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

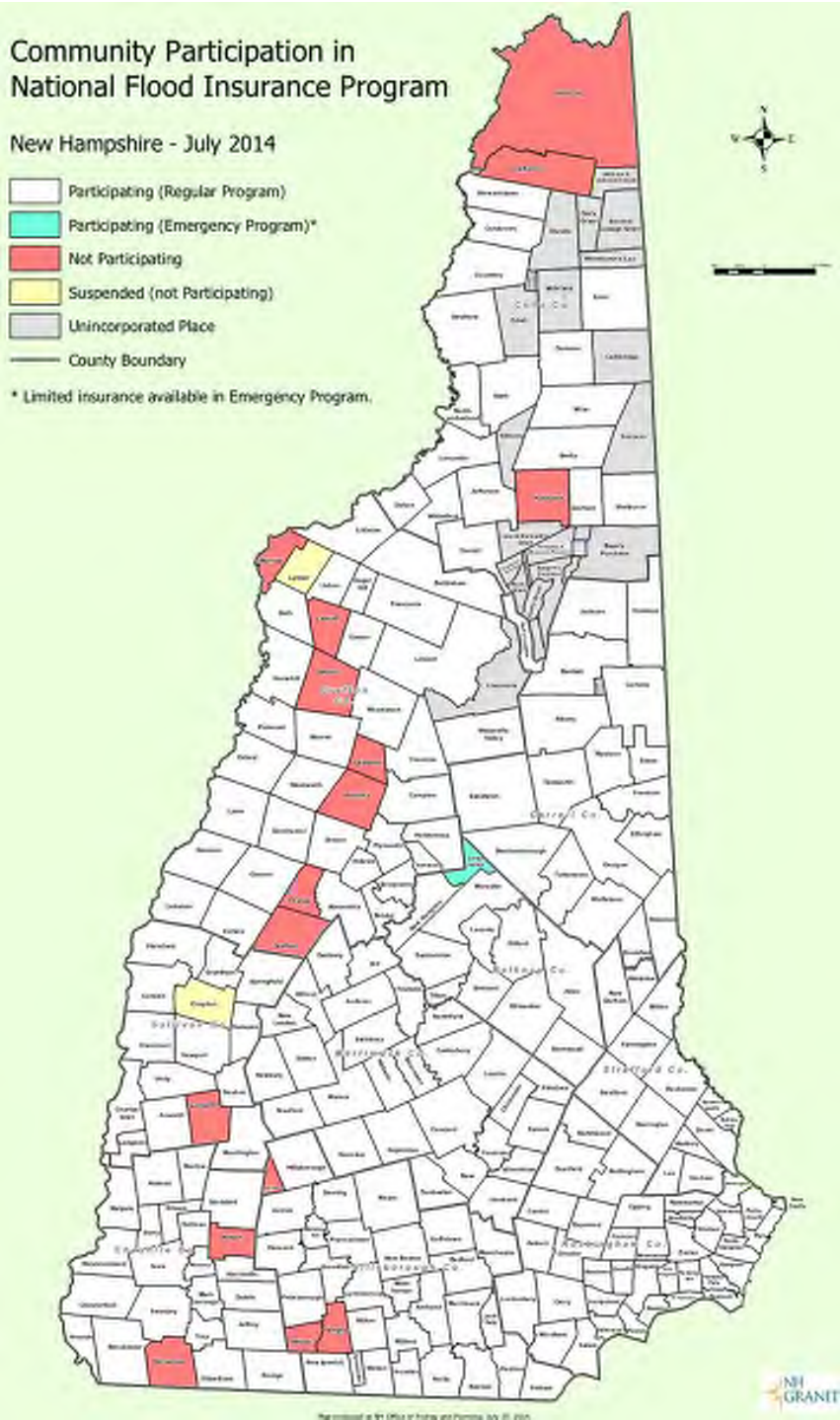
Senior Natural Hazards Program Specialist
Mitigation Division, FEMA Region 1

Agenda

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

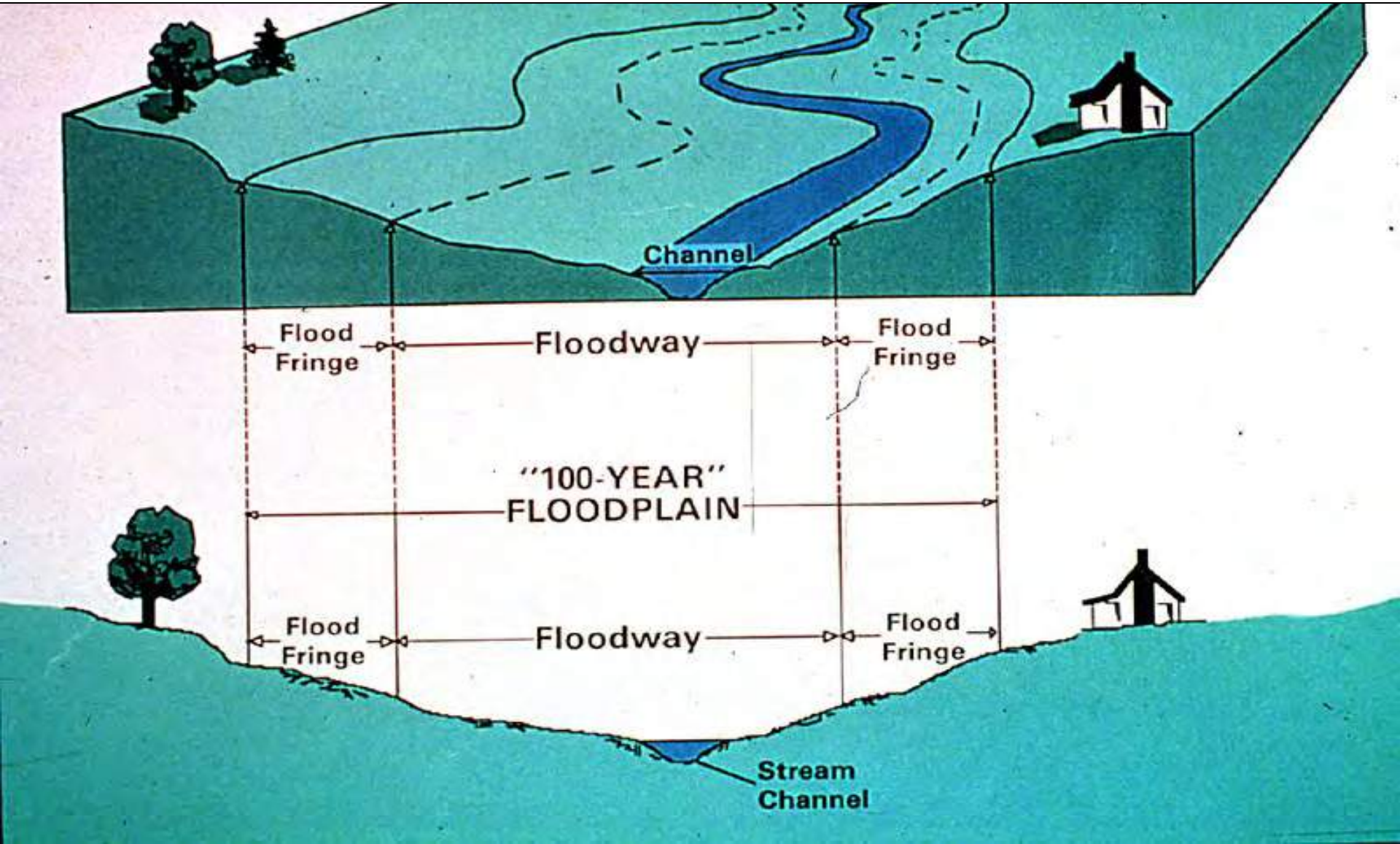
NFIP Participation in New Hampshire

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



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

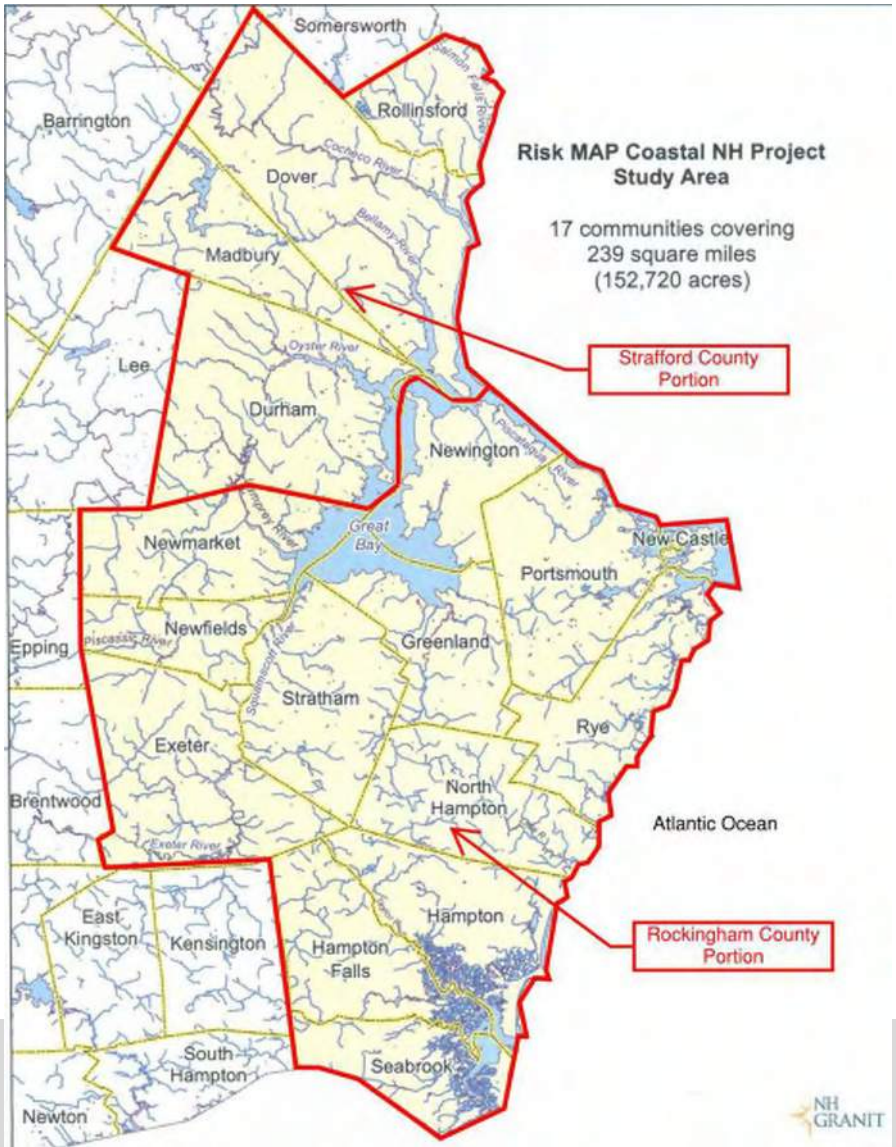
Base Flood Elevation (BFE)

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)*

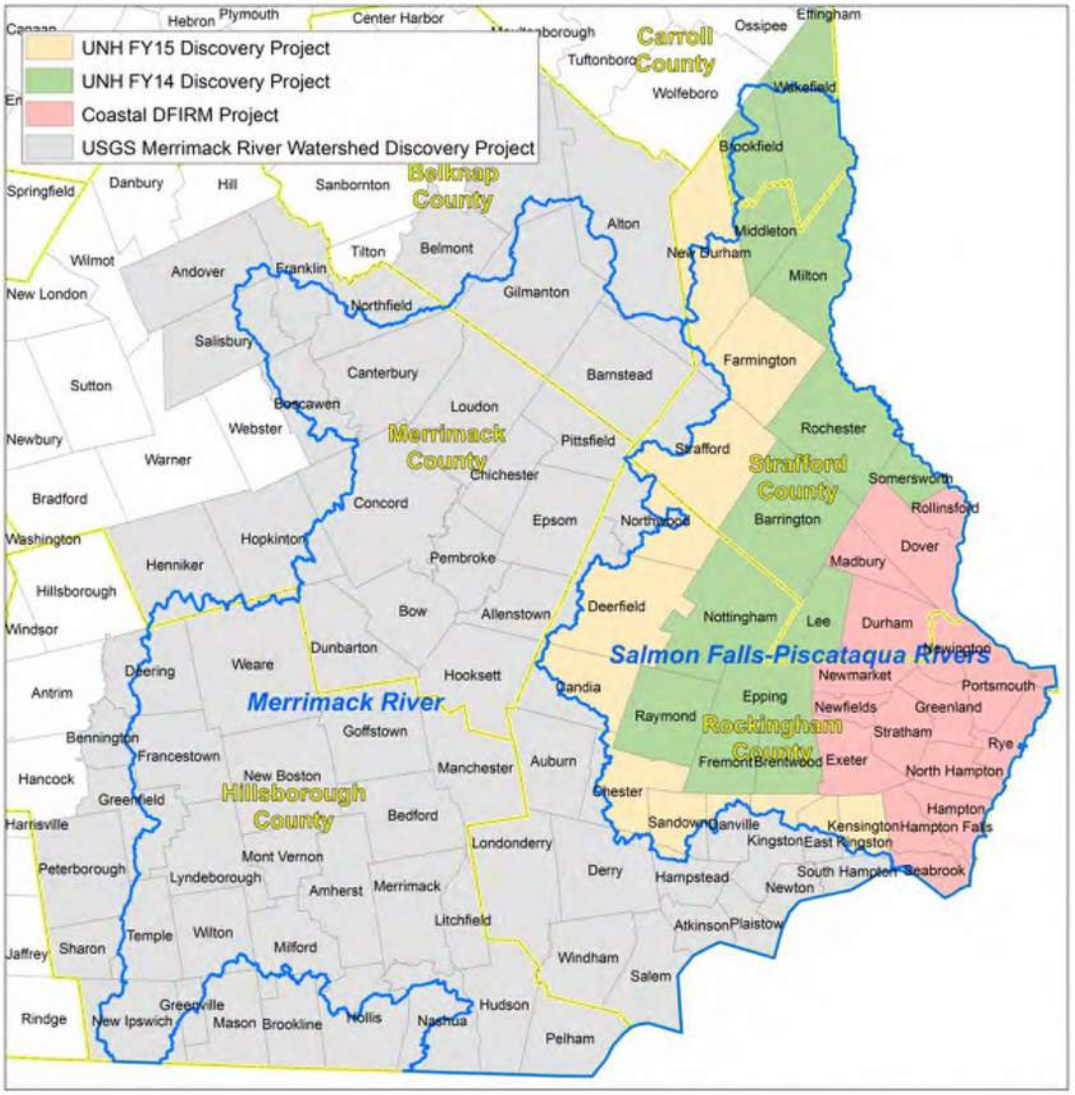
NAVD 1988

- 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 Winnipesaukee Watershed

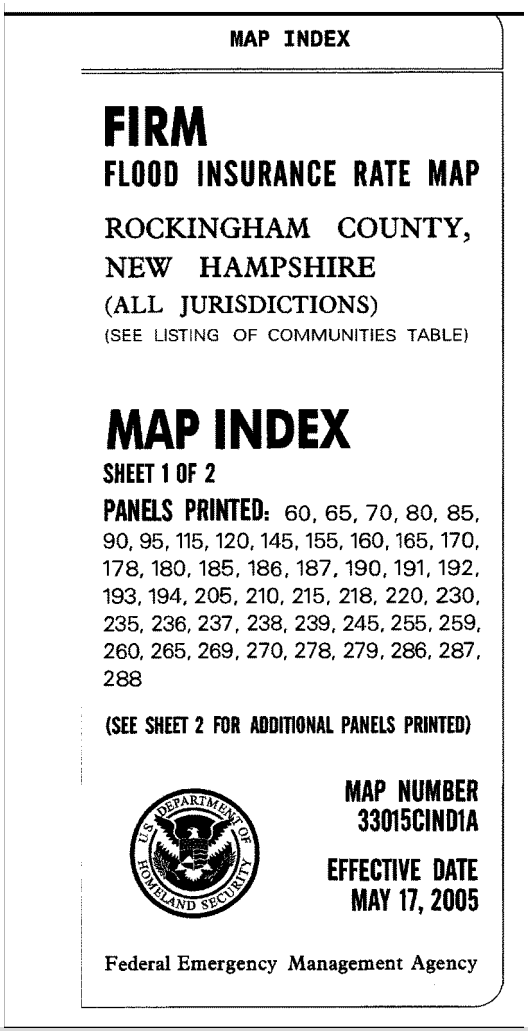


NEW HAMPSHIRE OEP OFFICE OF ENERGY AND PLANNING

NATIONAL FLOOD INSURANCE PROGRAM

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

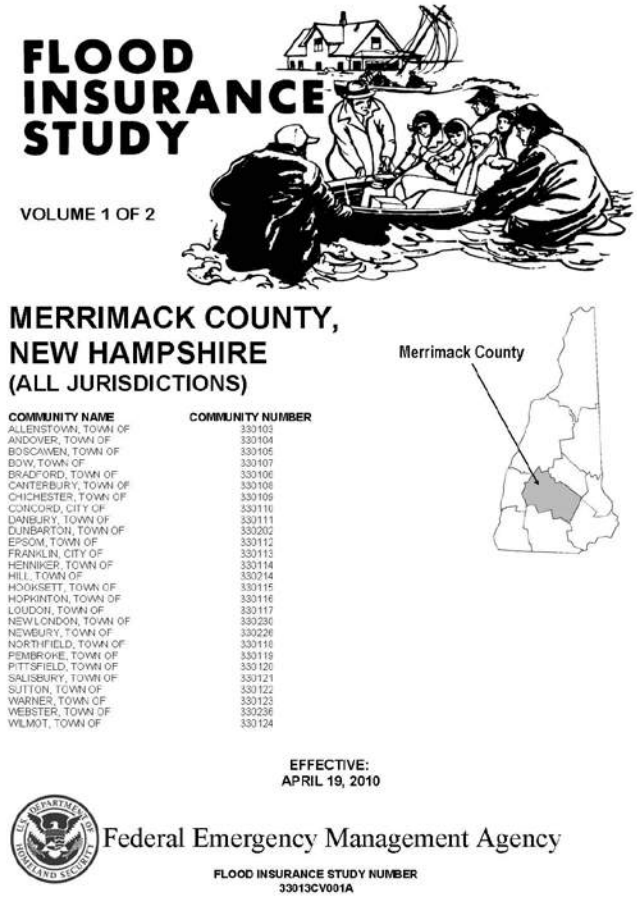
PANELS PRINTED: 60, 65, 70, 80, 85, 90, 95, 115, 120, 145, 155, 160, 165, 170, 178, 180, 185, 186, 187, 190, 191, 192, 193, 194, 205, 210, 215, 218, 220, 230, 235, 236, 237, 238, 239, 245, 255, 259, 260, 265, 269, 270, 278, 279, 286, 287, 288

(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	330102
ANDOVER, TOWN OF	330104
BOSCAWEN, TOWN OF	330105
BOW, TOWN OF	330107
BRADFORD, TOWN OF	330106
CANTERBURY, TOWN OF	330108
CHICHESTER, TOWN OF	330109
CONCORD, CITY OF	330110
DANBURY, TOWN OF	330111
DUNBARTON, TOWN OF	330202
EPSOM, TOWN OF	330112
FRANKLIN, CITY OF	330113
HENNIKER, TOWN OF	330114
HILL, TOWN OF	330214
HOOKSETT, TOWN OF	330115
HOPKINTON, TOWN OF	330116
LOUDON, TOWN OF	330117
NEW LONDON, TOWN OF	330230
NEWBURY, TOWN OF	330226
NORTHFIELD, TOWN OF	330118
PEMBROKE, TOWN OF	330119
PITTSFIELD, TOWN OF	330120
SALISBURY, TOWN OF	330121
SUTTON, TOWN OF	330122
WARNER, TOWN OF	330123
WEBSTER, TOWN OF	330236
WILMOT, TOWN OF	330124

EFFECTIVE:
APRIL 19, 2010

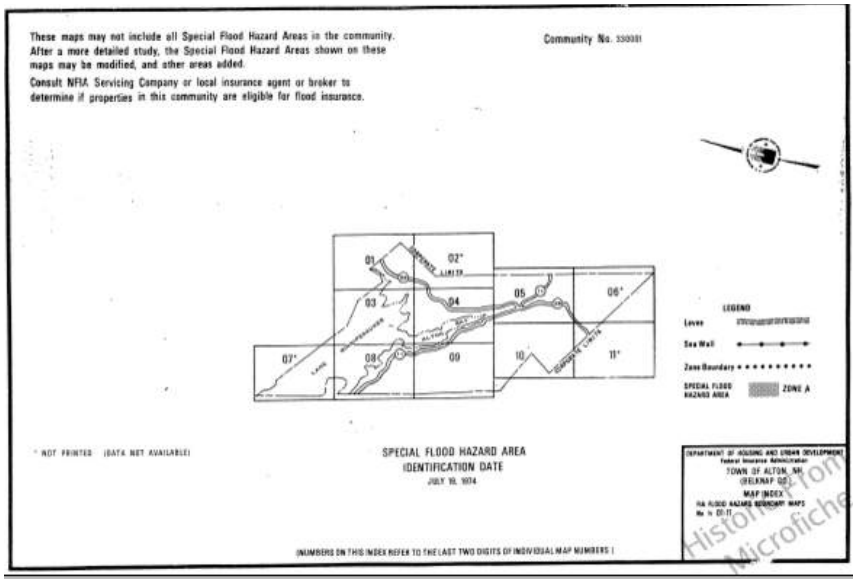
Federal Emergency Management Agency

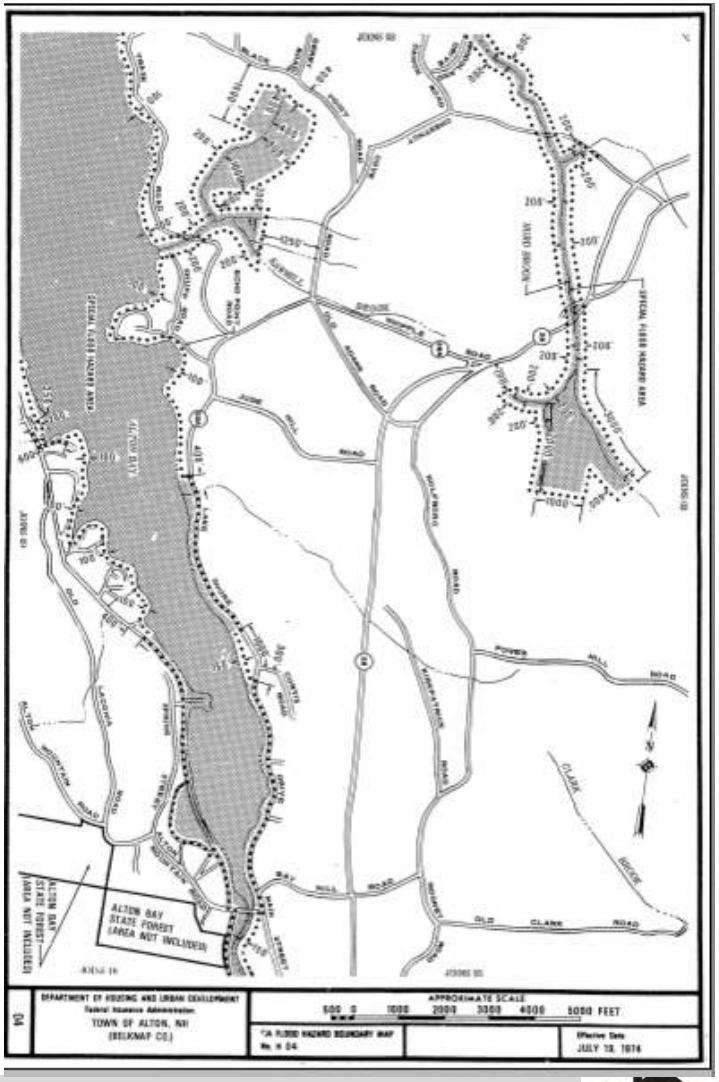
FLOOD INSURANCE STUDY NUMBER
33013CV001A

Types of Maps

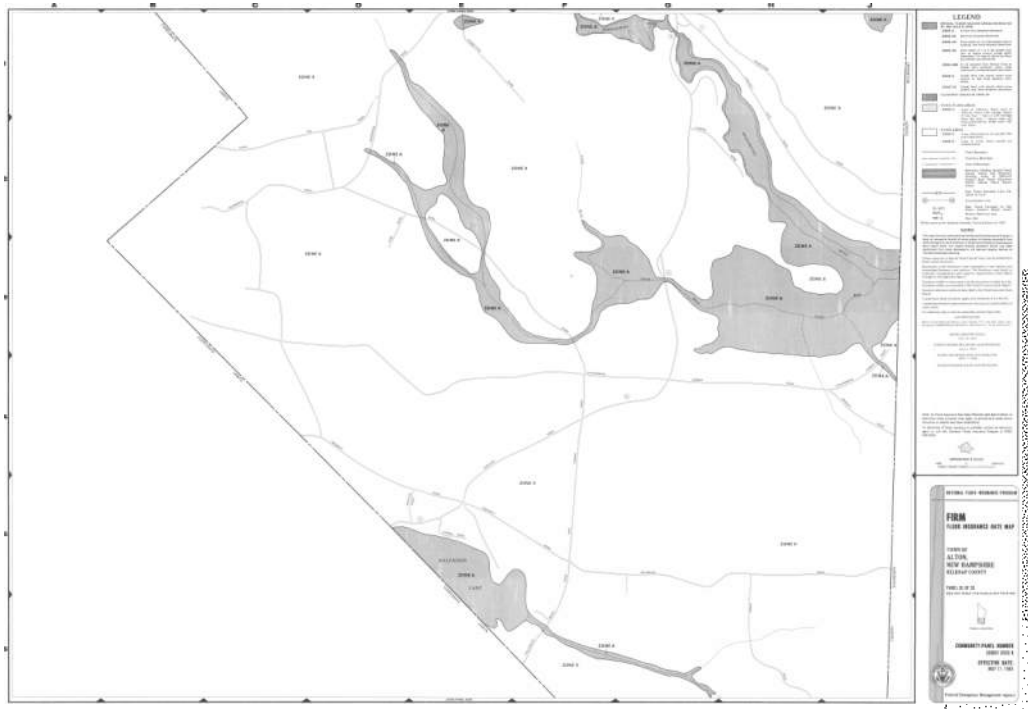
1. Flood Hazard Boundary Map
2. Flood Insurance Rate Map
3. Flood Boundary and Floodway Map
4. Digital Flood Insurance Rate Map

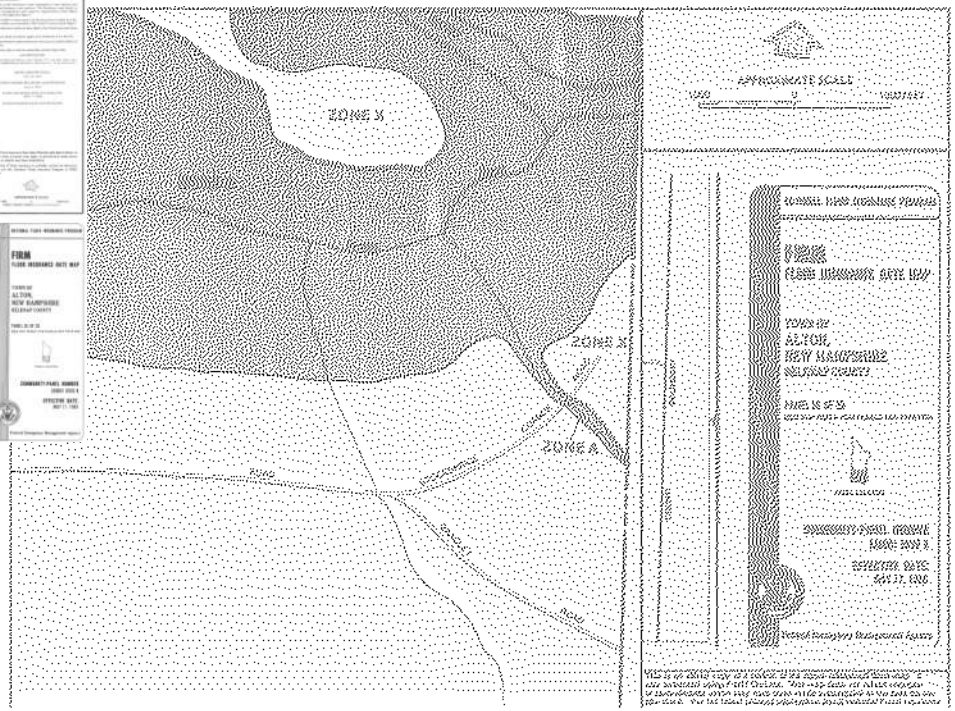
Flood Hazard Boundary Map (FHBM)



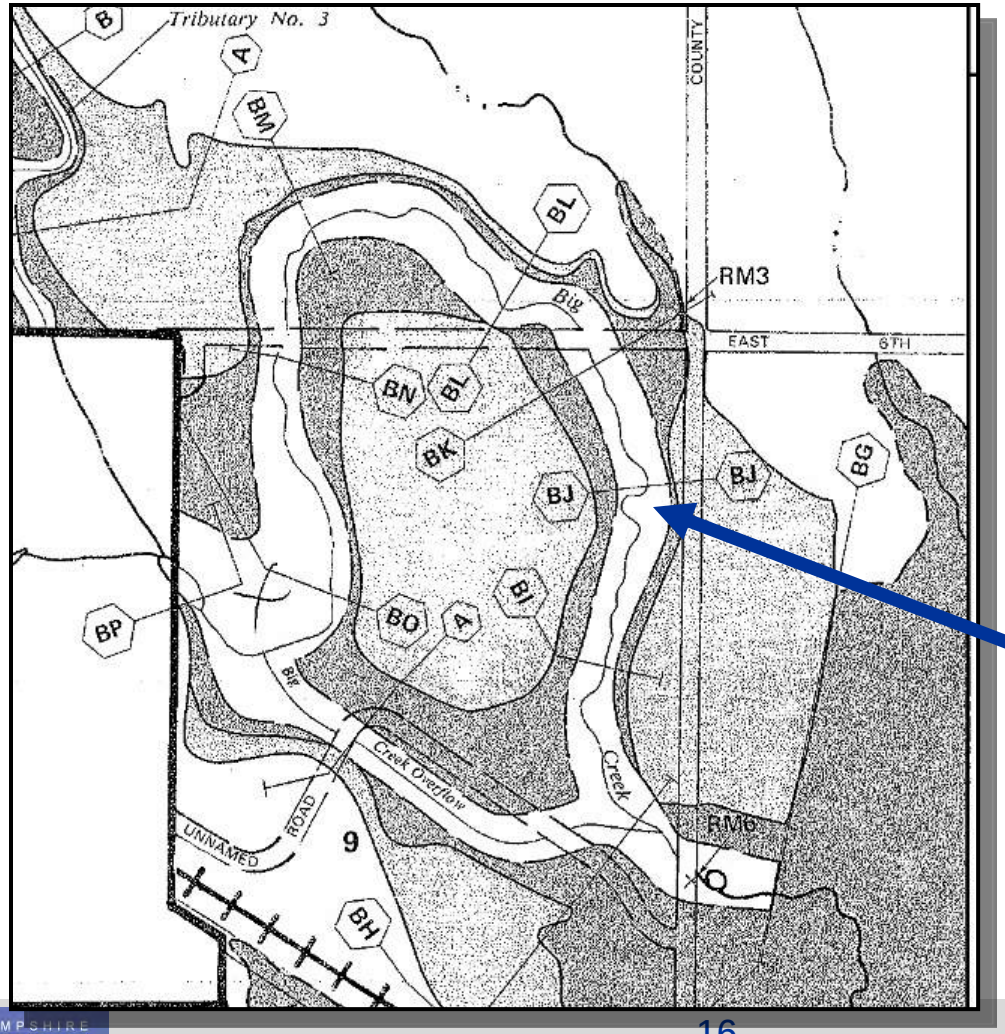


Flood Insurance Rate Map (FIRM)



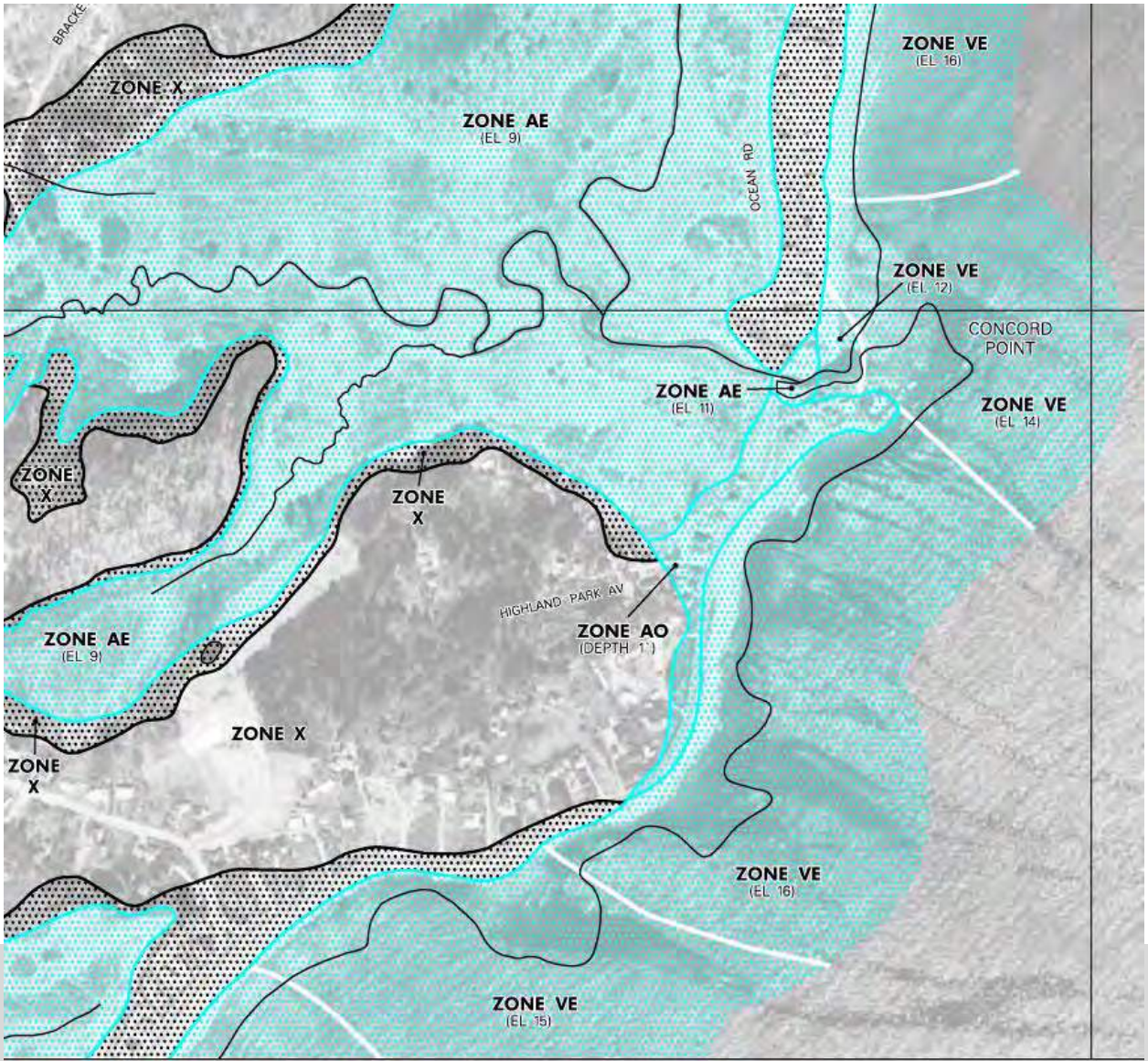


Flood Boundary & Floodway Map



Floodway
White Area

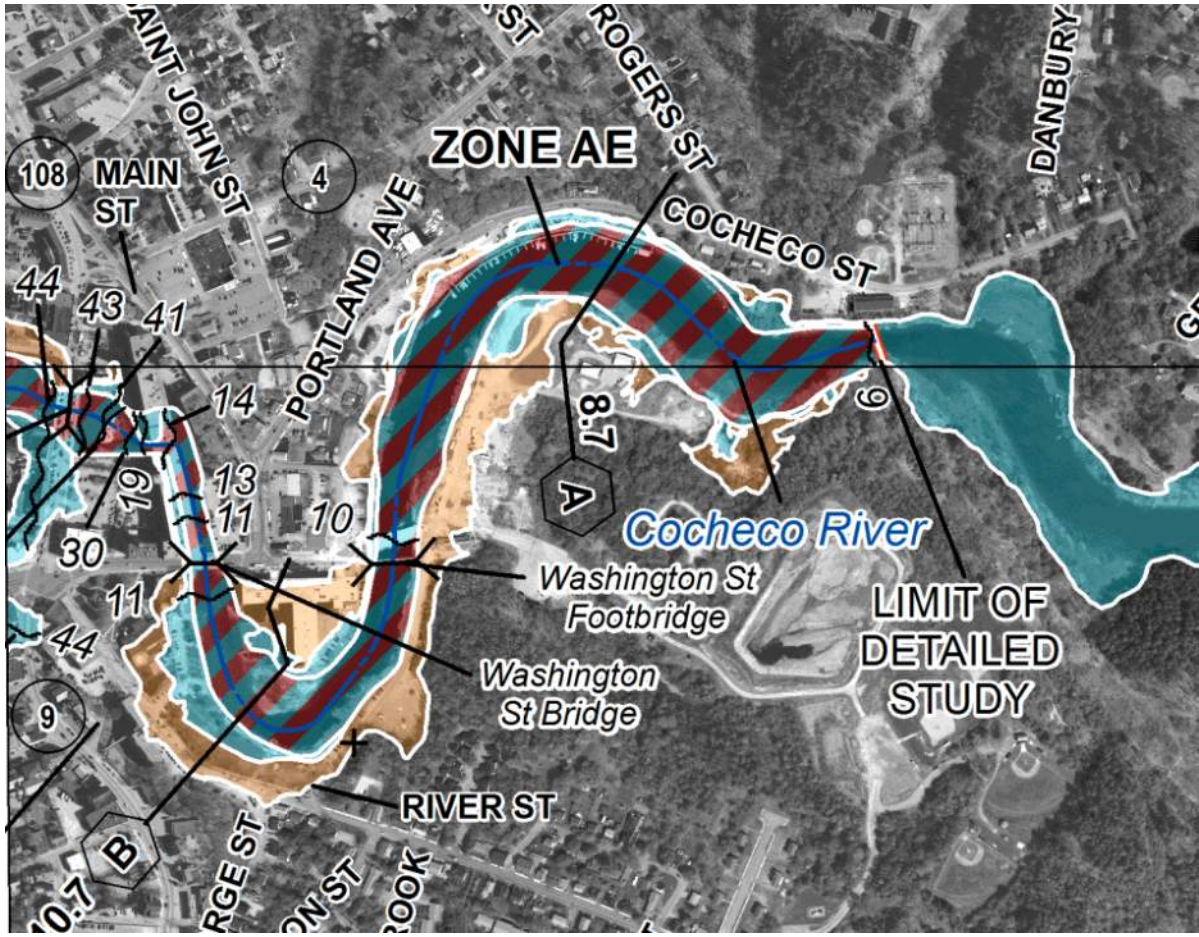
Digital FIRMs



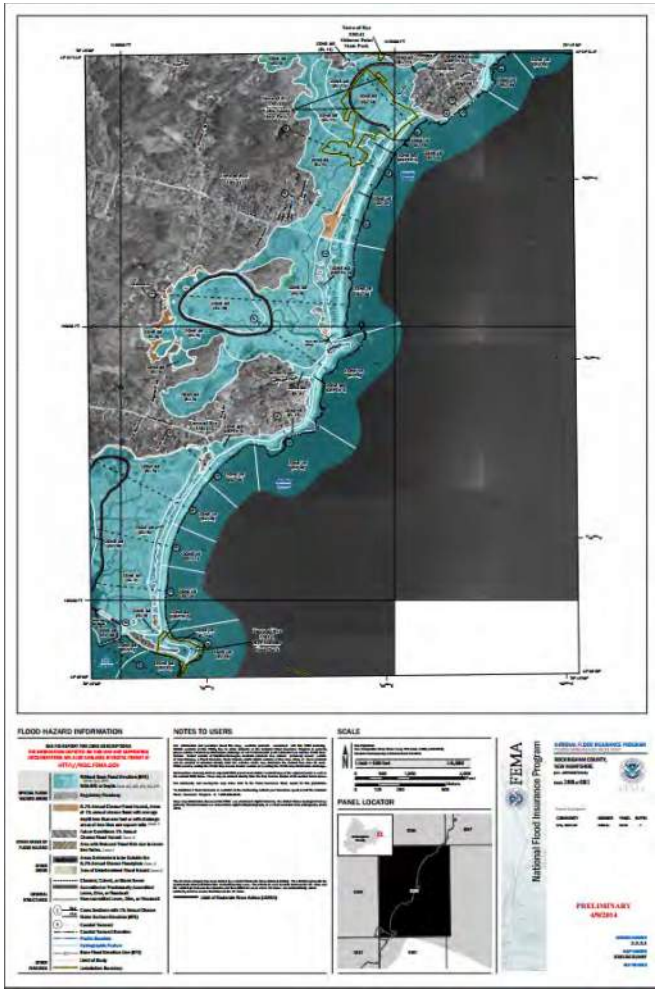
NEW HAMPSHIRE OEP OFFICE OF ENERGY AND PLANNING

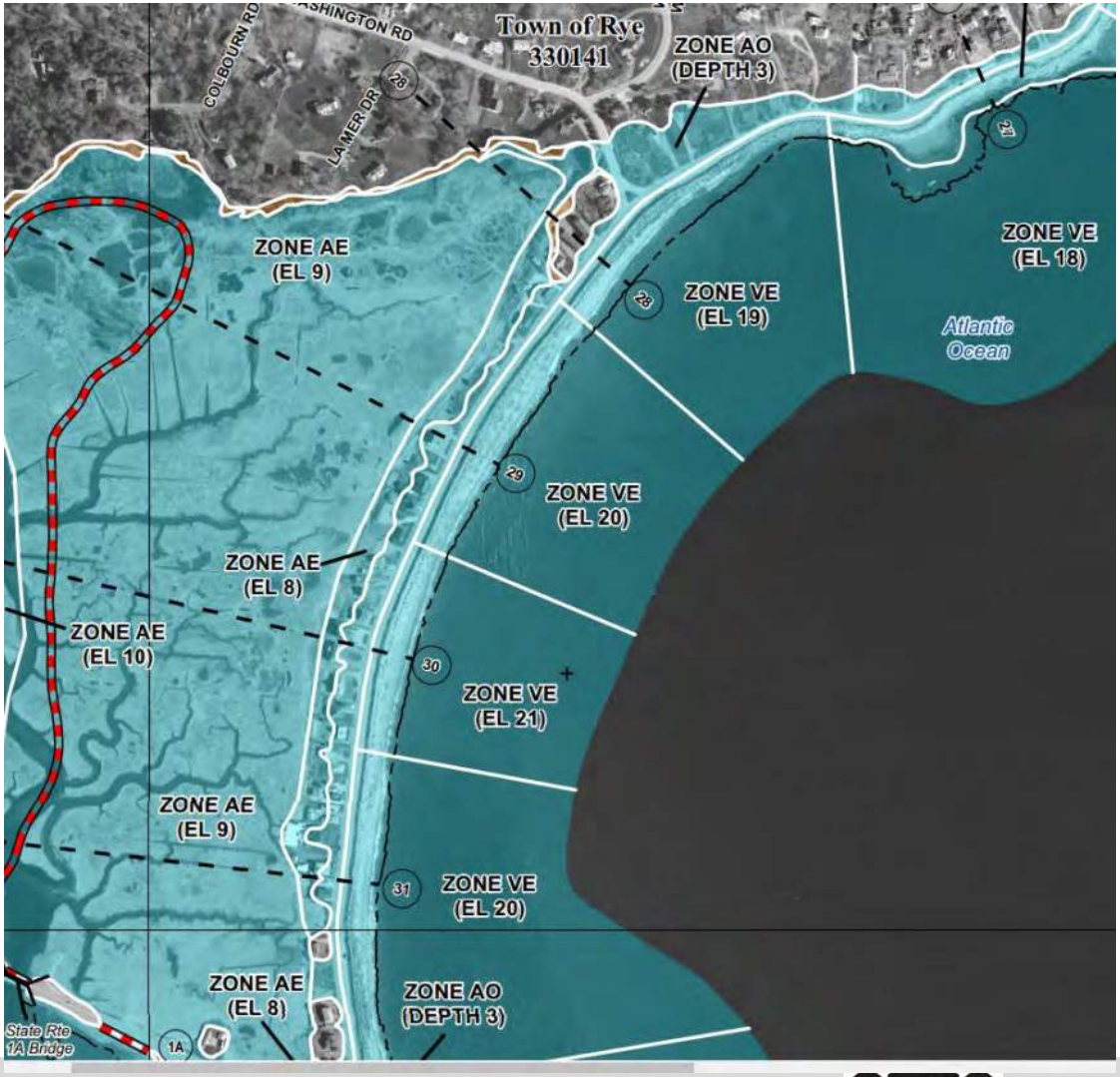
NATIONAL FLOOD INSURANCE PROGRAM

New Digital FIRMs



Preliminary Coastal Maps





Flood Insurance Rate Map Zones

(partial listing)

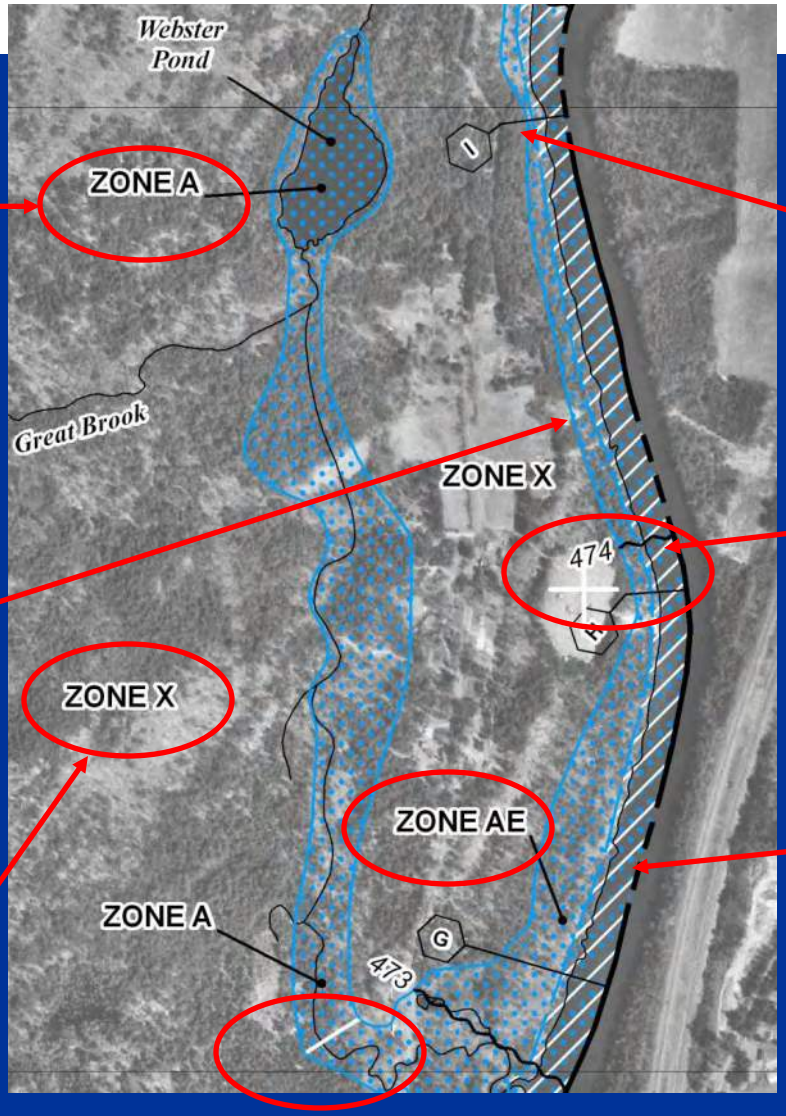
Zone	Description
A	1% annual chance flood hazard zone with no BFE determined
AE	1% annual chance flood hazard zone with BFE determined
AO	1% annual chance flood hazard zone with flood depths of 1-3 ft.; average depths determined
X (shaded)	Riverine/coastal floodplain areas between the 1% annual chance 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

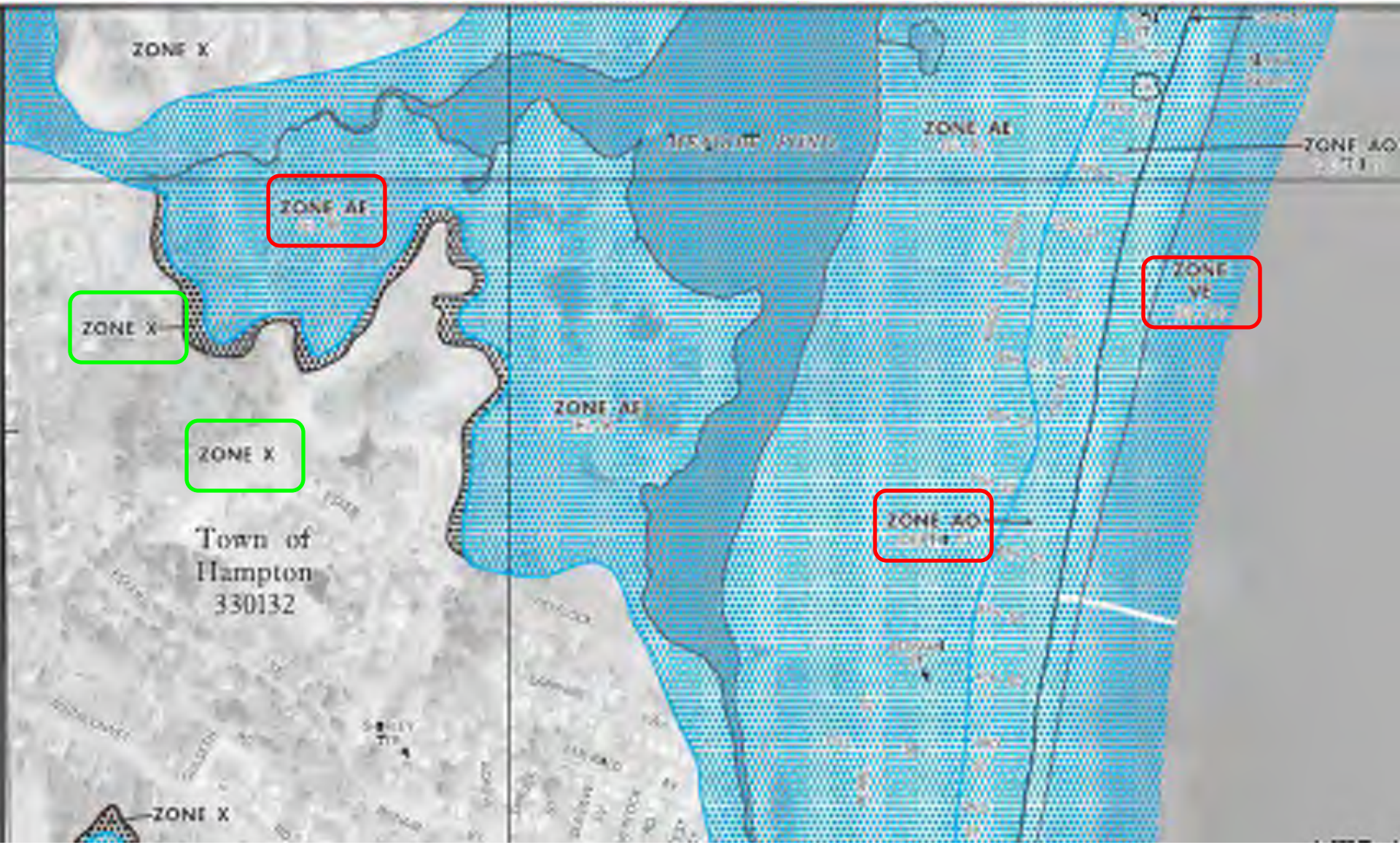
Zone X – Outside 100-year floodplain



Cross sections – see Flood Insurance Study

Base Flood Elevation

Floodway – White Hatched Area

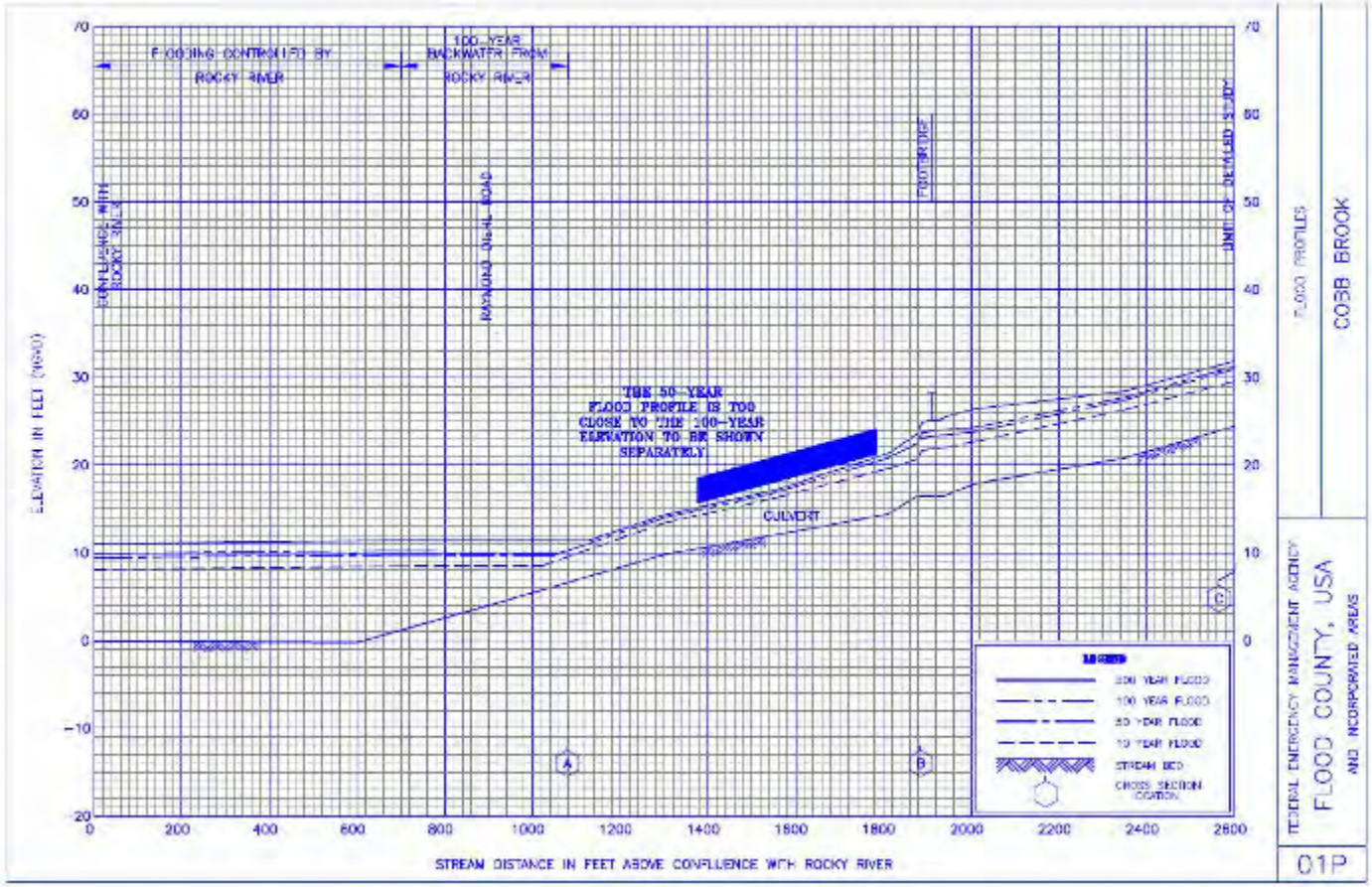

ZONE X
ZONE AE
ZONE AE
ZONE AO
ZONE AE
ZONE X
ZONE VE
ZONE X
ZONE AE
ZONE AO
Town of
Hampton
330132
ZONE X

FLOOD INSURANCE STUDY

FLOOD
USA
AND INCO

COMMUNITY NAME
FLOOD COUNTY
(UNINCORPORATED AREA
ROSEVILLE, TOWN OF

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NGVD)			
CROSS SECTION	DISTANCE[1]	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



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 Map Service Center

FEMA's National Flood Hazard Layer

NH GRANIT

GRANITView II v0

New Hampshire Coastal Viewer

FEMA's National Flood Hazard Layer

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

FEMA Flood Map Service Center : Welcome!

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

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

Enter an address, a place, or longitude/latitude coo | Search

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.

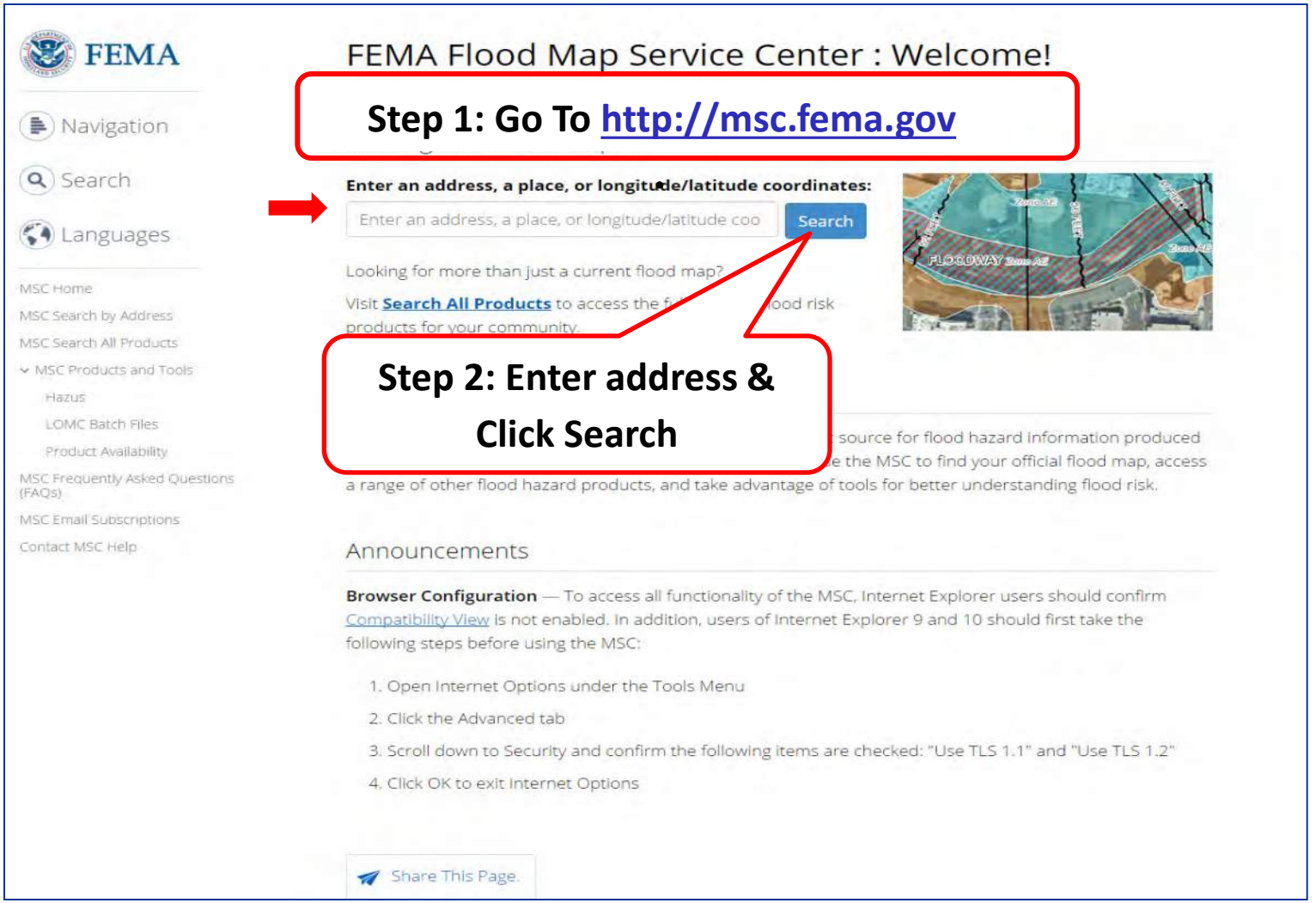
Announcements

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:

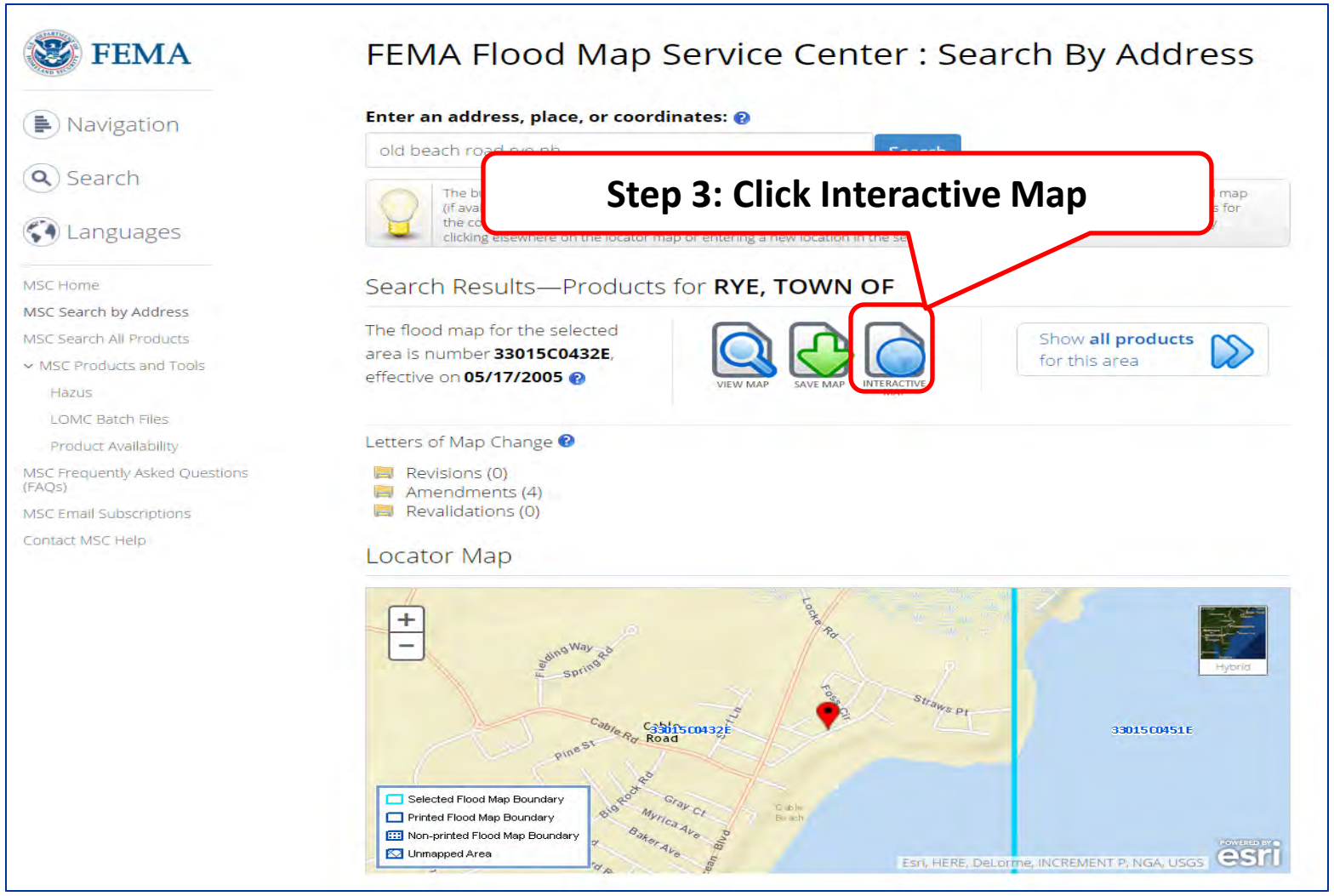
1. Open Internet Options under the Tools Menu
2. Click the Advanced tab
3. Scroll down to Security and confirm the following items are checked: "Use TLS 1.1" and "Use TLS 1.2"
4. Click OK to exit Internet Options

Share This Page.

FEMA's National Flood Hazard Layer



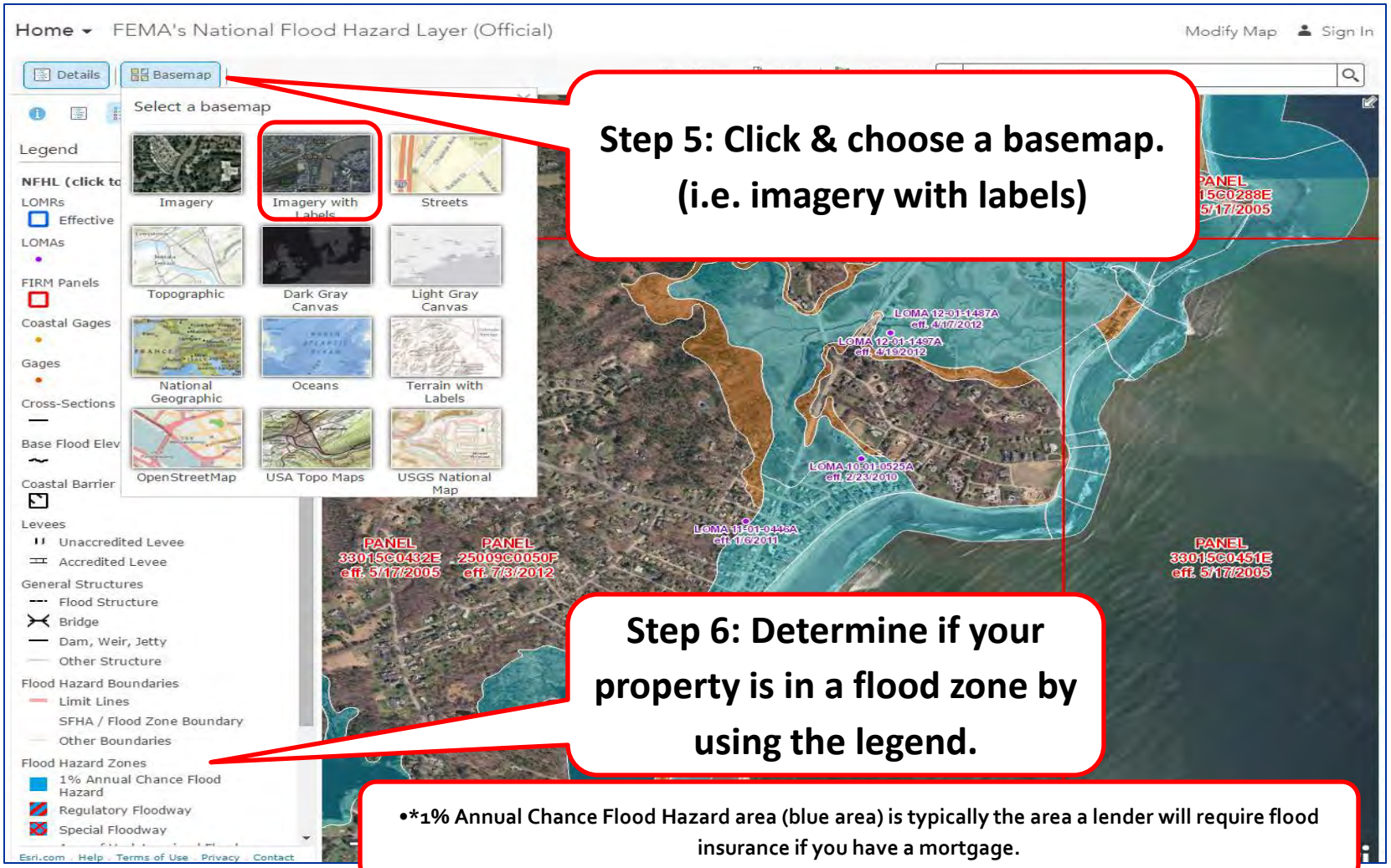
FEMA's National Flood Hazard Layer



FEMA's National Flood Hazard Layer

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

FEMA's National Flood Hazard Layer



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

FEMA Map Service Center

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

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 coo | Search

Step 2: Enter address & Click Search

of flood risk

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.

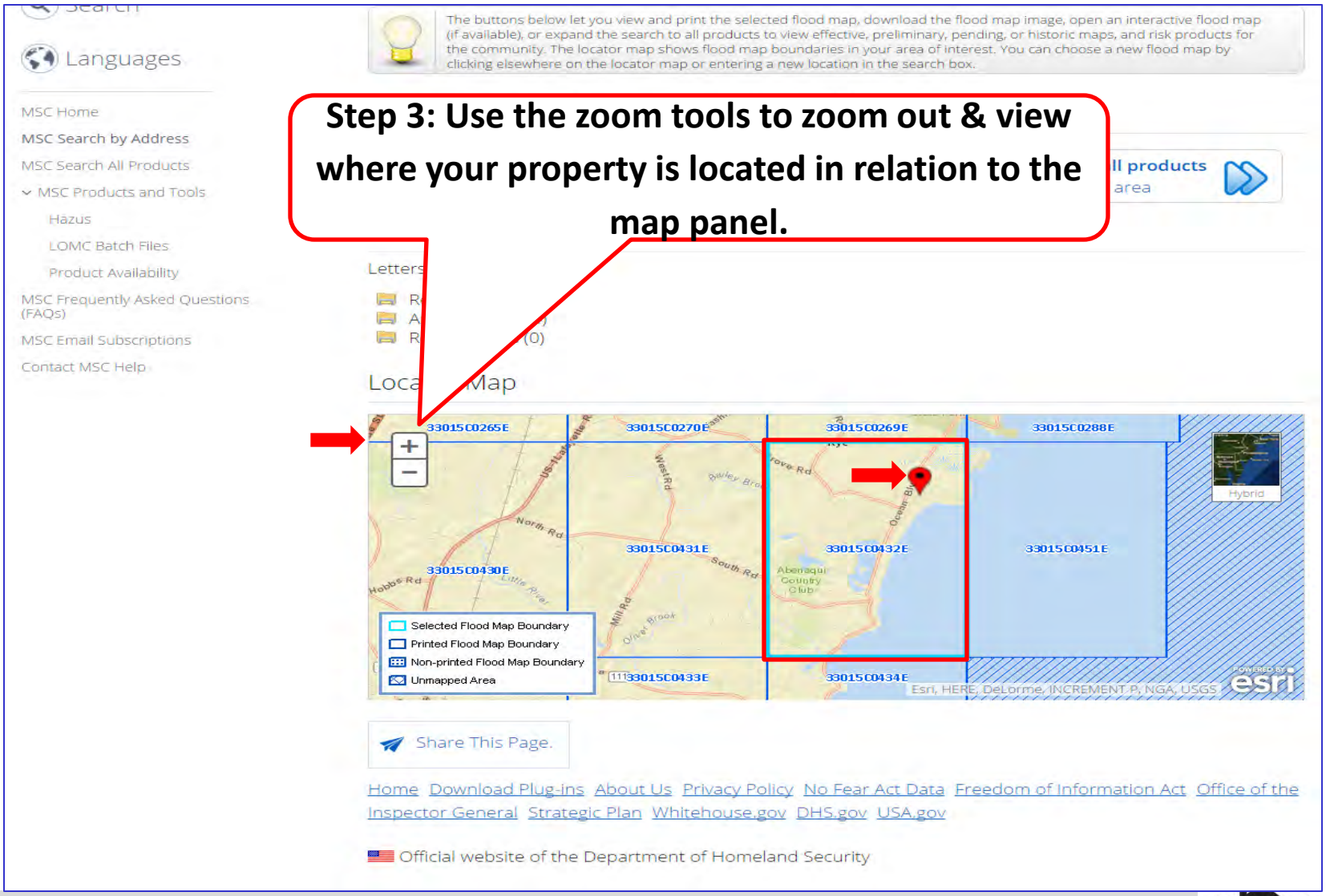
Announcements

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

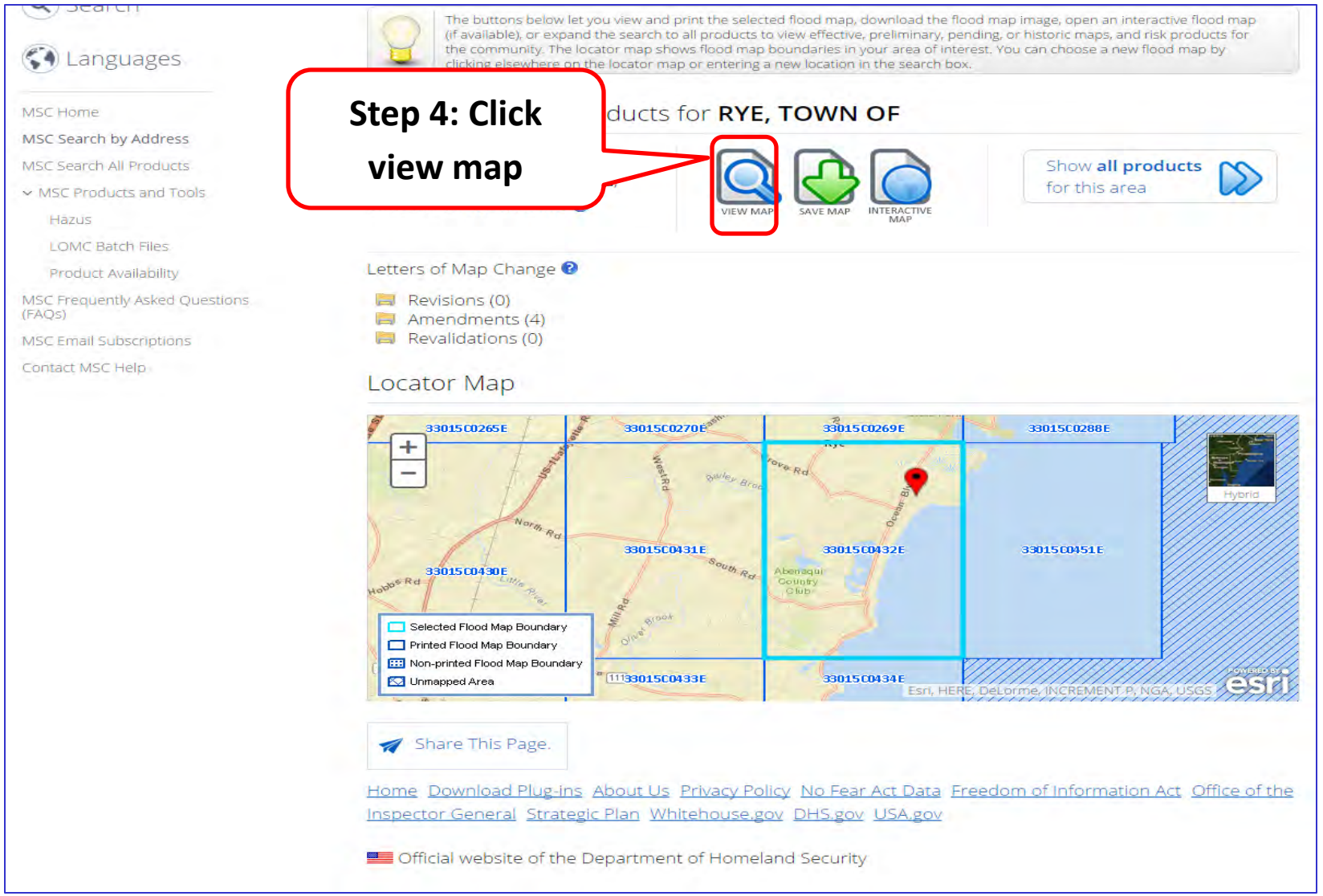
Browser Configuration — To access all functionality of the MSC, Internet Explorer users should confirm Compatibility View is not enabled. In addition, users of Internet Explorer 9 and 10 should first take the following steps before using the MSC:

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

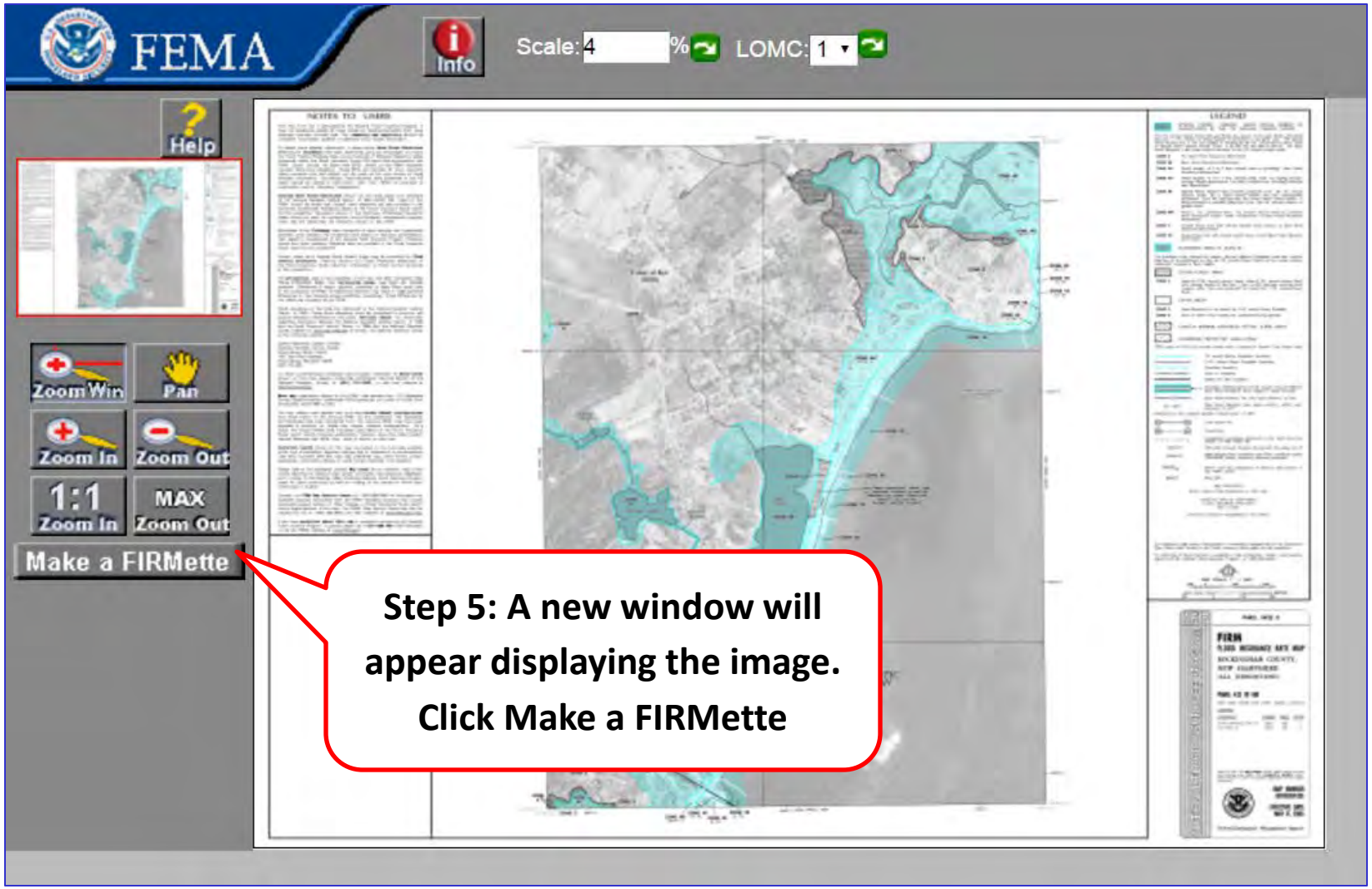
FEMA Map Service Center



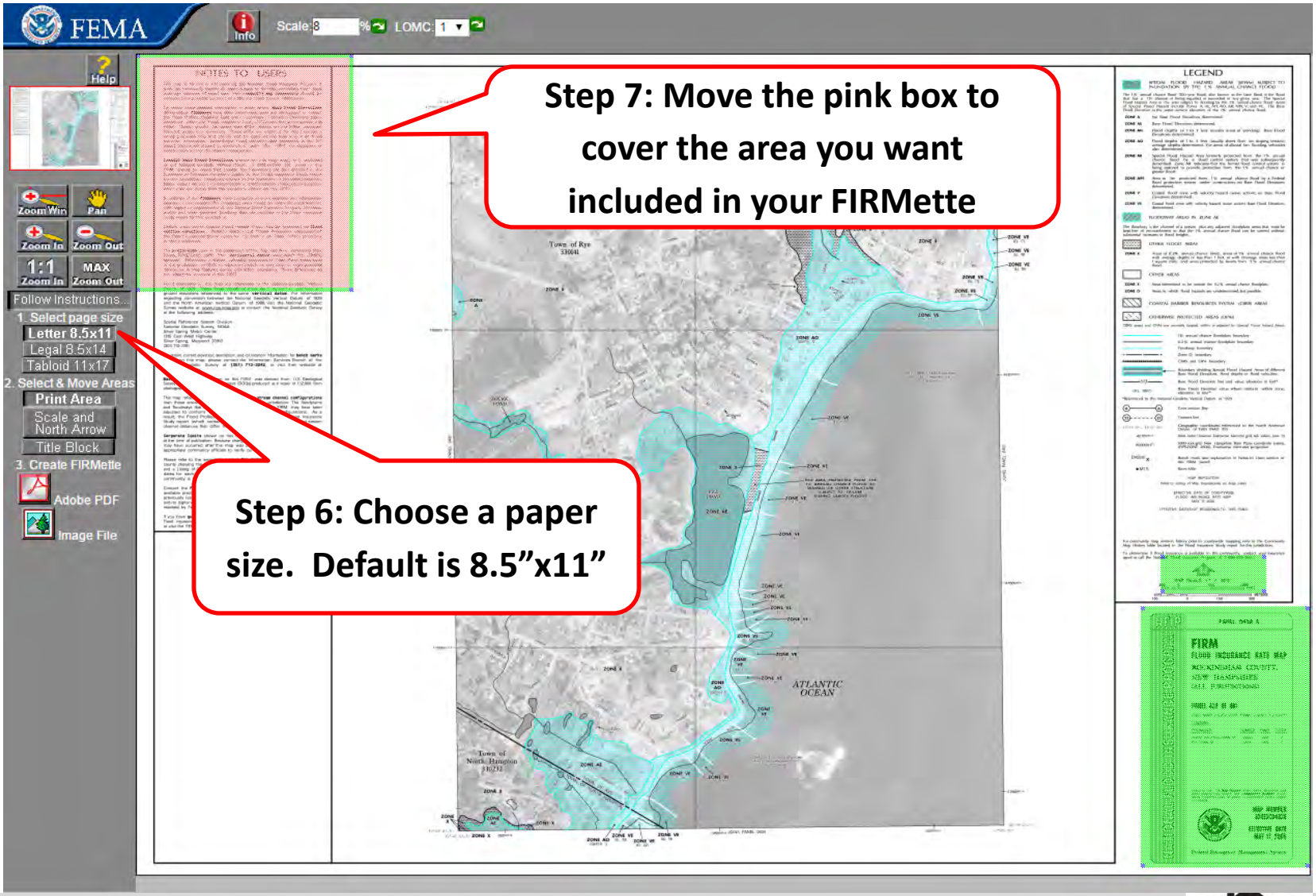
FEMA Map Service Center



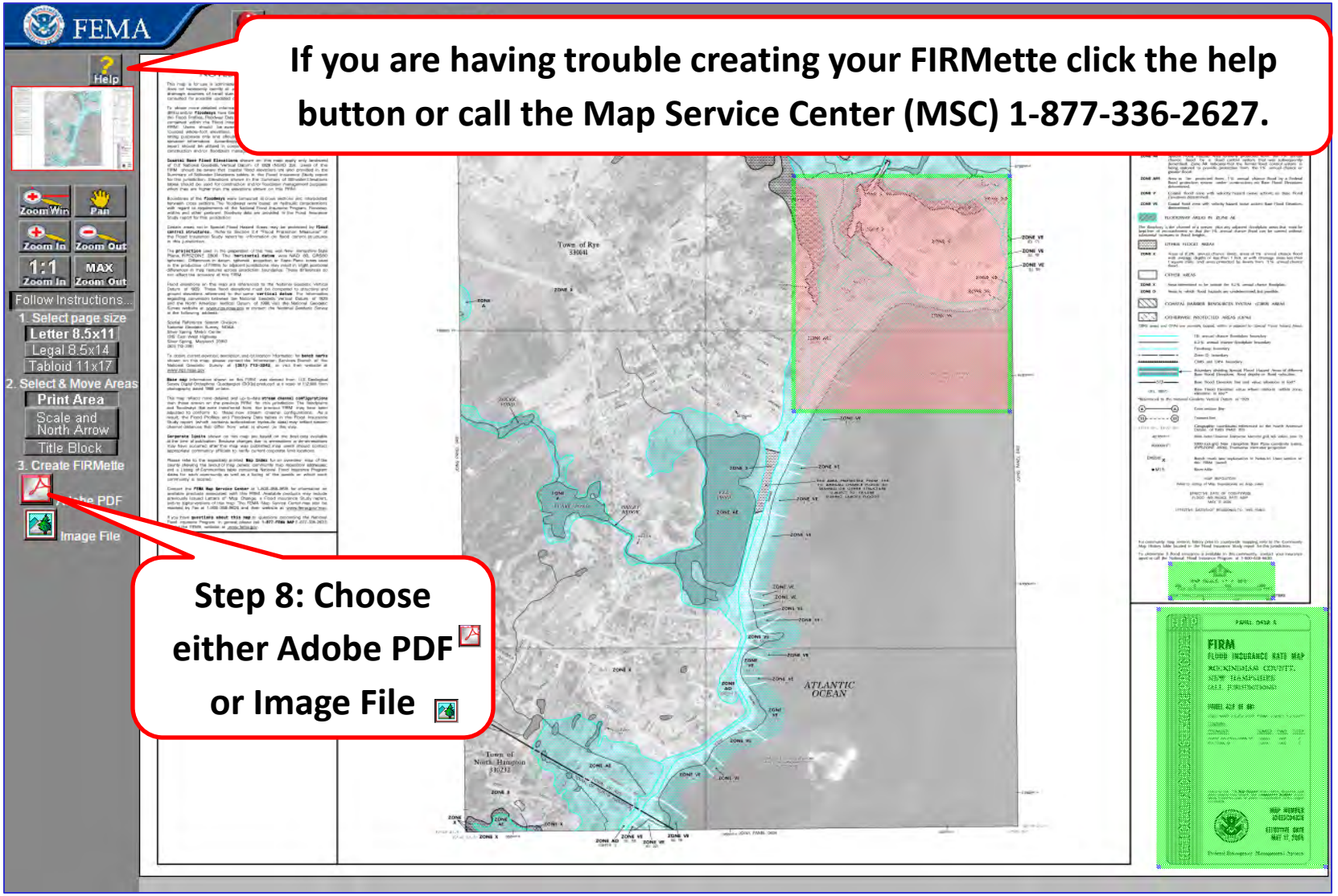
FEMA Map Service Center



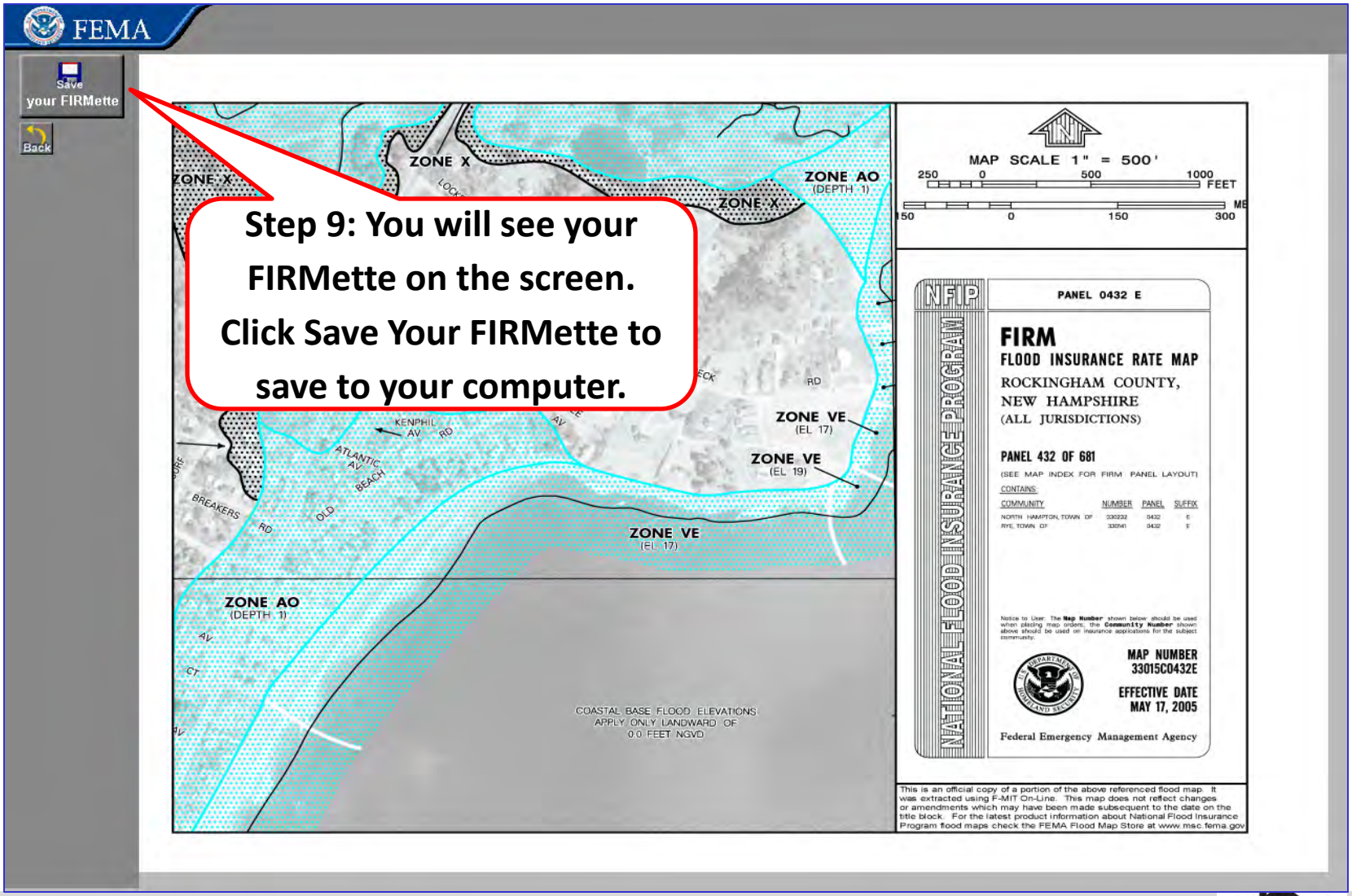
FEMA Map Service Center



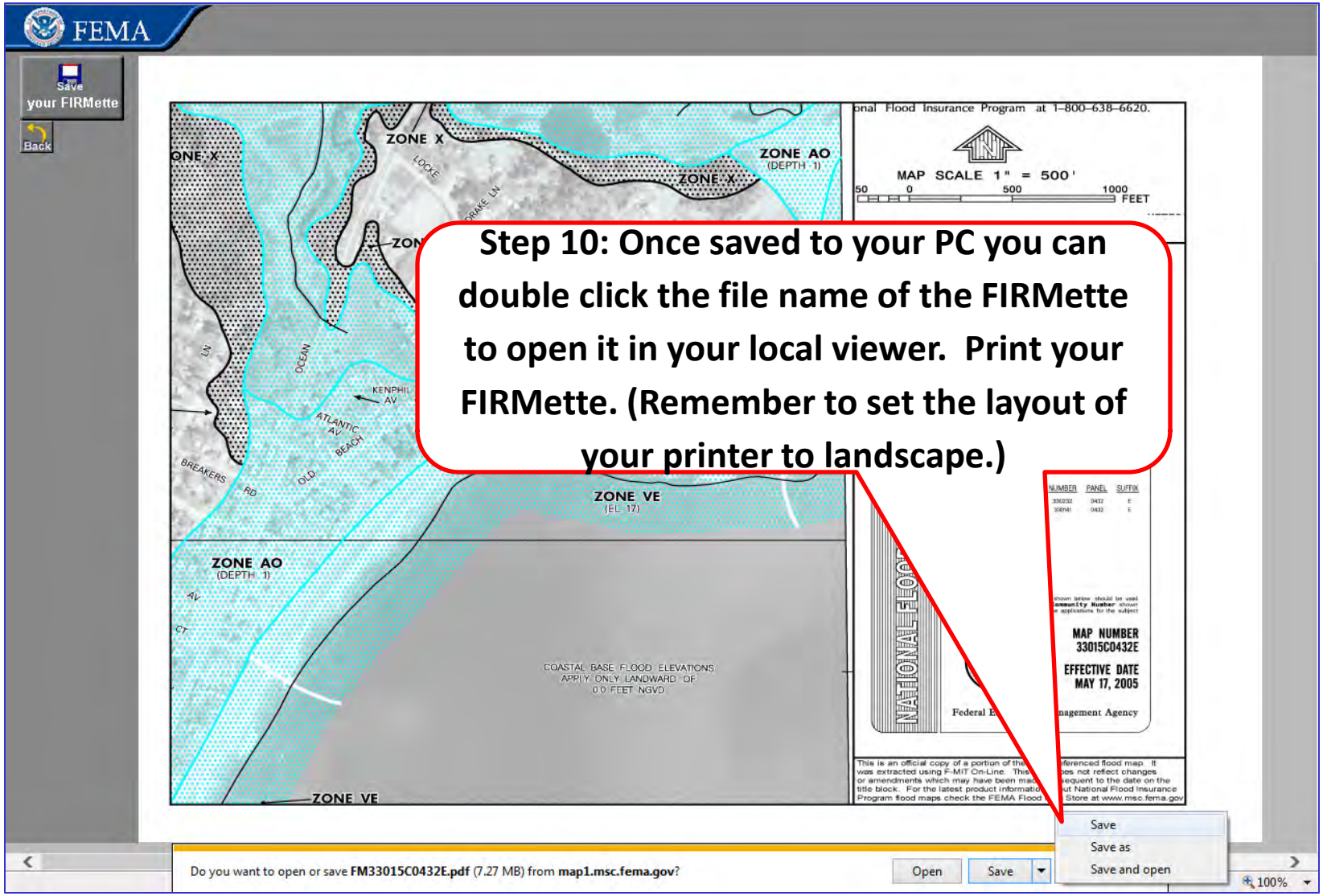
FEMA Map Service Center



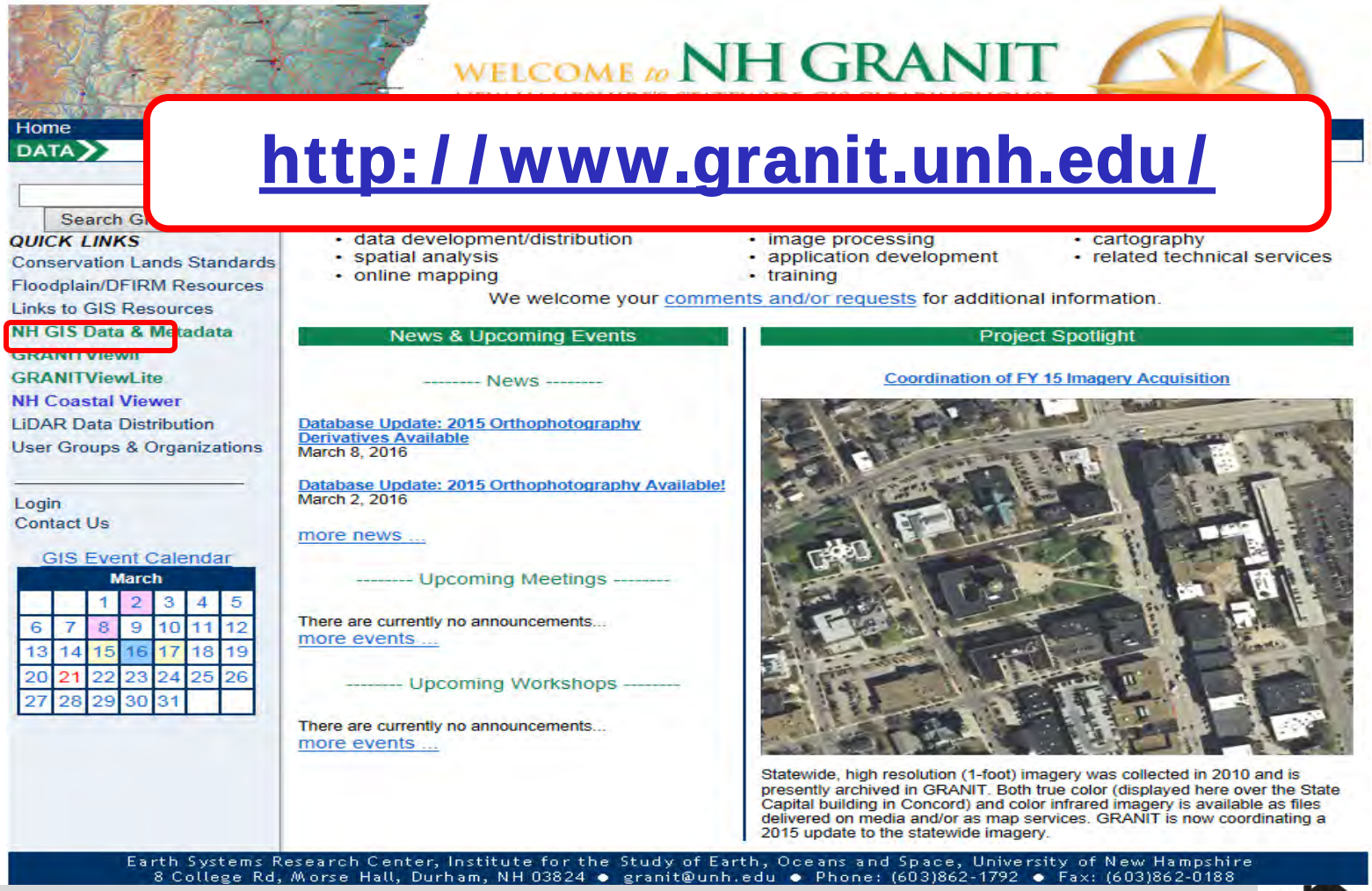
FEMA Map Service Center

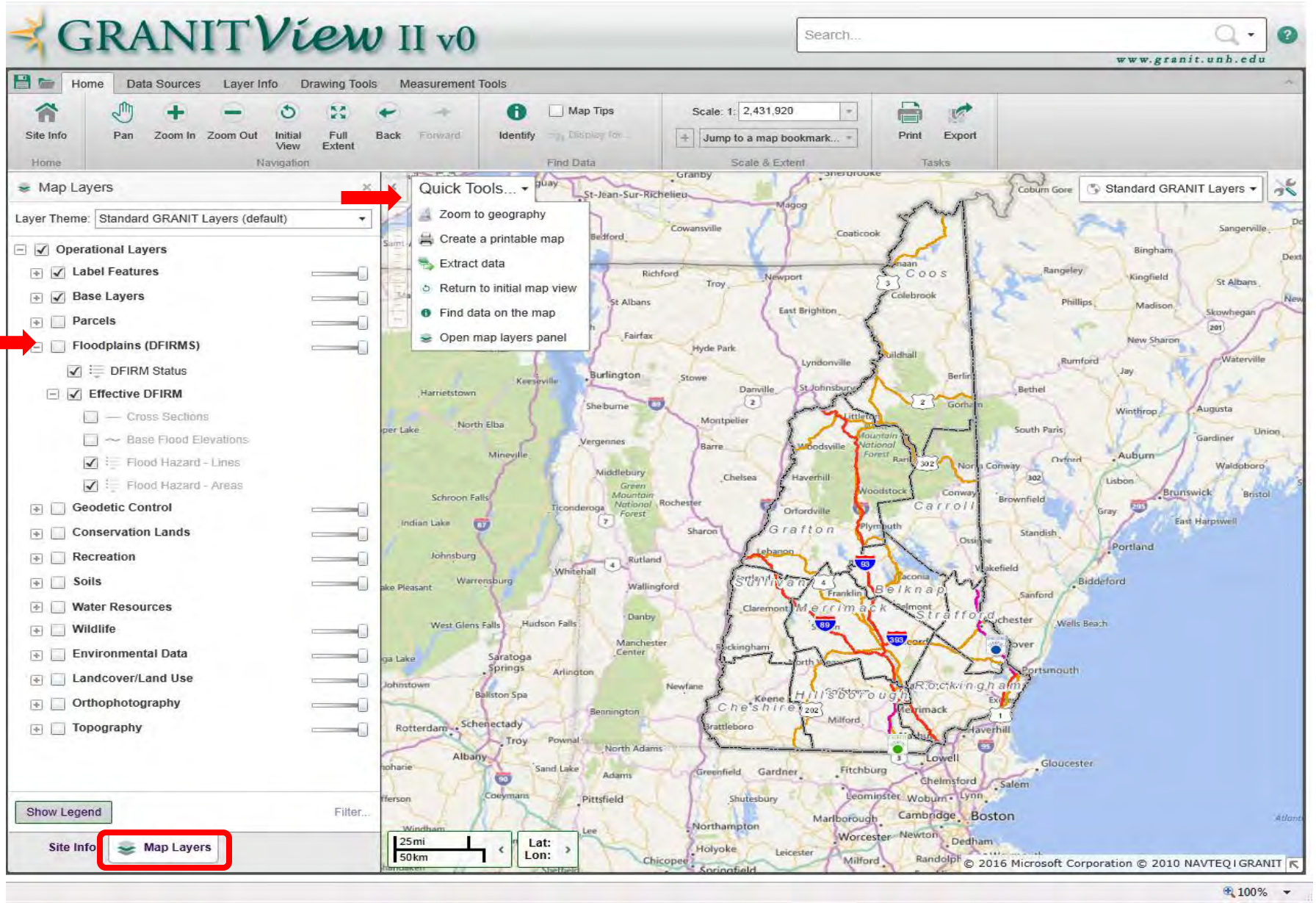


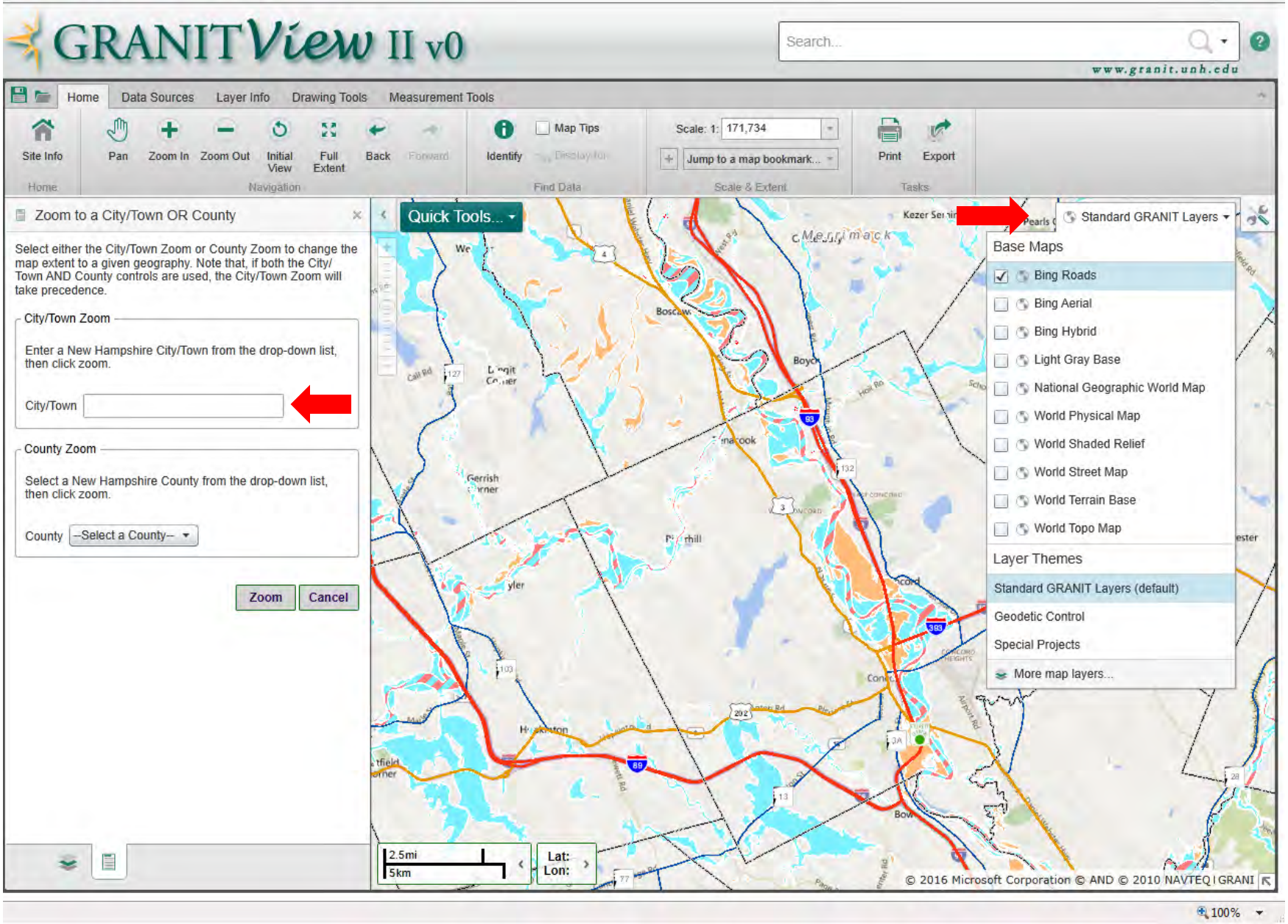
FEMA Map Service Center

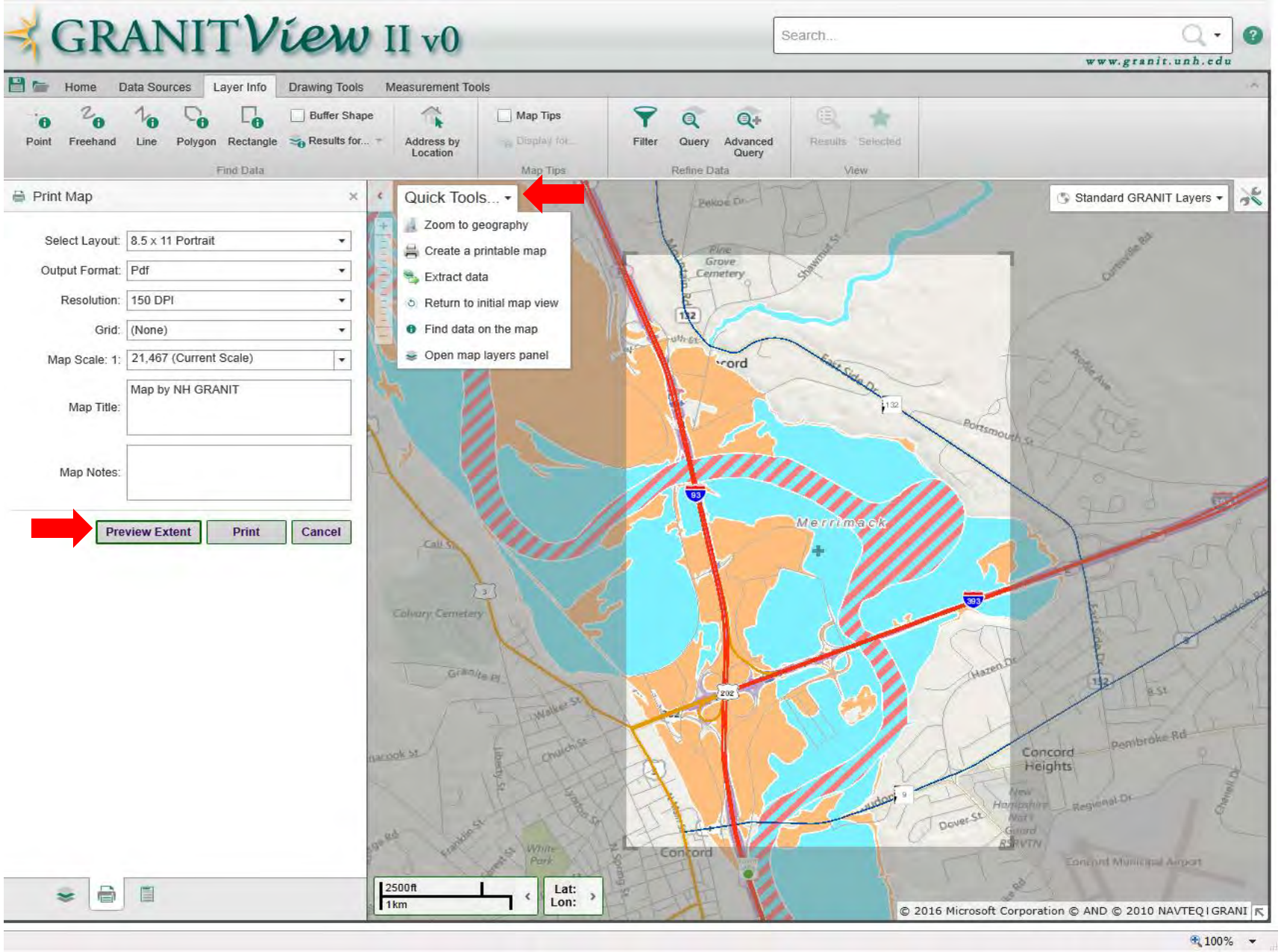


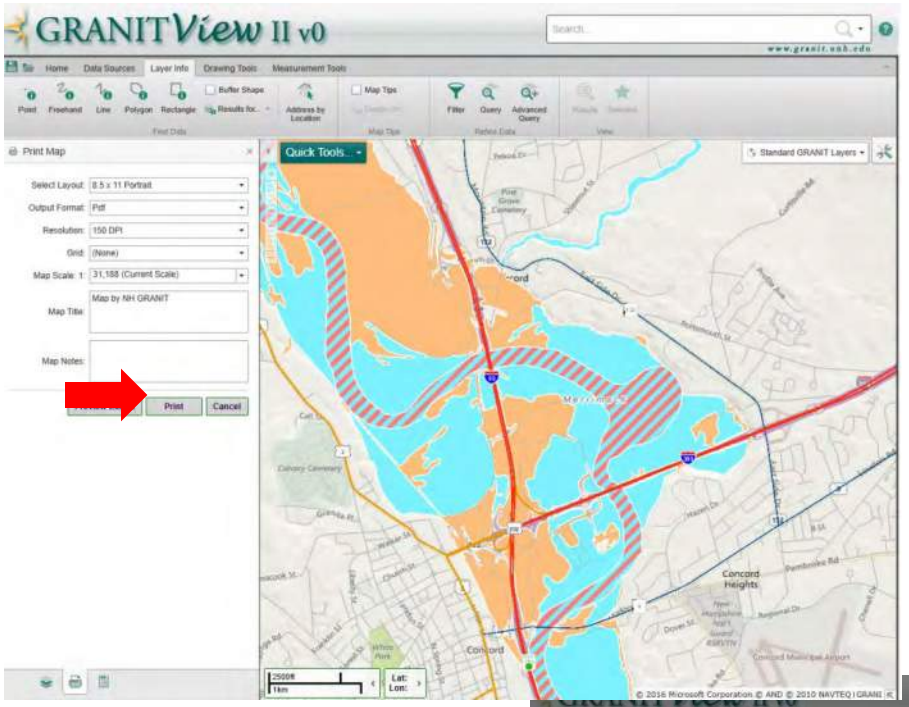
NH GRANIT
GRANITViewII

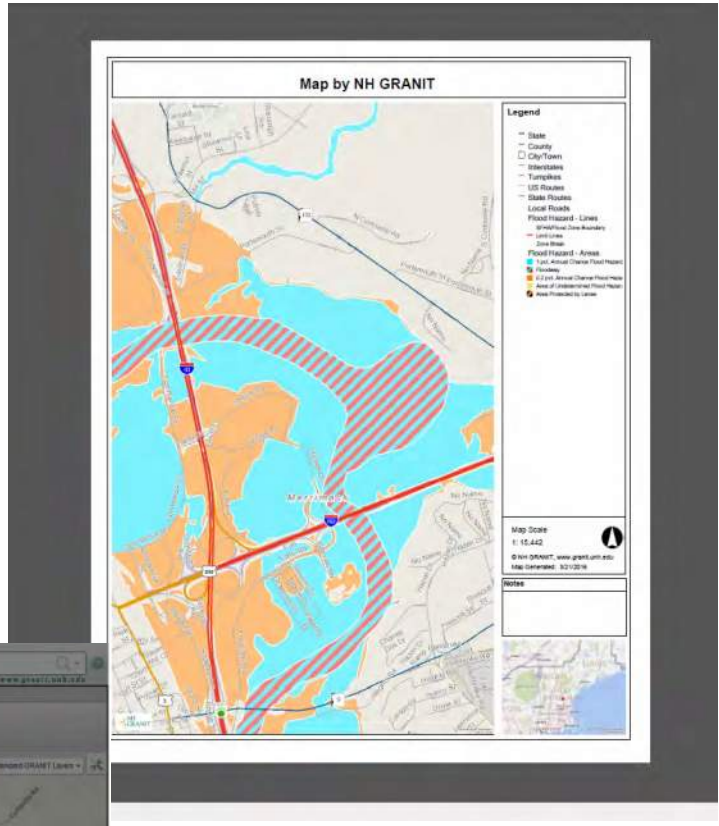


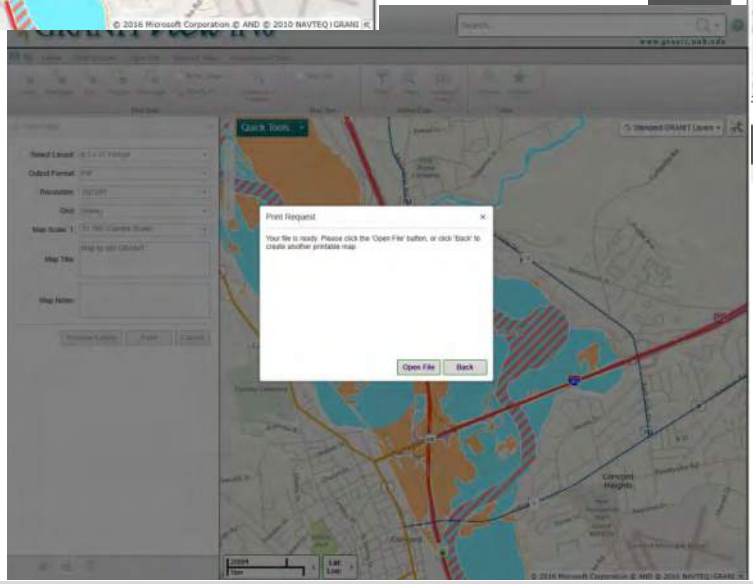

GRANITView II v0
Search...
www.granit.unh.edu
Home
Data Sources
Layer Info
Drawing Tools
Measurement Tools
Site Info
Pan
Zoom In
Zoom Out
Initial View
Full Extent
Back
Forward
Identify
Map Tips
Display for...
Scale: 1: 2,431,920
Jump to a map bookmark...
Print
Export
Home
Navigation
Find Data
Scale & 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
Standard GRANIT Layers
25mi
50km
Lat:
Lon:
© 2016 Microsoft Corporation © 2010 NAVTEQ | GRANIT
100%


GRANITView II v0
Search...
www.granit.unh.edu
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
Display Info
Scale: 1: 171,734
Jump to a map bookmark...
Print
Export
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
--Select a County--
Zoom
Cancel
Quick Tools...
Standard GRANIT Layers
Base Maps
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...
2.5mi
5km
Lat:
Lon:
© 2016 Microsoft Corporation © AND © 2010 NAVTEQ | GRANI
100%


GRANITView II v0
Search...
www.granit.unh.edu
Home
Data Sources
Layer Info
Drawing Tools
Measurement Tools
Point
Freehand
Line
Polygon
Rectangle
Buffer Shape
Results for...
Address by Location
Find Data
Map Tips
Display for...
Map Tips
Filter
Query
Advanced Query
Refine Data
Results
Selected
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:
Preview Extent
Print
Cancel
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
Standard GRANIT Layers
Merrimack
Concord
Concord Heights
Pembroke Rd
Portsmouth St
Pine Grove Cemetery
Calvary Cemetery
2500ft
1km
Lat:
Lon:
© 2016 Microsoft Corporation © AND © 2010 NAVTEQ | GRANI
100%


GRANITView II v0
Print Map
Select Layout: 8.5 x 11 Portrait
Output Format: Pdf
Resolution: 150 DPI
Grid: (None)
Map Scale: 1: 31,188 (Current Scale)
Map Title: Map by NH GRANIT
Map Notes:
Print
Cancel
Quick Tools
Standard GRANIT Layers
Concord Heights
Concord


Map by NH GRANIT
Legend
Map Scale

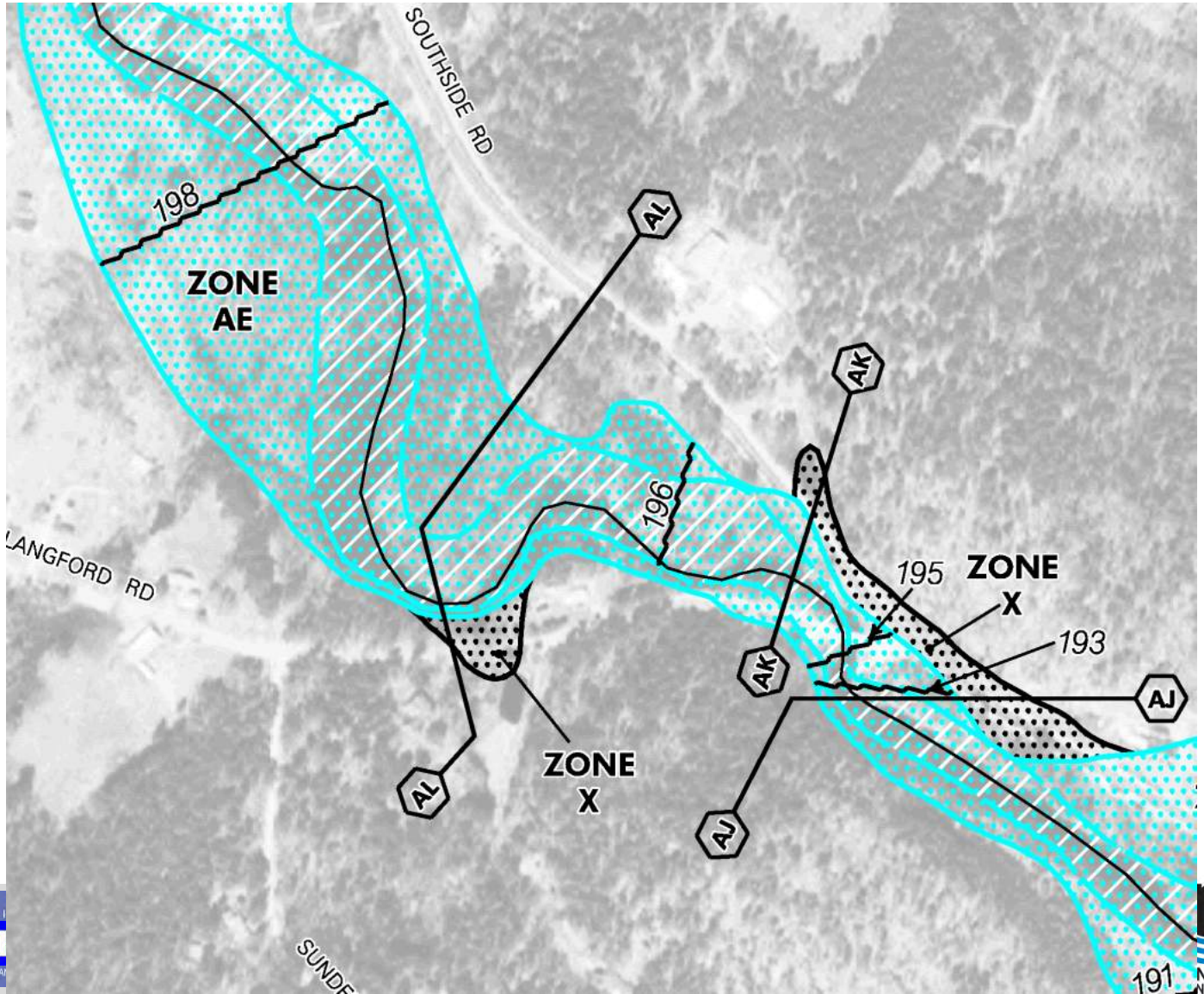

Print Request
Your file is ready. Please click the 'Open File' button, or click 'Back' to create another printable map.
Open File
Back
Quick Tools

Where to Find BFEs

NEW HAMPSHIRE
OEP
OFFICE OF ENERGY AND PLANNING

NATIONAL FLOOD
INSURANCE PROGRAM

Zone AE - Riverine



FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NGVD)			
CROSS SECTION	DISTANCE[1]	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
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	195.8	196.8	1.0
AL	98,230	177	1,490	2.93	196.4	196.4	197.4	1.0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	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

[1]Feet above county boundary

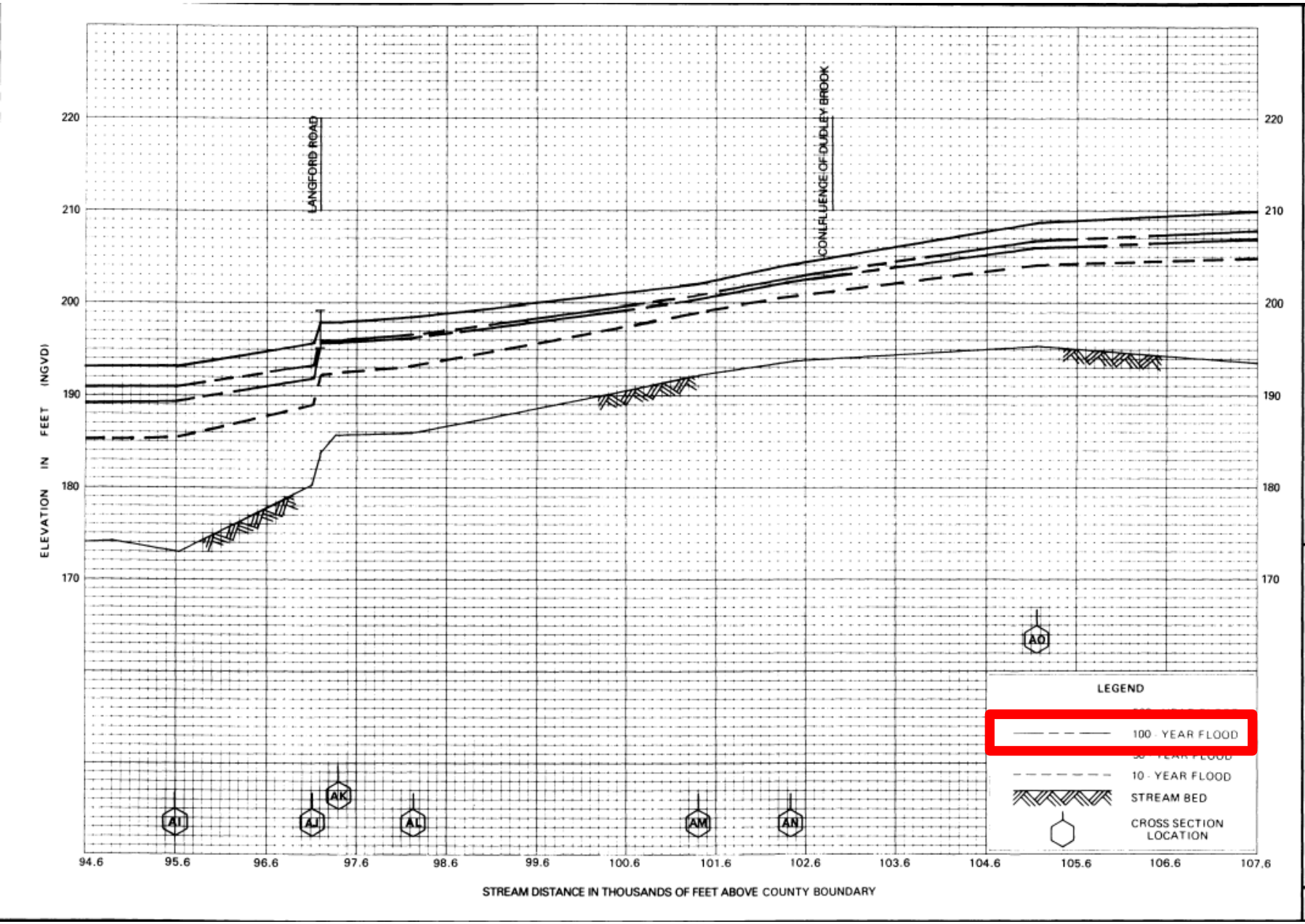
TABLE 9

FEDERAL EMERGENCY MANAGEMENT AGENCY

ROCKINGHAM COUNTY, NH
(ALL JURISDICTIONS)

FLOODWAY DATA

LAMPREY RIVER



FLOOD PROFILES

LAMPREY RIVER

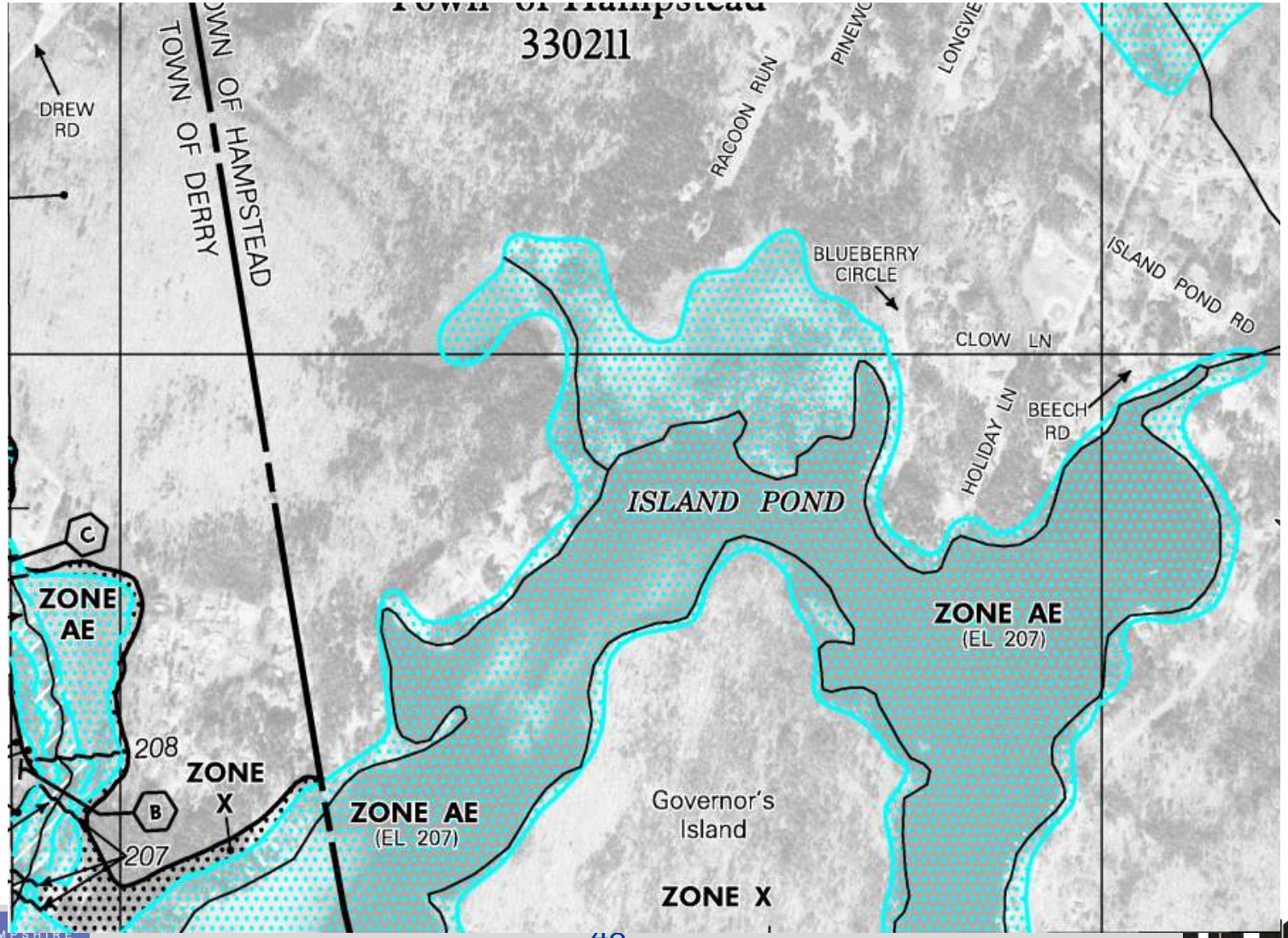
FEDERAL EMERGENCY MANAGEMENT AGENCY

ROCKINGHAM COUNTY, NH

(ALL JURISDICTIONS)

87P

Zone AE – Lakes, Ponds, Ocean



NEW HAMPSHIRE OEP OFFICE OF ENERGY AND PLANNING

NATIONAL FLOOD INSURANCE PROGRAM

TABLE 5 - SUMMARY OF STILLWATER ELEVATIONS

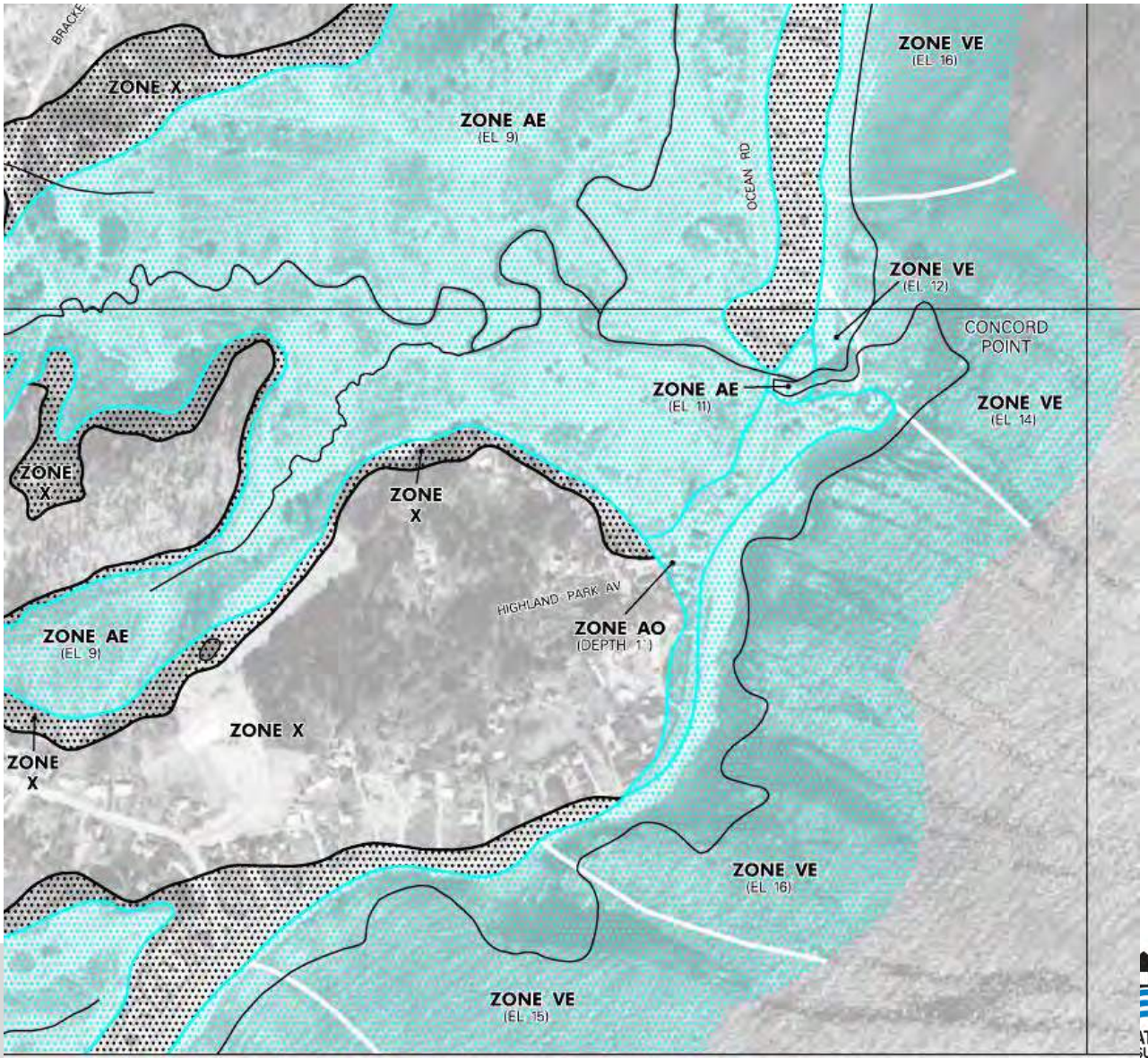
FLOODING SOURCE AND LOCATION	ELEVATION (feet NGVD[1]) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
ADAMS POND				
At Derry	326.0	327.1	327.3	328.1
ATLANTIC OCEAN				
Entire shoreline within North Hampton and Rye	8.3	8.9	9.2	9.8
Entire shoreline within Hampton, Hampton Falls, New Castle, Seabrook, and Seabrook Beach	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

[1]National Geodetic Vertical Datum of 1929
*Data Not Available

NEW HAMPSHIRE OEP OFFICE OF ENERGY AND PLANNING

NATIONAL FLOOD INSURANCE PROGRAM

Coastal Areas



NEW HAMPSHIRE OEP OFFICE OF ENERGY AND PLANNING

NATIONAL FLOOD INSURANCE PROGRAM

TABLE 5 - SUMMARY OF STILLWATER ELEVATIONS

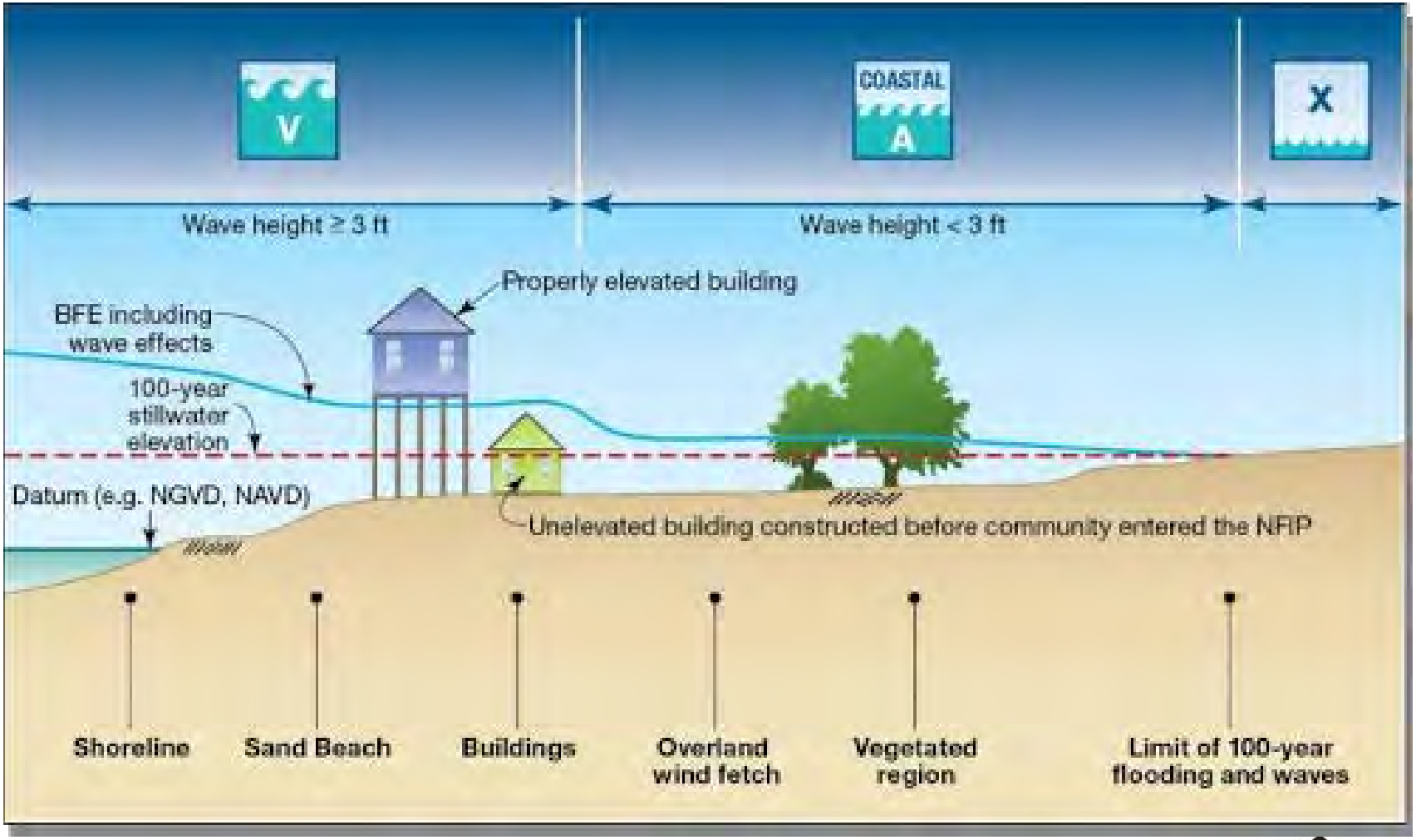
FLOODING SOURCE AND LOCATION	ELEVATION (feet NGVD[1]) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
ADAMS POND				
At Derry	326.0	327.1	327.3	328.1
ATLANTIC OCEAN				
Entire shoreline within North Hampton and Rye	8.3	8.9	9.2	9.8
Entire shoreline within Hampton, Hampton Falls, New Castle, Seabrook, and Seabrook Beach	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

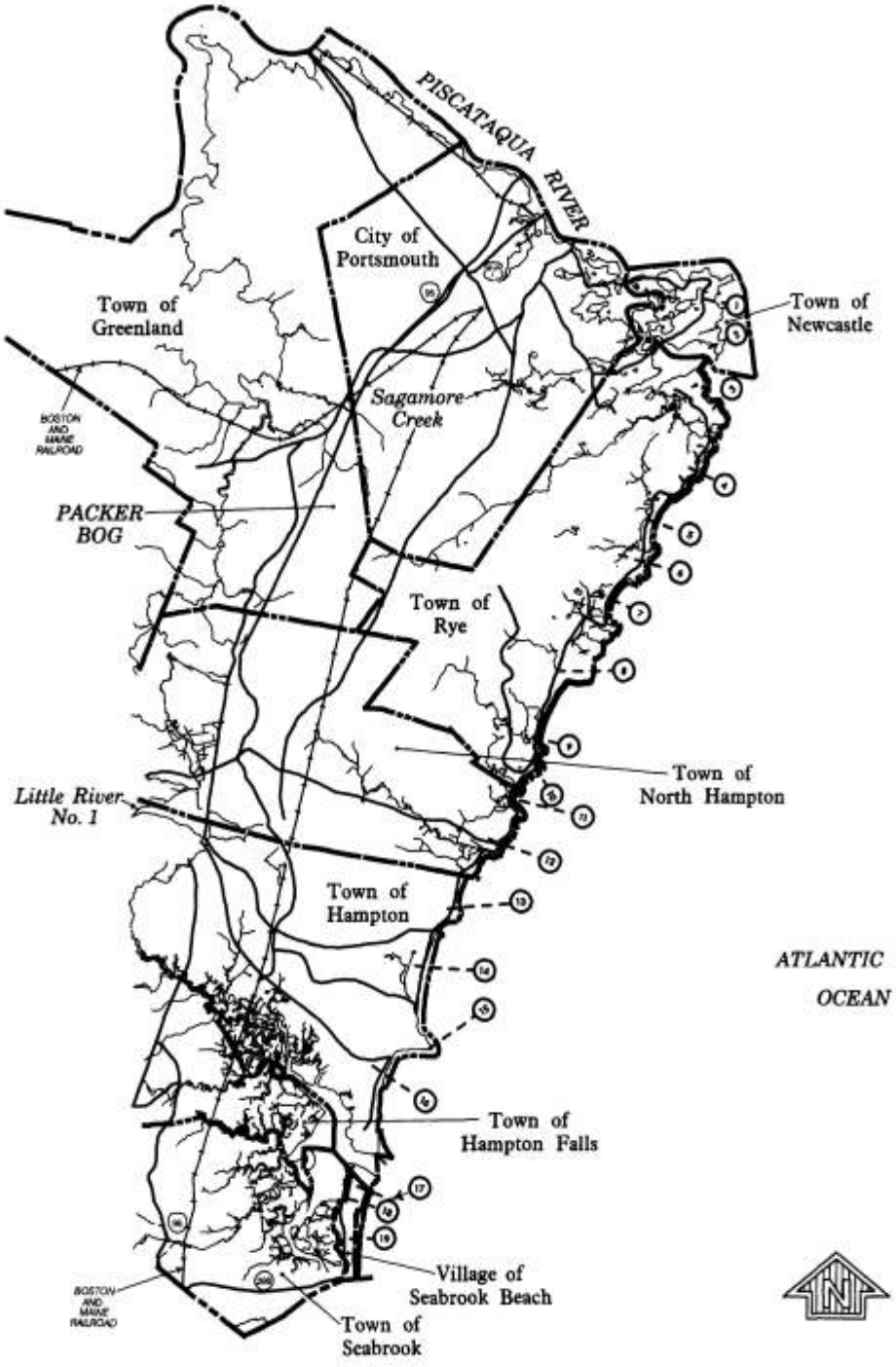
[1]National Geodetic Vertical Datum of 1929
*Data Not Available

NEW HAMPSHIRE OEP OFFICE OF ENERGY AND PLANNING

NATIONAL FLOOD INSURANCE PROGRAM

Transects


V
COASTAL
A
X
Wave height ≥ 3 ft
Wave height < 3 ft
Properly elevated building
BFE including wave effects
100-year stillwater elevation
Datum (e.g. NGVD, NAVD)
Unelevated building constructed before community entered the NFIP
Shoreline
Sand Beach
Buildings
Overland wind fetch
Vegetated region
Limit of 100-year flooding and waves



NEW HAMPSHIRE OEP OFFICE OF ENERGY AND PLANNING

NATIONAL FLOOD INSURANCE PROGRAM

Zone AE

TABLE 7 – TRANSECT DATA

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

[1]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

NEW HAMPSHIRE
OEP
OFFICE OF ENERGY AND PLANNING

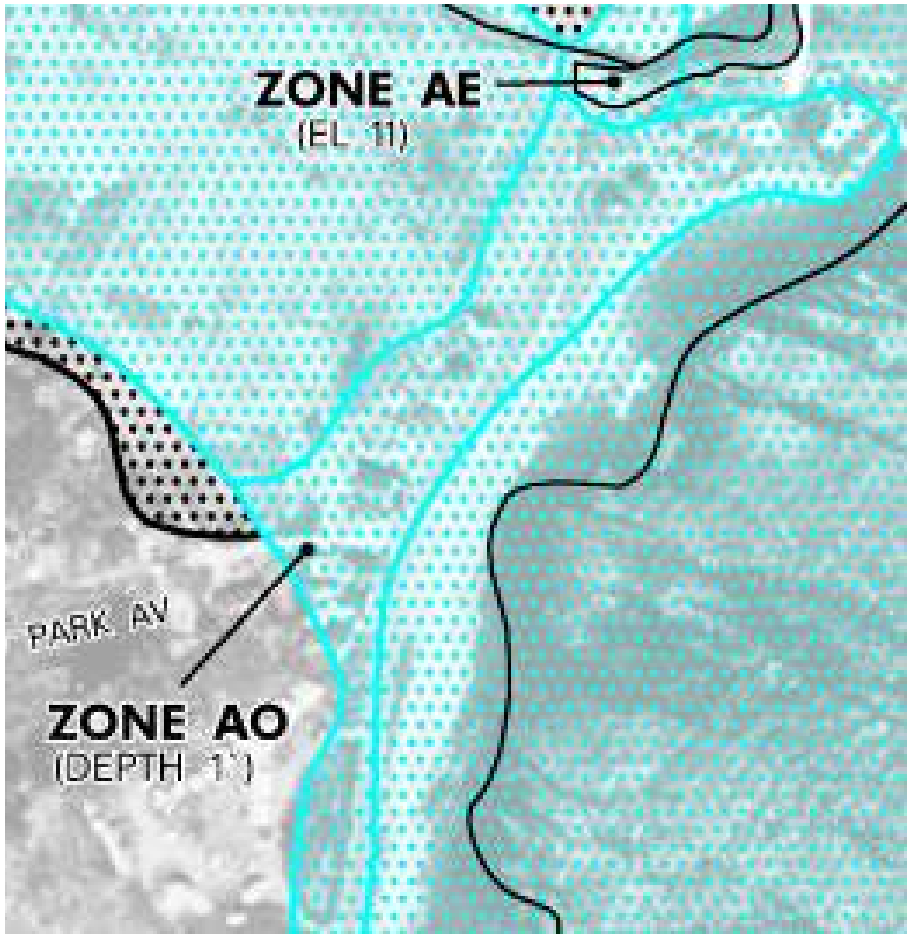
NATIONAL FLOOD
INSURANCE PROGRAM

Zone AO

Highest Adjacent Grade

+ Depth Number on FIRM

Flood Elevation



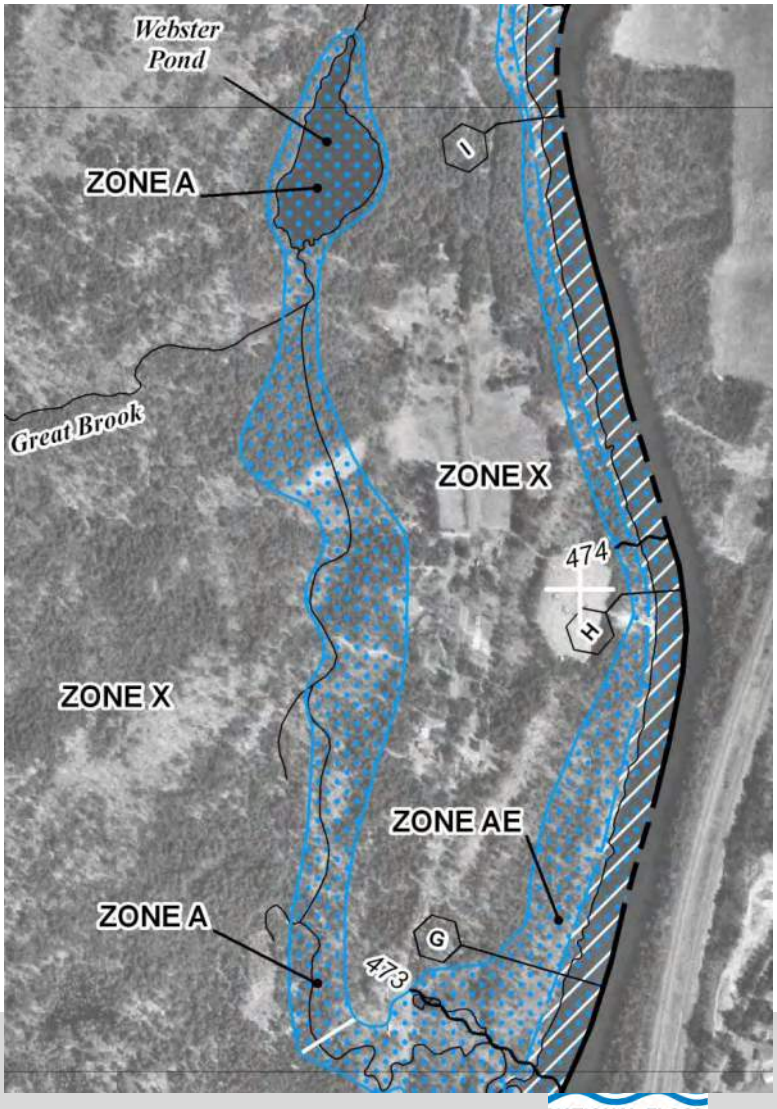
Determining the BFE in Zone A

NEW HAMPSHIRE
OEP
OFFICE OF ENERGY AND PLANNING

NATIONAL FLOOD
INSURANCE PROGRAM

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

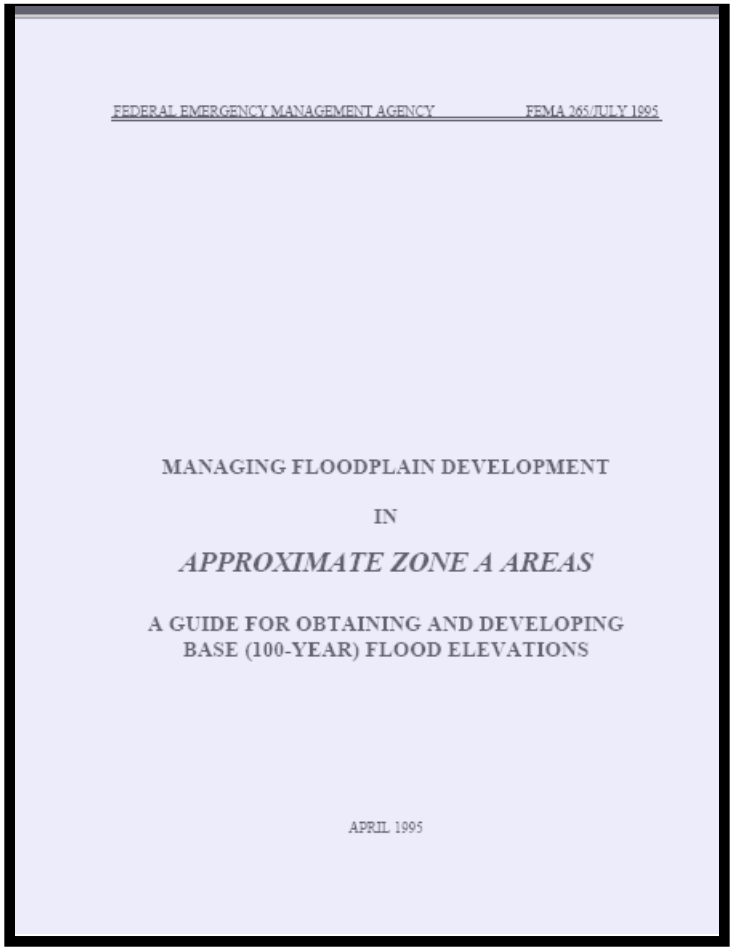


NEW HAMPSHIRE OEP OFFICE OF ENERGY AND PLANNING

NATIONAL FLOOD INSURANCE PROGRAM

FEMA Guidance Document

Managing Floodplain Development in Approximate Zone A Areas



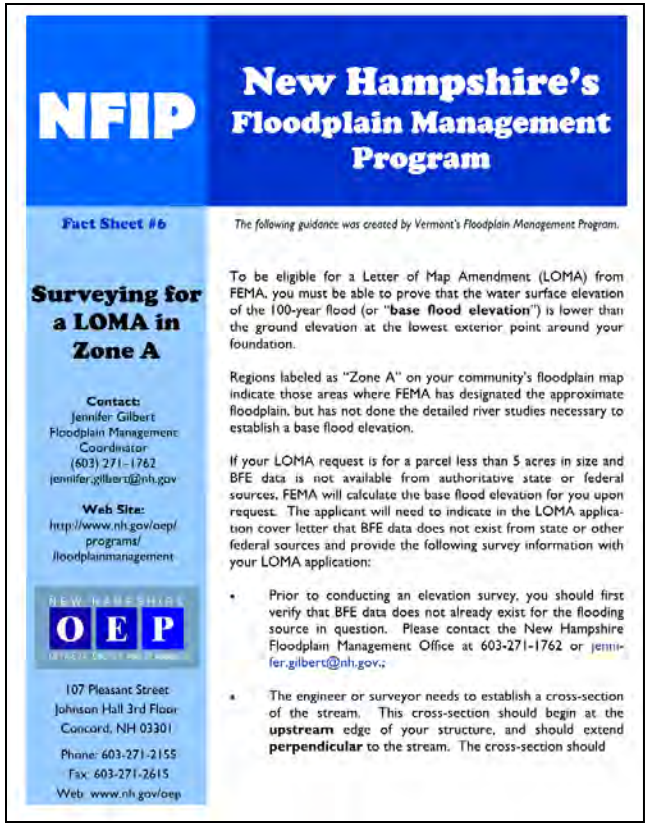
First Step

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/oep/programs/floodplainmanagement

NEW HAMPSHIRE OEP

107 Pleasant Street
Johnson Hall 3rd Floor
Concord, NH 03301
Phone: 603-271-2155
Fax: 603-271-2615
Web: www.nh.gov/oep

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.

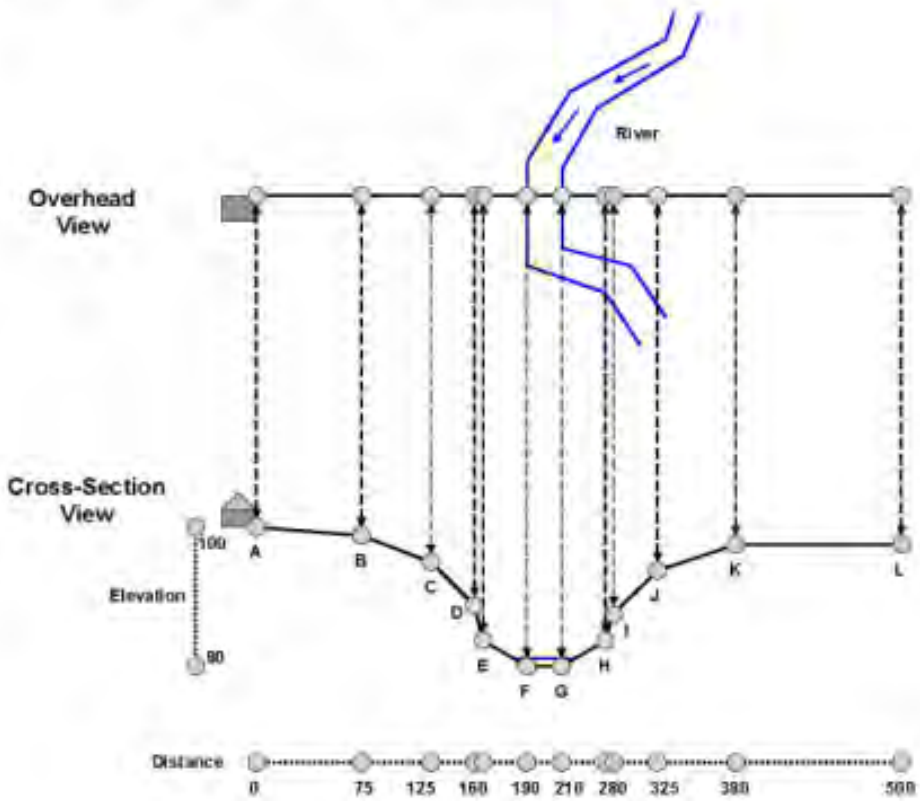
Regions labeled as "Zone A" on your community's floodplain map indicate those areas where FEMA has designated the approximate floodplain, but has not done the detailed river studies necessary to establish a base flood elevation.

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.;
- 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	160
E	83	165
F	80	190
G	80	210
H	83	270
I	85	280
J	95	325
K	99	380
L	100	500

NEW HAMPSHIRE OEP OFFICE OF ENERGY AND PLANNING

NATIONAL FLOOD INSURANCE PROGRAM

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