



FEMA

Physical Map Revisions as a Result of Updated Coastal Flood Hazards

RiskMAP

Increasing Resilience Together

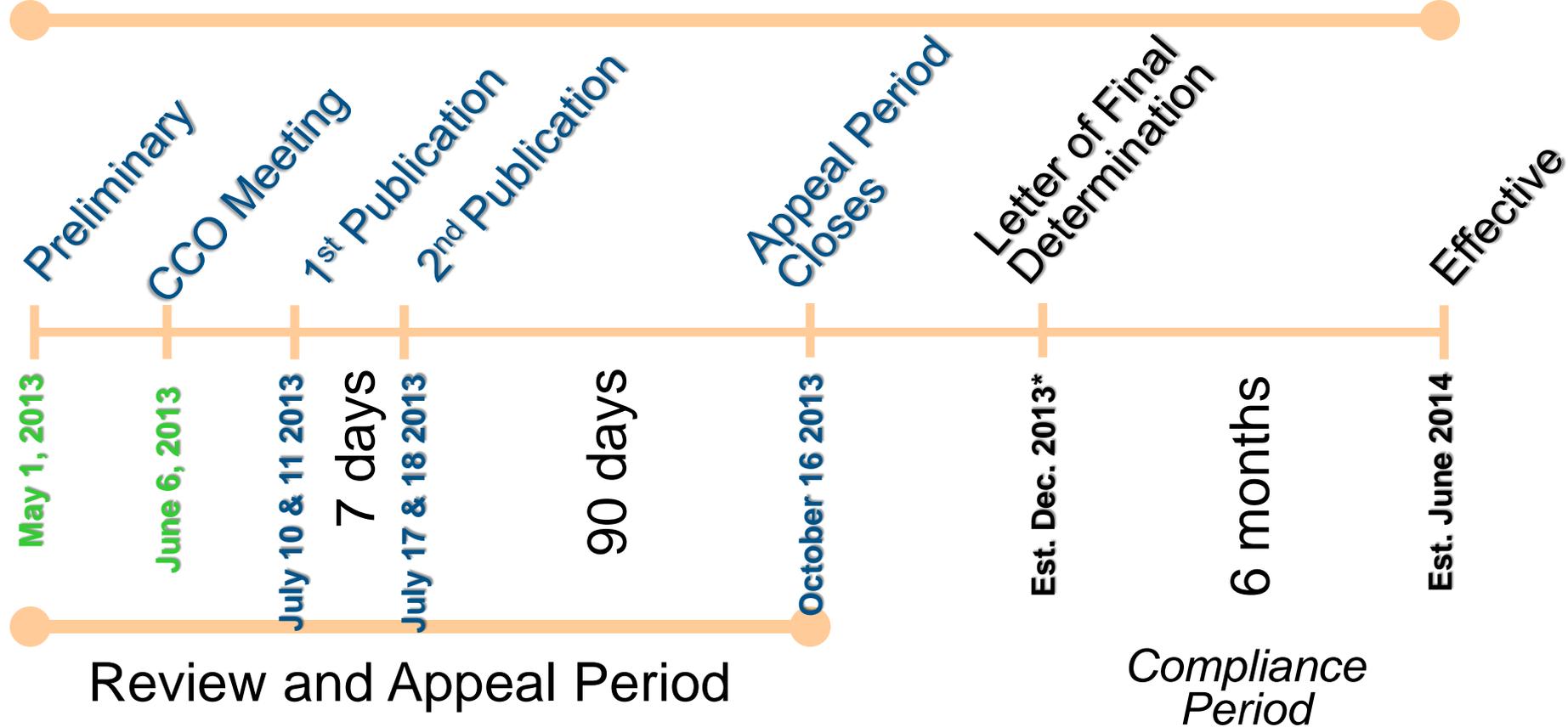


Agenda

- **Coastal Flood Hazard Analysis Recap**
- **Public Review and Appeal Period**
- **Effect on Existing Letters of Map Change**
- **Insurance**
- **Questions**

Post-Preliminary Phase Timeline

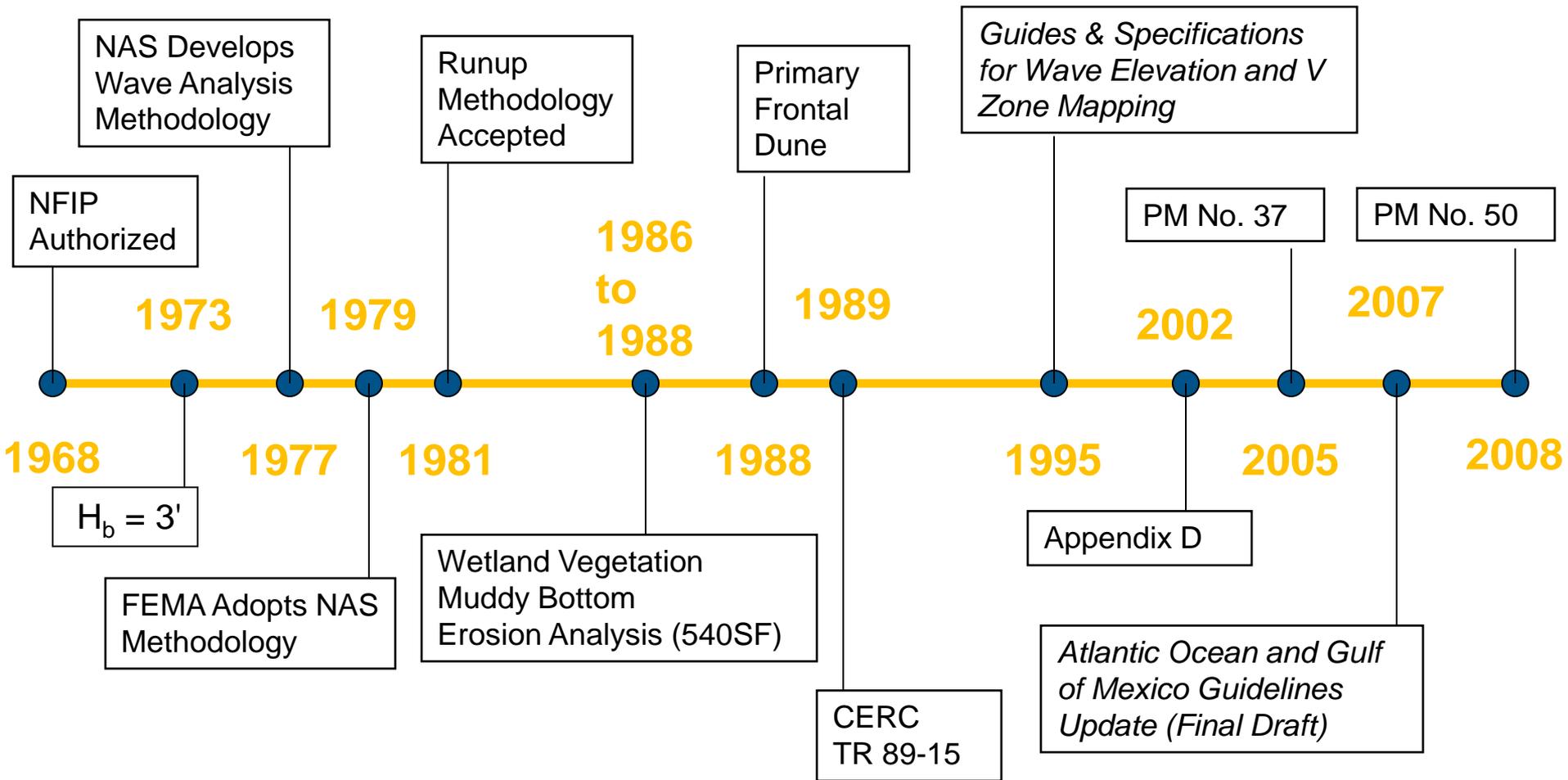
Typical Post Preliminary Phase takes approximately 14 months to complete



**LFD scheduled in December due to the Town Meeting requirement*

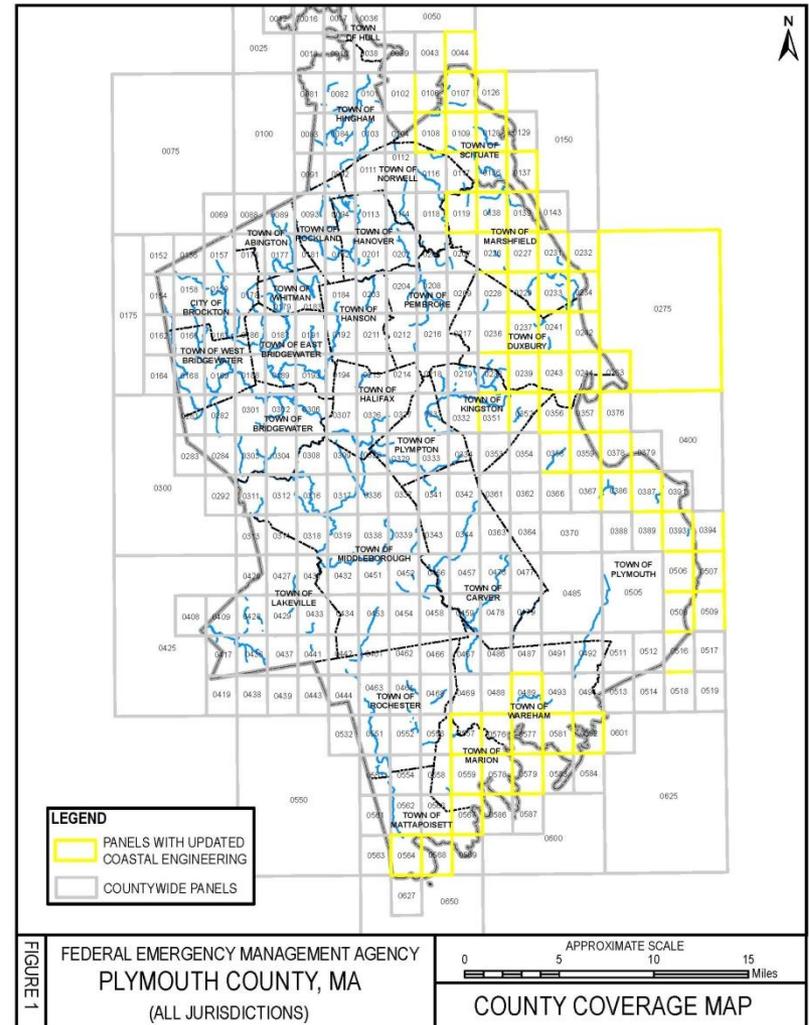
COASTAL FLOOD HAZARD ANALYSIS RECAP

History of Coastal Floodplain Mapping



Study Update Methodologies Levels of Study

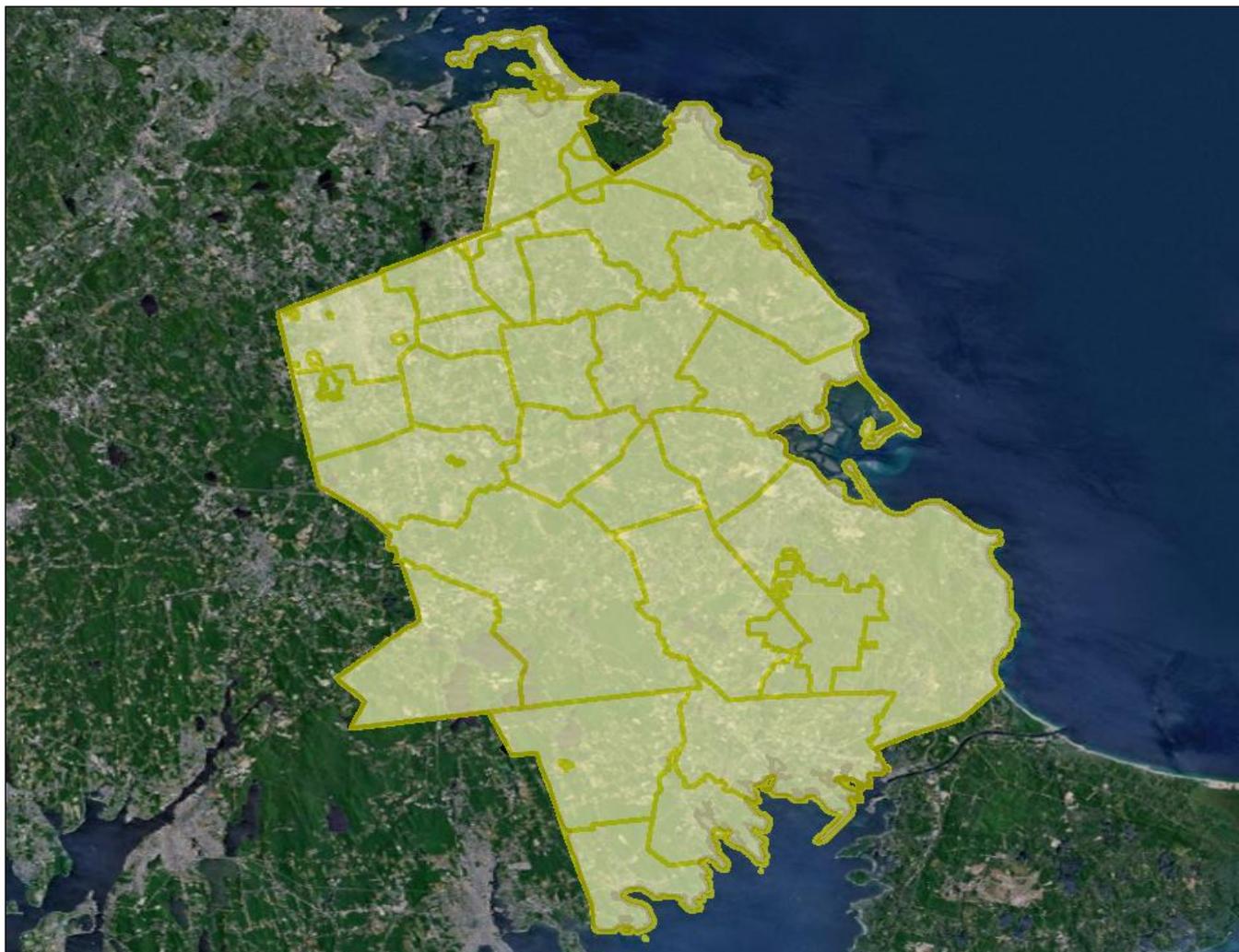
- Coastal Analysis
- Physical Map Revision (PMR)
- Area studied:
Flooding from Atlantic Ocean



Data Used for Coastal Analysis

- **Elevation data from Northeast LiDAR Mission collected between 2010 – 2011 (available from MassGIS)**
 - Flooding mapped using digital elevation model (DEM) derived from bare-earth LiDAR
 - LiDAR data is sufficiently accurate for development of 2-foot contours
- **Appendix D (2003) of the Guidelines and Specifications and Atlantic and Gulf Coast Update (2007)**

LiDAR Coverage



Detailed Study – Coastal Analysis

- **Coastal analysis - includes 4 main components:**
 - Stillwater Level (storm surge) + Wave Set-up
 - Overland Wave Propagation
 - Wave Runup and Overtopping
 - Primary Frontal Dune



Detailed Study – Stillwater Level (SWEL)

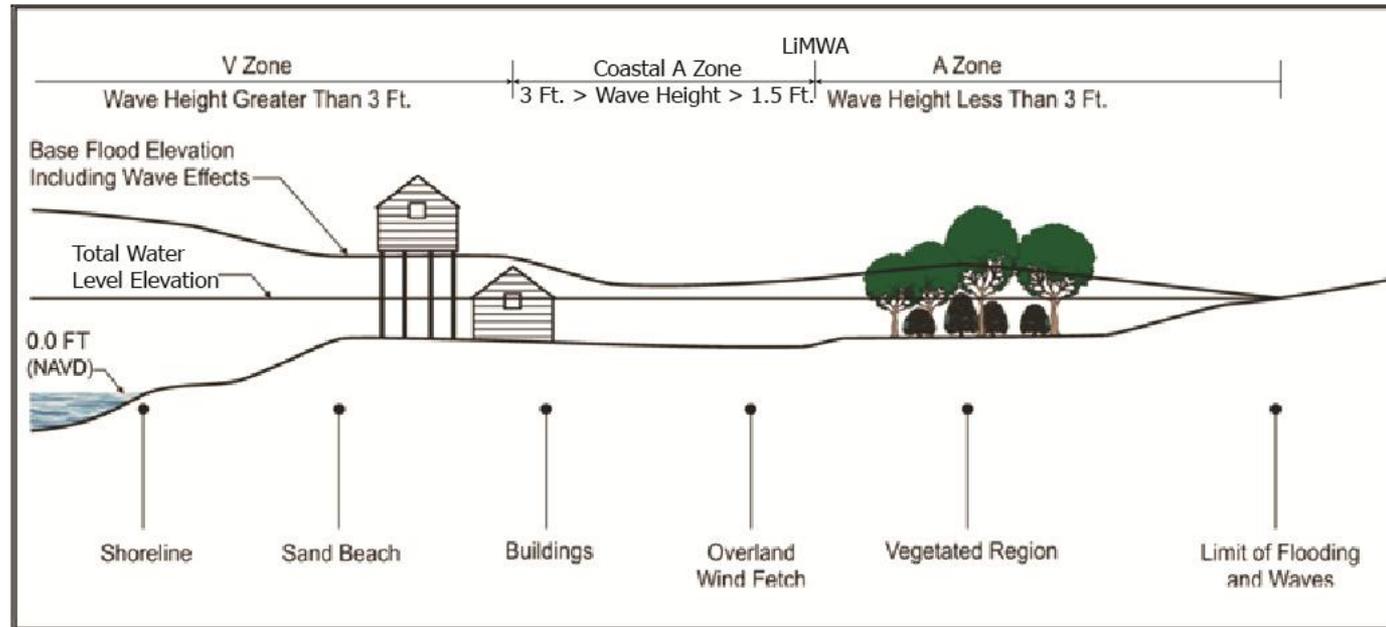
- Taken from Effective Flood Insurance Study report
- U.S. Army Corps of Engineers New England Tidal Flood Profiles, 1988

Flooding Source and Location	Elevations (NAVD 88)			
	10-percent-annual-chance	2-percent-annual-chance	1-percent-annual-chance	0.2-percent-annual-chance*
CAPE COD BAY				
Entire open coastline in the Town of Plymouth	8.3	9.1	9.5	10.3
KINGSTON BAY				
Entire shoreline within the Town of Plymouth	8.3	9.1	9.5	10.3
Entire shoreline within the Town of Kingston	8.6	9.5	9.8	10.7
MASSACHUSETTS BAY				
Entire open coast coastline within the Town of Duxbury	8.3	9.1	10.3	11.3
At Duxbury Marsh within the Town of Duxbury	8.3	9.1	9.5	10.3
At Duxbury Bay within the Town of Duxbury	8.3	9.1	9.5	10.3
At Kingston Bay within the Town of Duxbury	8.3	9.1	9.5	10.3
Entire open coast coastline within the Town of Scituate	8.3	9.1	10.3	11.3
Entire open coast coastline within the Town of Marshfield	8.3	9.1	10.46	11.6
Duxbury Marsh within the Town of Marshfield	8.3	9.1	9.5	10.3
Entire open coast coastline in the Town of Plymouth	8.3	9.1	9.5	10.3
PLYMOUTH BAY				
Entire open coast coastline in the Town of Plymouth	8.3	9.1	9.5	10.3
PLYMOUTH HARBOR				
Entire shoreline within harbor	8.3	9.1	9.5	10.3

Detailed Study – Wave Setup

- **Numerically determined at each coastal transect**
- **Determining factors**
 - Average nearshore slope [depth of wave breaking to SWEL]
 - Deepwater significant wave height
- **SWEL + Wave Setup = Total Water Level (TWL)**
- **Areas where floodplain is restrictive, wave setup is removed and SWEL is mapped**
 - Constrictions such as low bridges
 - Narrowing of the floodplain

Detailed Study – Overland Wave Propagation



Detailed Study – Runup and Overtopping



Detailed Study – Primary Frontal Dunes



FEMA Coastal Outreach Website

www.fema.gov/coastal-flood-risks

Home > Plan, Prepare & Mitigate > Protecting Homes > Flood Hazard Mapping > Coastal Flood Risks: Achieving Resilience Together

Follow FEMA:



→ Safer, Stronger, Protected Homes & Communities

↓ Protecting Homes

▶ Flood Insurance

▶ Flood Hazard Mapping

- Change my Flood Zone Designation
- Letter of Map Amendment Information

▶ User Groups

• Risk MAP

▶ Cooperating Technical Partners

▶ Living with Levees

• Status of Map Changes

▶ Forms, Documents, and

Coastal Flood Risks: Achieving Resilience Together

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Related Links

[Coastal Flood Risk Study Process](#)

[Coastal Flood Risk Resources](#)

[Coastal Frequently Asked Questions](#)

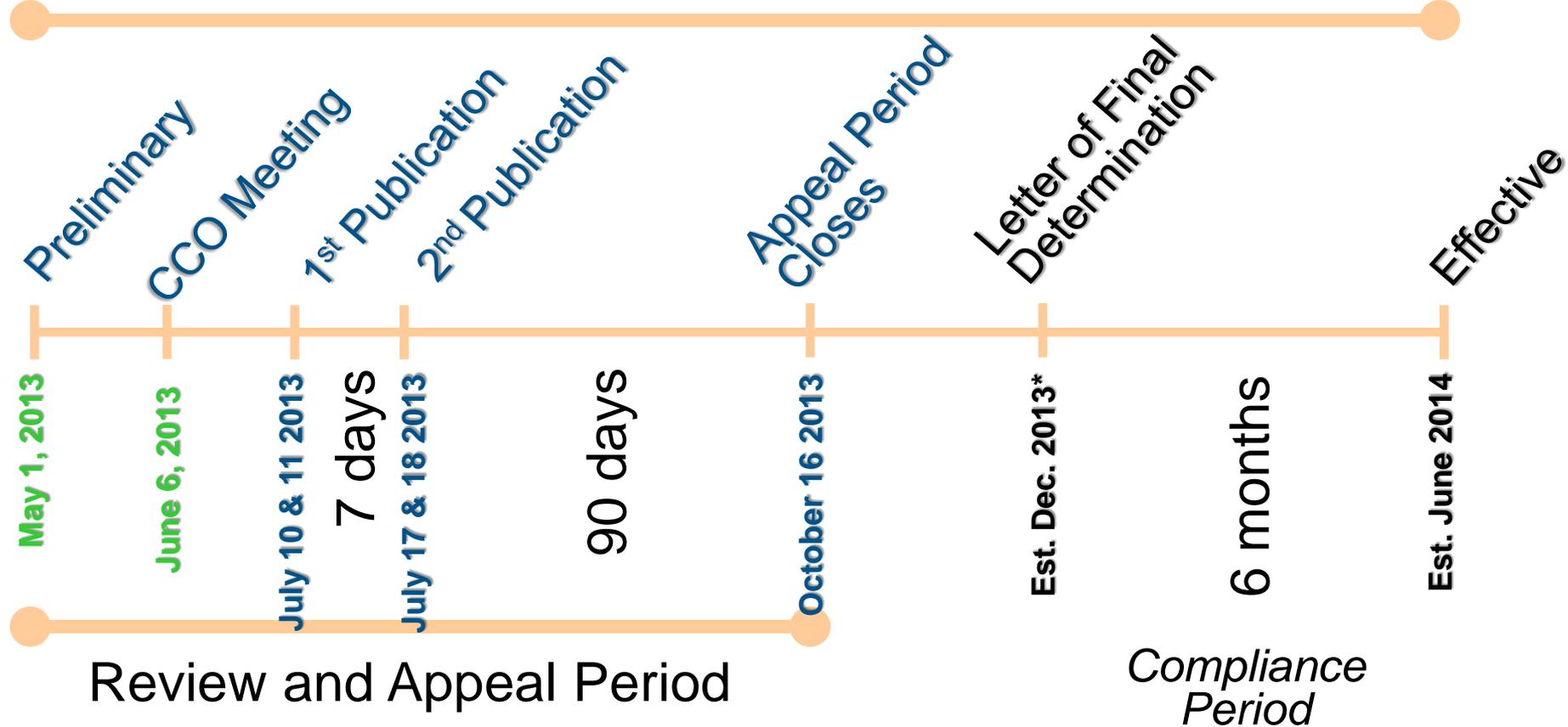
[National Flood Insurance Program \(NFIP\)](#)



PUBLIC REVIEW & APPEAL PERIOD

Post-Preliminary Phase Timeline

Typical Post Preliminary Phase takes approximately 14 months to complete



**LFD scheduled in December due to the Town Meeting requirement*

Community Review

- **Statutory 90-day Appeal Period:**
 - Publication in Federal Register
 - Letter to Community Official
 - Newspaper publication, and...
 - **Maps and data available online!**



Website

The screenshot shows the FEMA website interface. At the top left is the FEMA logo with the text 'FEMA'. To the right is a search bar with the placeholder text 'What are you looking for?' and a magnifying glass icon. Below the search bar is a navigation menu with several categories: 'Safer, Stronger, Protected Homes & Communities', 'Protecting Homes' (with sub-items 'Flood Insurance' and 'Flood Hazard Mapping'), 'Protecting Our Communities', 'Protecting Your Businesses', 'National Preparedness', 'Preparedness (Non-Disaster) Grants', and 'Assistance To Firefighters Grant Program'. The main content area features a featured article titled 'View Your Community's Preliminary Flood Hazard Data' with a 'Share/Email This Page' button. Below the title is a map image with the text 'PRELIMINARY FLOOD HAZARD DATA' overlaid. To the right of the article is a 'Related Links' section with three links: 'Understanding the Changes to Your Community's Flood Insurance Rate Map', 'Understanding Preliminary Flood Maps', and 'Preliminary Flood Hazard Data Search Tool'. Below the map image is a text block stating: 'Now Available! Access Your Community's Preliminary Flood Hazard Data in One Centralized and Easily Accessible [Location!](#) If the preliminary flood hazard data (preliminary data) [search tool](#) is unavailable, please visit this [alternate site](#) to view your data.'

www.fema.gov/preliminaryfloodhazarddata

What is an Appeal?

Providing scientific/technical data to:

- Show new or revised Base Flood Elevations (BFEs) or Zone AO depths
- Show new or revised Special Flood Hazard Area (SFHA) boundaries (including both increases and decreases in the extent of the SFHA)

What is a Comment?

- **Corporate limit revisions**
- **Road name errors and revisions**
- **Flooding source name errors and revisions**
- **Base map errors**

EFFECT ON EXISTING LETTERS OF MAP CHANGE

Post-Preliminary Processing

- **Summary of Map Actions (SOMA)**
 - Background
 - Letters of Map Change (LOMCs) are legally binding changes to the map
 - Summary of Map Actions is an assessment of all existing LOMCs compared with the new FEMA maps

Summary of Map Actions (The Good)

- Category 1: shown on the new DFIRM panel
- Category 2: NOT shown on the new DFIRM panel due to scale limitations (revalidated after the new DFIRMs become effective)

SOMA-1

PRELIMINARY SUMMARY OF MAP ACTIONS

Community: PLYMOUTH, TOWN OF Community No: 250278

To assist your community in maintaining the Flood Insurance Rate Map (FIRM), we have summarized below the previously issued Letter of Map Change (LOMC) actions (i.e., Letters of Map Revision (LOMRs) and Letters of Map Amendment (LOMAs)) that will be affected by the preparation of the enclosed revised FIRM panel(s).

1. LOMCs Incorporated

The modifications effected by the LOMCs listed below have been reflected on the Preliminary copies of the revised FIRM panels. In addition, these LOMCs will remain in effect until the revised FIRM becomes effective.

LOMC	Case No.	Date Issued	Project Identifier	Old Panel	New Panel
			NO CASES RECORDED		

2. LOMCs Not Incorporated

The modifications effected by the LOMCs listed below have not been reflected on the Preliminary copies of the revised FIRM panels because of scale limitations or because the LOMC issued had determined that the lot(s) or structure(s) involved were outside the Special Flood Hazard Area, as shown on the FIRM. These LOMCs will be revalidated free of charge 1 day after the revised FIRM becomes effective through a single revalidation letter that reaffirms the validity of the previous LOMCs.

LOMC	Case No.	Date Issued	Project Identifier	Old Panel	New Panel
LOMA	96-01-014A	12/18/1995	76 JOHN ALLEN ROAD	2502780012C	25023C0387K
LOMR-F	97-01-180A	06/10/1997	ASSHESBORS MAP 50 - LOTS 5 & 6 - 1478 STATE ROAD	2502780018C	25023C0506K
LOMR-VZ	07-01-0691A	05/31/2007	BUILDING 3, ROBBINS WHARF CONDOMINIUM PHASE II - 60 ROBBINS ROAD (MA)	2502780081E	25023C0356K
LOMR-F	08-01-0151A	12/31/2007	ROBBINS WHARF CONDOMINIUM, BUILDINGS 1, 2, & 4 - 60 ROBBINS ROAD	2502780081E	25023C0358K
LOMA	08-01-0274A	02/12/2008	1478 STATE ROAD (IIA)	2502780158E	25023C0506K
LOMA	12-01-1375A	07/19/2012	LOT B, PARCEL ID 045-000-003A-000 - 48 BRIDOK ROAD	25023C0387J	25023C0387K

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Summary of Map Actions (The Bad)

- Category 3: superseded, and no longer valid, due to revised flood hazards
- Category 4: property owner must request this be re-determined

SOMA-1

PRELIMINARY SUMMARY OF MAP ACTIONS

Community: PLYMOUTH, TOWN OF Community No: 250278

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PRELIMINARY SUMMARY OF MAP ACTIONS

1. L The cop FIRM Community: PLYMOUTH, TOWN OF Community No: 250278

3. LOMCs Superseded

The modifications effected by the LOMCs listed below have not been reflected on the Preliminary copies of the revised FIRM panels because they are being superseded by new detailed flood hazard information or the information available was not sufficient to make a determination. The reason each is being superseded is noted below. These LOMCs will no longer be in effect when the revised FIRM becomes effective.

LOMC	Case No.	Date Issued	Project Identifier	Reason Determination Will be Superseded
LOMA	04-01-0164A	03/25/2004	7 PEARL STREET	4

2. The cop det sho bec LOI

1. Insufficient information available to make a determination.
 2. Lowest Adjacent Grade and Lowest Finished Floor are below the proposed Base Flood Elevation.
 3. Lowest Ground Elevation is below the proposed Base Flood Elevation.
 4. Revised hydrologic and hydraulic analyses.
 5. Revised topographic information.

4. LOMCs To Be Redetermined

The LOMCs in Category 2 above will be revalidated through a single revalidation letter that reaffirms the validity of the determination in the previously issued LOMC. For LOMCs issued for multiple lots or structures where the determination for one or more of the lots or structures has changed, the LOMC cannot be revalidated through this administrative process. Therefore, we will review the data previously submitted for the LOMC requests listed below and issue a new determination for the affected properties after the effective date of the revised FIRM.

LOMC	Case No.	Date Issued	Project Identifier	Old Panel	New Panel
			NO CASES RECORDED		

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Revalidation of Letters of Map Change (LOMCs)

- **The Summary of Map Actions (SOMA) is used to generate a Revalidation Letter**
- **The Revalidation Letter is issued to the community**
- **Community officials are encouraged to disseminate this information**
- **Is available at FEMA Map Service Center
msc.fema.gov**

FLOOD INSURANCE

FLOOD INSURANCE

- **What happens when the maps change?**
- **What you need to know about the Biggert-Waters NFIP Reform Act of July 6, 2012?**
- **What do I do now?**

What Happens When the Maps Change?

- You may be eligible for a ***Preferred Risk Policy*** if this is the first time your building is mapped into a High Hazard Flood Zone (Zones beginning with either the letter A or V)
- **If you have a mortgage**, the bank will do a **Flood Zone Determination** on all outstanding federally backed mortgages secured by buildings located in the area of the revised flood zone map
- **Grandfathering** Rules (premium subsidies) apply until phase-out in late 2014

BIGGERT-WATERS REFORM ACT of July 6, 2012

Two Types of Premium “Subsidies” to be Phased-Out

(A subsidy allows you to pay less premium than the risk requires)

- **1. PRE-FIRM (Older) Buildings –**
 - Built prior to the community having a FEMA flood zone map
 - ❖ Not rated using elevation
 - ❖ Basic premium is lower than what should be charged
- 2. GRANDFATHER RULES**
 - **Loyal Customer** (*your policy has never lapsed*)
 - **Built-in-Compliance** (*met the map/ordinance requirements at time of construction*)



The phase-out: How and When?

Biggert-Waters: 2013 Changes

- **Pre-FIRM (older) Buildings**

- Pre-FIRM ***Non-Principal*** Residence effective for **renewals on 1/1/13:**
 - ❖ Phasing-in subsidized premium with increases of **25% for 4 years**
- Pre-FIRM subsidies phased-in or eliminated for **renewals effective on October 1, 2013 or later:**
 - ❖ **Severe Repetitive Loss** policies – renewal premium increase by **25% for 4 years**
 - ❖ Buildings used for **business** – renewal premium increase by **25% for 4 years**
 - ❖ **All other** Pre-FIRM renewal policies will see annual premium increases to phase-in the subsidized premium
 - ❖ **Lapsed policies** – will be rated using elevation and require an Elevation Certificate

Any new (*not renewal*) Pre-FIRM policies written after BW-12 was enacted (7/6/12) must be rated using elevation.

Biggert-Waters NFIP Reform Act

What Does an Owner of an Older (Pre-FIRM) Building Need To Do?

Know your buildings flood zone and elevation.

- Consider an *Elevation Certificate* to measure lowest floor elevation.
- Talk to your insurance agent. They may help you qualify for a lower premium.
- Can the building be adapted to meet/exceed current floodplain ordinance requirements?
- Compare savings in insurance premium over a period of years.

Impact of Retrofitting and Elevation in Rebuilding

Under the Flood Insurance Reform Act of 2012, You Could Save More than \$90,000 over 10 Years if You Build 3 Feet above Base Flood Elevation*

**PREMIUM AT 4 FEET BELOW
BASE FLOOD ELEVATION**

\$9,500/year
\$95,000/10 years



BFE

**PREMIUM AT
BASE FLOOD ELEVATION**

\$1,410/year
\$14,100/10 years



BFE

**PREMIUM AT 3 FEET ABOVE
BASE FLOOD ELEVATION**

\$427/year
\$4,270/10 years



BFE

*\$250,000 building coverage only (does not include contents), AB (high to moderate risk) zone, single-family, one-story structure without a basement at: 4 feet below Base Flood Elevation (BFE); at BFE; and at 3 feet above BFE. (Rating per FEMA flood insurance manual, October 1, 2012). The illustration above is based on a standard National Flood Insurance Program (NFIP) deductible.

ADDRESS YOUR RISK



Points of Contact

▪ STARR Contacts

- Brian Caufield, Project Manager
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▪ FEMA Region I Contacts

- Kerry Bogdan, Project Manager and Senior Engineer
Kerry.Bogdan@fema.dhs.gov
- Marilyn Hilliard, Senior Planner
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- Bob Desaulniers, Regional Insurance Specialist
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▪ STARR Regional Service Center

- Alex Sirotek, RSC Lead
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▪ National Flood Insurance Program – iService Team

- Tom Young, Manger – Region I New England
tyoung@ostglobal.com

▪ Massachusetts DCR Contacts

- Richard Zingarelli, State NFIP Coordinator
Richard.Zingarelli@state.ma.us
- Colleen Bailey, State Flood Hazard Mapping Coordinator
A.Colleen.Bailey@state.ma.us
- Marybeth Groff, State Hazard Mitigation Planner, MEMA
Marybeth.Groff@state.ma.us

Please send all comments/protests/appeals to:

Brian Caufield, STARR, 50 Hampshire Street, Cambridge, MA 02139

Please copy:

Kerry Bogdan, FEMA Region 1, 99 High Street, 6th Floor, Boston, MA 02110

Alex Sirotek, STARR, 99 High Street, 3rd Floor, Boston, MA 02110

Rich Zingarelli, MA DCR, 251 Causeway Street, Suite 800, Boston, MA 02114

Who Do I Contact With Questions?

- For general FEMA mapping and LOMC questions contact FEMA's Map Information Exchange (FMIX): 1-877-FEMA MAP (1-877-336-2627) or email a Map Specialist: FEMAMapSpecialist@riskmapcds.com
- Map Service Center (MSC): where you can view effective maps online for free <http://www.msc.fema.gov/>
- To learn more about the National Flood Insurance Program: <http://www.floodsmart.gov/floodsmart/> or call 1-800-427-4661

WEB LINKS

- **Preliminary Data**
 - www.fema.gov/preliminaryfloodhazarddata
- **Effective Data (including Future Effective)**
 - msc.fema.gov
- **Coastal Outreach Material**
 - www.fema.gov/coastal-flood-risks
- **Mitigation Action Tracker**
 - fema.starr-team.com
- **Multi-Hazard Planning Website**
 - www.fema.gov/multi-hazard-mitigation-planning
- **Mitigation Ideas**
 - www.fema.gov/library/viewRecord.do?id=6938
- **National Flood Insurance Program**
 - www.floodsmart.gov
- **Flood Insurance Reform Act**
 - www.fema.gov/national-flood-insurance-program/flood-insurance-reform-act-2012



FEMA

Questions?

RiskMAP

Increasing Resilience Together

