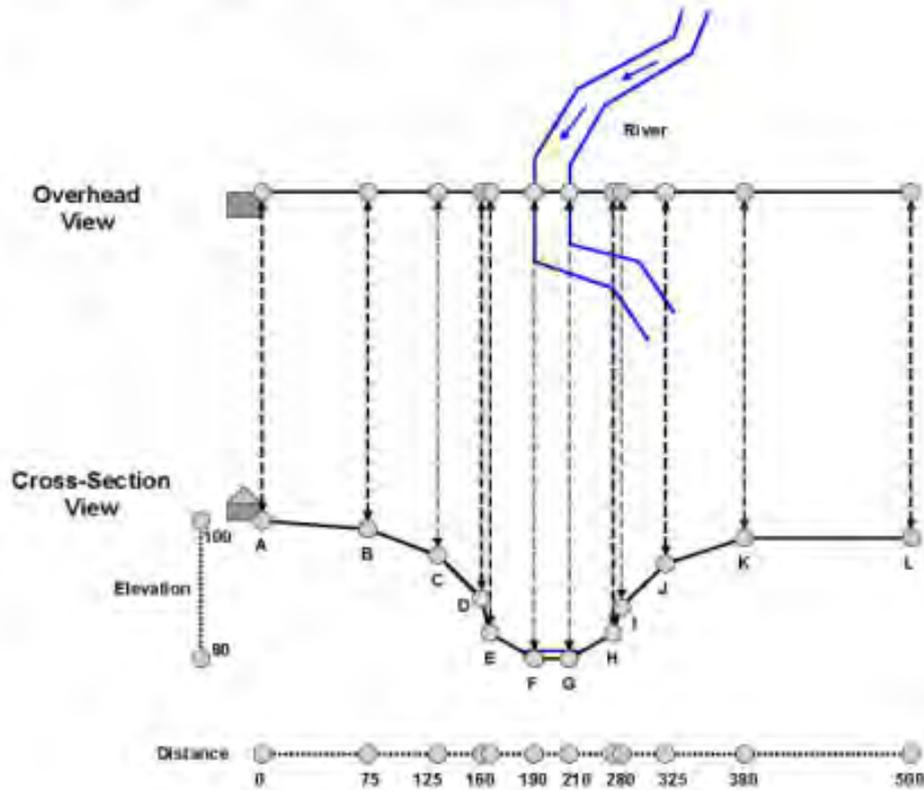
Regions labeled as "Zone A" on your community's floodplain map indicate those areas where FEMA has designated the approximate floodplain, but has not done the detailed river studies necessary to establish a base flood elevation.

If your LOMA request is for a parcel less than 5 acres in size and BFE data is not available from authoritative state or federal sources, FEMA will calculate the base flood elevation for you upon request. The applicant will need to indicate in the LOMA application cover letter that BFE data does not exist from state or other federal sources and provide the following survey information with your LOMA application:

- Prior to conducting an elevation survey, you should first verify that BFE data does not already exist for the flooding source in question. Please contact the New Hampshire Floodplain Management Office at 603-271-1762 or [jennifer.gilbert@nh.gov](mailto:jennifer.gilbert@nh.gov);
- The engineer or surveyor needs to establish a cross-section of the stream. This cross-section should begin at the **upstream** edge of your structure, and should extend **perpendicular** to the stream. The cross-section should

Fact Sheet #6 - Surveying for a LOMA in Zone A

# Survey Information (Example)



Cross Section Information Table

Point	Elevation	Distance
A	100	0
B	98	75
C	95	125
D	88	180
E	83	185
F	80	190
G	80	210
H	83	270
I	85	280
J	85	325
K	99	380
L	100	500

# Acceptable Sources of BFE for Insurance Purposes

## Older Structures (No EC Required for Rating)

- No BFE Required

## Newer Structures (EC Required for Rating)

- BFE Provided by Community or Surveyor/Engineer
- Or if no BFE, rated based on lowest floor elevation in relation to highest adjacent grade

# Questions

