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LORAIN COUNTY COMMUNITY CONSULTATION OFFICERS (CCO) MEETING

November 28, 2017

FEMA

TODAY'S AGENDA

The Value of Updated Flood Maps for Your Community

Reviewing the Updated Flood Risk Data for Your County

Next Steps in the Map Adoption Process

Understanding Flood Insurance

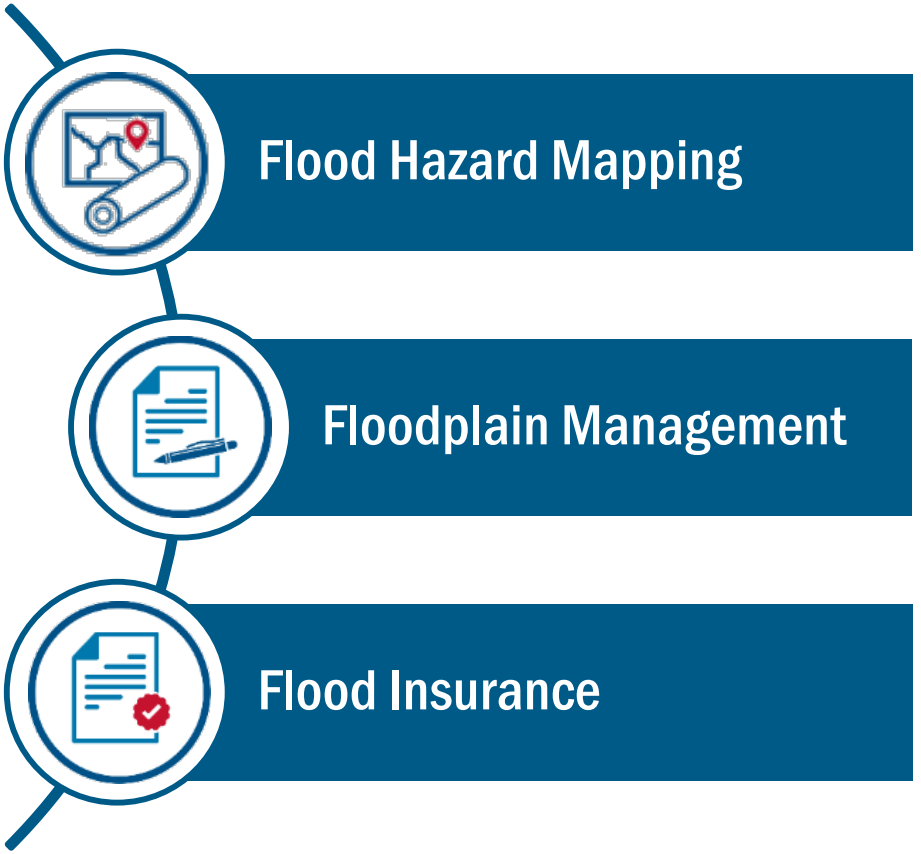
Why Are We Here?

FEMA is here today to:

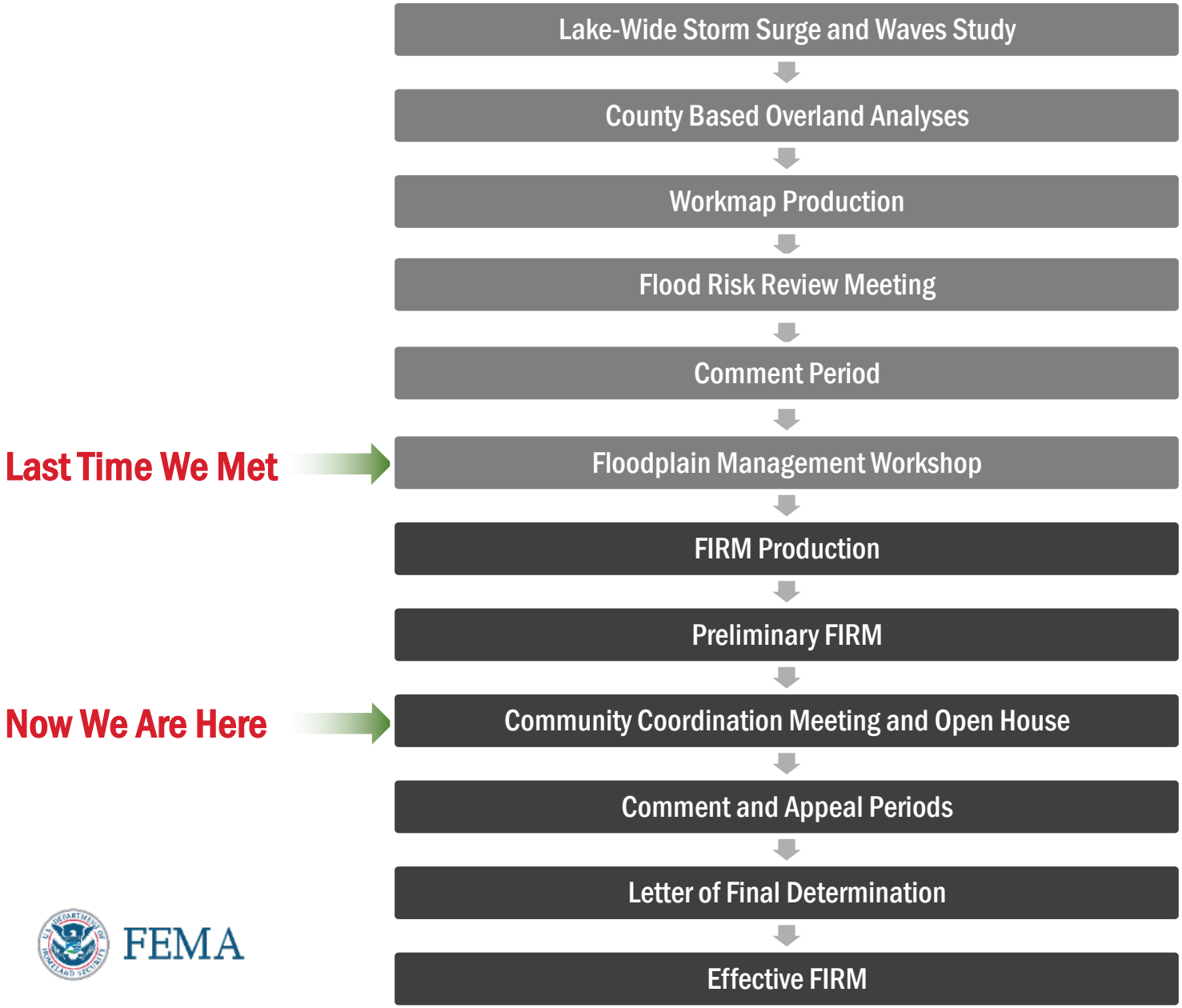
- **Present Lorain County's New Flood Insurance Rate Maps (FIRMs)**
- **Help You Assess Your Community's Flood Risk**
- **Explain How the FIRMs Inform Risk Assessment & the National Flood Insurance Program (NFIP)**
- **Review Your Role in the Next Steps of the Mapping Process**
- **Answer Your Questions**

The National Flood Insurance Program

The National Flood Insurance Program, or NFIP, balances three related areas that must support each other.



The Status of this Study



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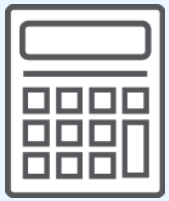
The Value of Updated Flood Maps for Your Community

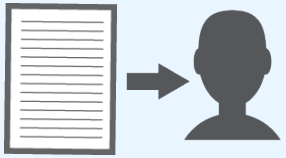
Flood Maps are Used to Make Important Decisions

To Identify and Assess Flood Risk



To Establish Rates for Flood Insurance

To Guide Local Land Use Decisions



To Inform Engineers and Developers

To Prepare Emergency Managers

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Why is FEMA Updating this Community's Flood Maps?

The Great Lakes Coastal Flood Study provides updated flood risk information across each of the Great Lakes, including Lake Erie, using uniform methodology, updated terrain data, and modern wave modeling techniques.

Many factors contribute to flood risk changes over time:

- Population growth & increased development
- Movement in rivers & coastline
- Changing weather patterns & updated rainfall data

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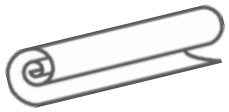
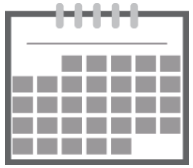
Your Role in this Process

As Local Officials, Floodplain Administrators, and Staff you can:



Provide technical review of preliminary data

Submit questions and comments to FEMA



Share new flood risk information with property owners and stakeholders

Identify mitigation needs and priorities

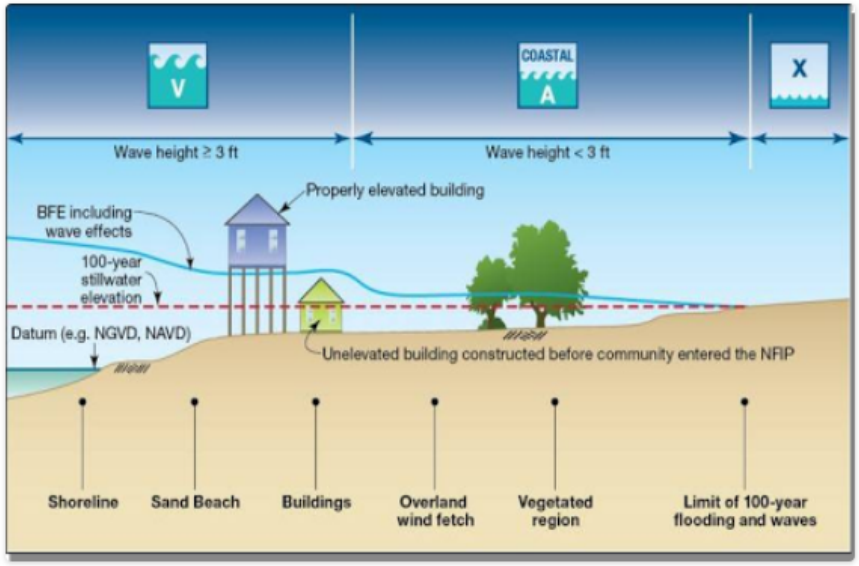
Update local plans, codes, and ordinances

Reviewing the Updated Flood Risk Data for Your County

The Great Lakes Coastal Flood Study Approach

Regional Study Approach

- Water level and wave analysis
  - 155 storms from 1960-2009
- Greater consistency in assumptions
- Reduces number of boundary conditions



Local/County Level Activities

- Mapping level tasks performed at county level
- Nearshore wave transformations
- Erosion
- Wave runup
- Overland wave propagation

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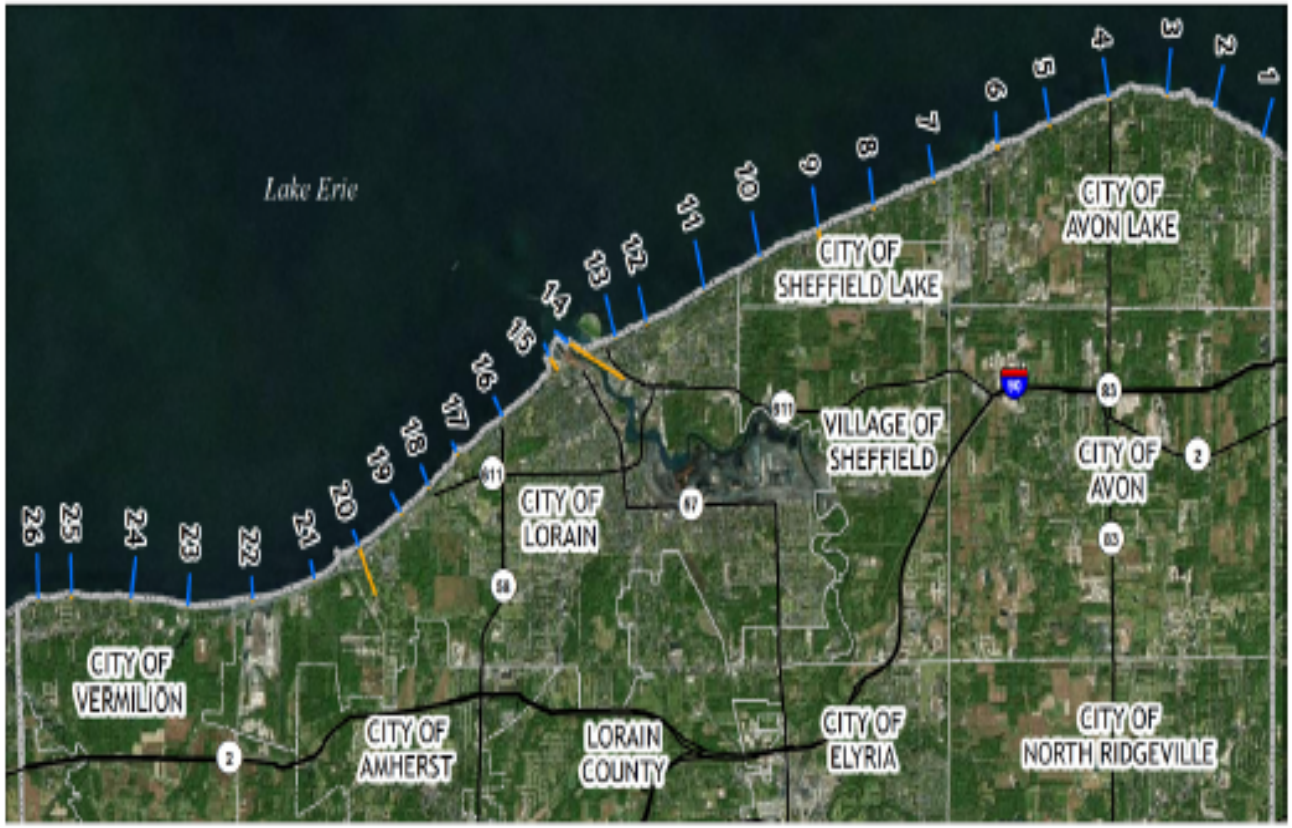
The Great Lakes Coastal Flood Study in Lorain County

- **26 miles of coastline**
  - Coastal Hazard Analysis
    - 29 Coastal Transects
  - Riverine-Coastal Special Flood Hazard Area integration
  - Topography
    - 2012 U.S. Army Corp of Engineers Lake Erie LiDAR
    - 2006 Lorain County Ohio Statewide Imagery Program (OSIP) LiDAR



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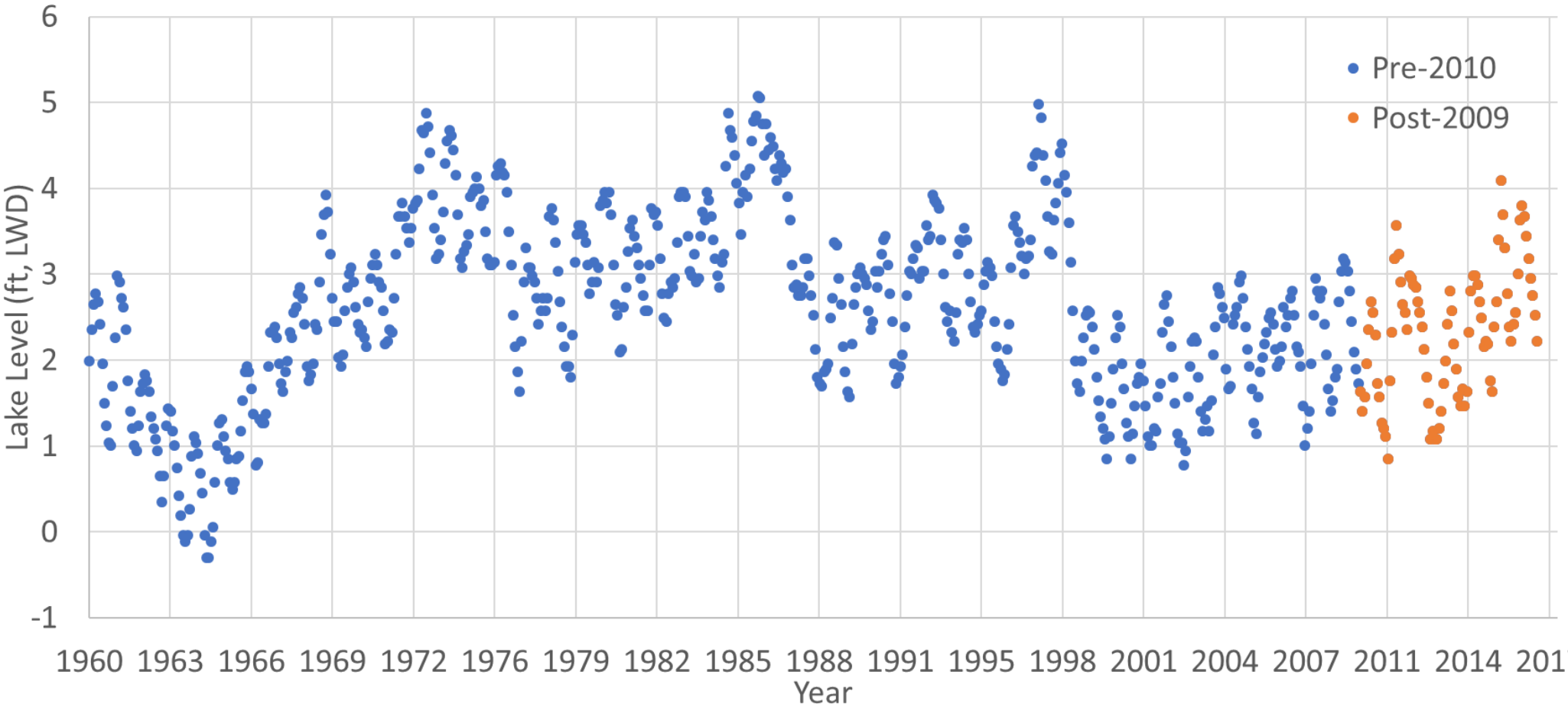
Great Lakes Water Levels



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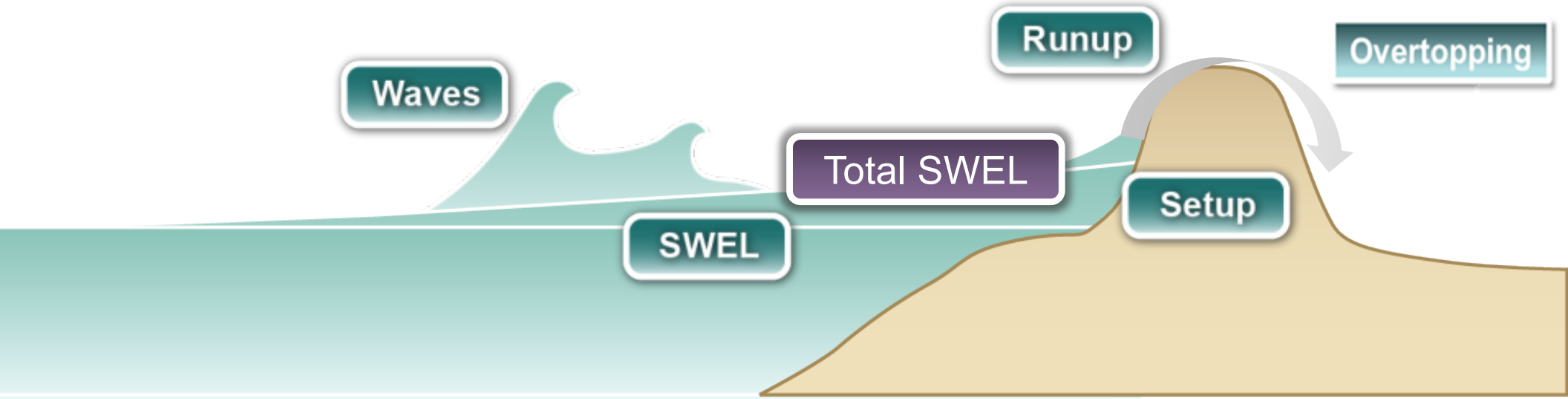
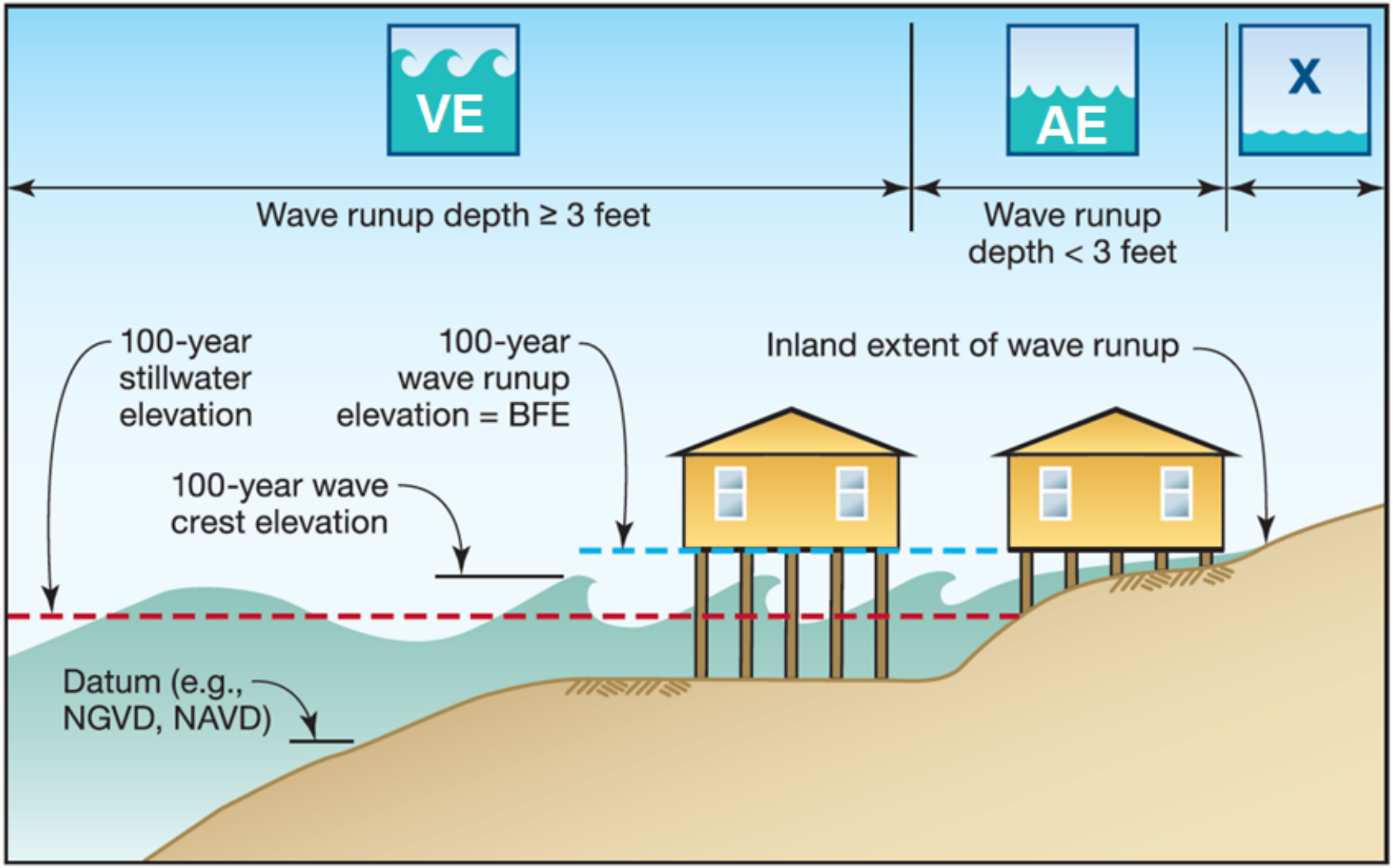
Measuring Coastal Base Flood Elevation



SWEL = Stillwater Elevation (storm surge level)
Total SWEL = Stillwater Elevation, inclusive of wave setup

Runup Mapping



Wave Runup Mapping

- Wave runup is very sensitive to shoreline characteristics
- Single Base Flood Elevation (BFE)
- Gutters perpendicular to the shore divide the BFEs
- Transitional zones capture changes in shoreline characteristics between transects
- Wave runup mapping may have associated overtopping or AO zones

Wave Overtopping: Zone AO

- Overtopping rate considerations for establishing flood insurance rate zones
- Sheet Flow Considerations
  - Areas where AE not present beyond slope break
  - Duration of overtopping
  - Rainfall associated with event
  - Topography
  - Drainage landward of the overtopped barrier

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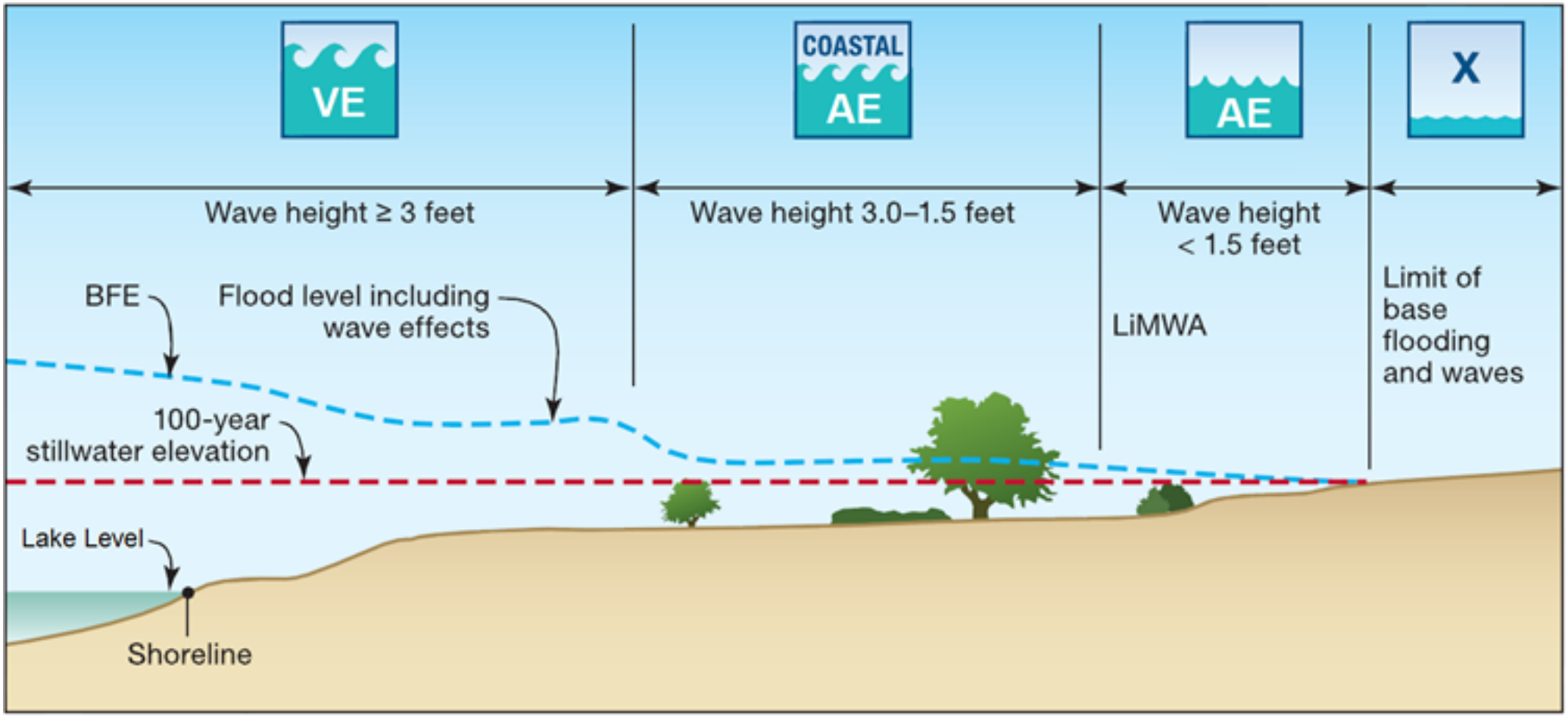
Overland Mapping



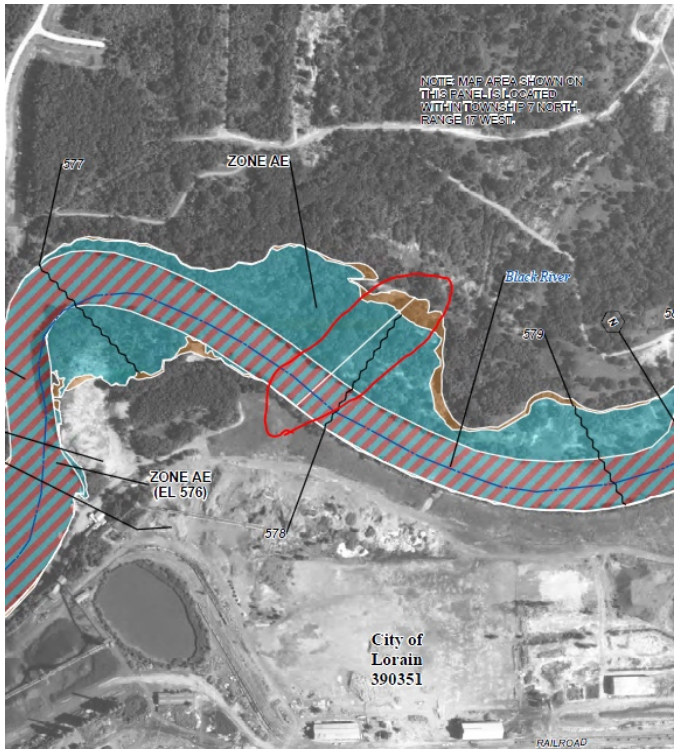
LiMWA: Limit of Moderate Wave Action

Special Flood Hazard Area (SFHA) Zones

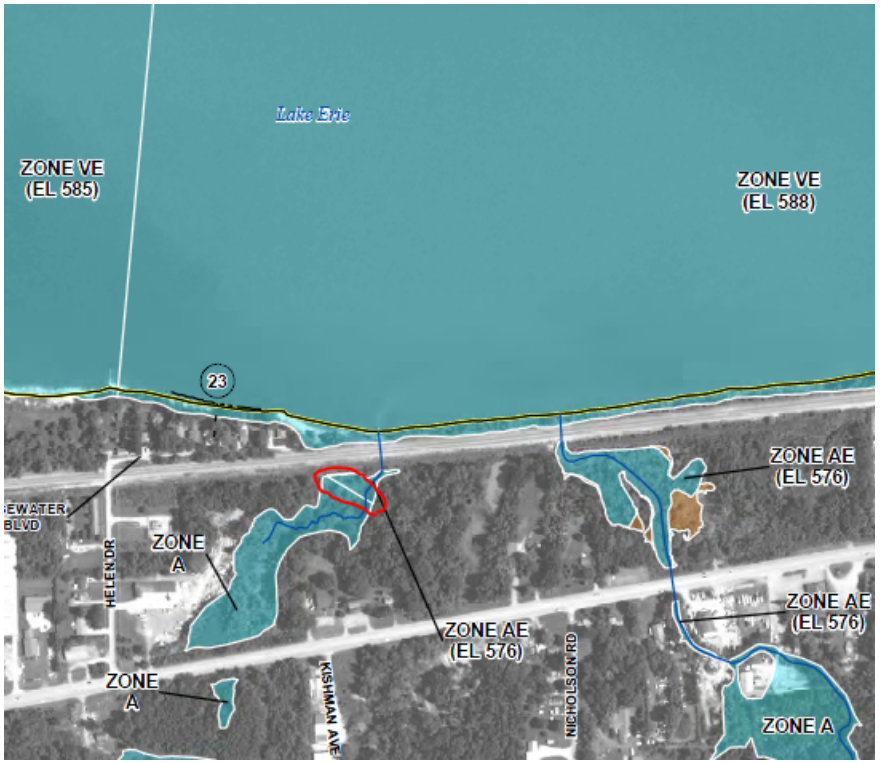
- **Zone VE**
  - Coastal high-hazard zone areas where wave action and/or high-velocity water can cause structural damage during the 1-percent-annual-chance flood
  - Wave heights > 3ft
  - Subdivided into elevation zones & BFEs are assigned
- **Zone AE**
  - Applied in areas subject to inundation by the 1-percent-annual-chance flood
  - Wave heights < 3ft
  - Subdivided into elevation zones & BFEs are assigned
- **Zone AO**
  - Applied in areas of sheet-flow & shallow flooding

Scope of Work: Integrating Riverine and Coastal Data

Updated Coastal Stillwater BFE

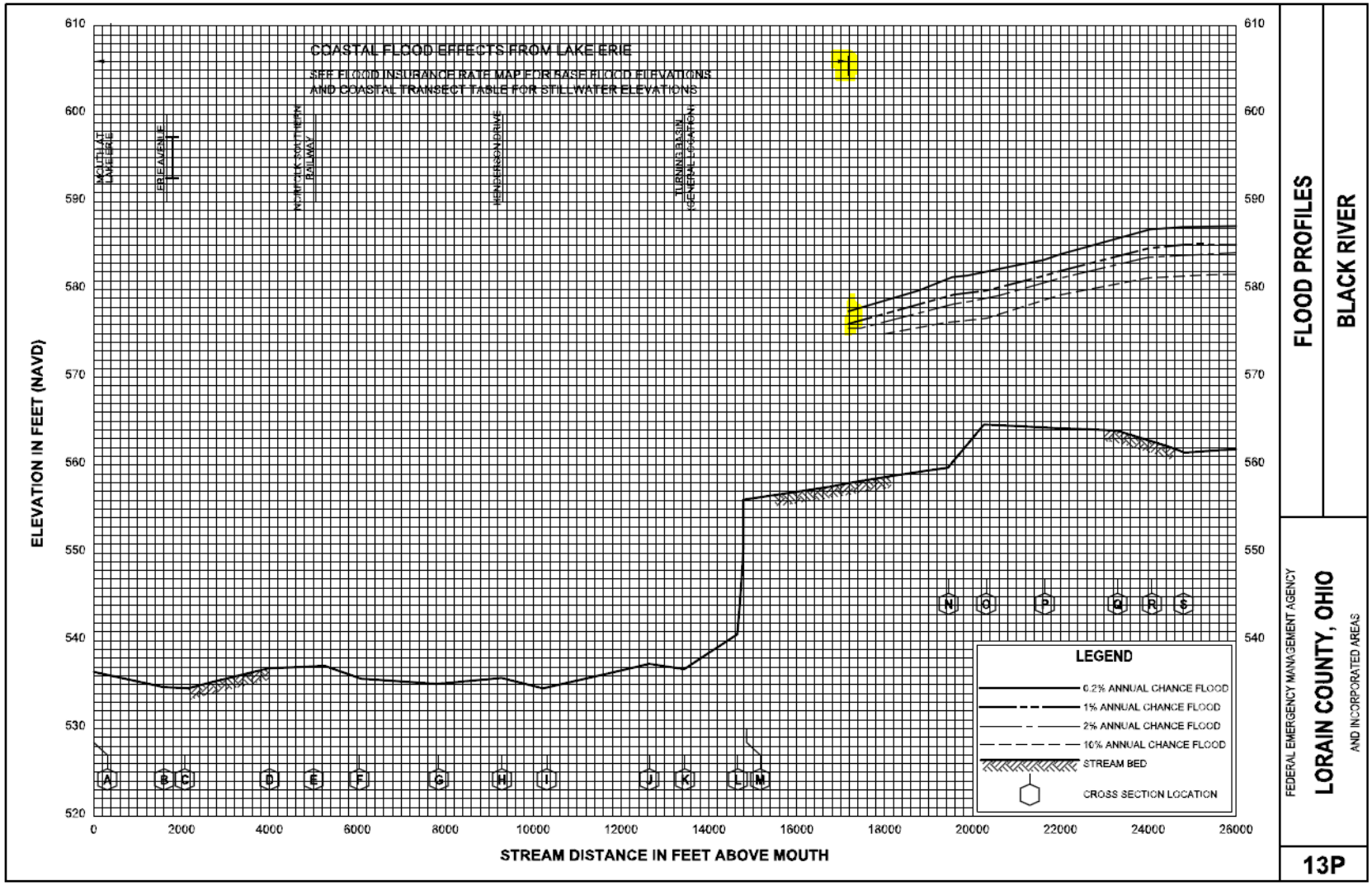


Effective Riverine BFE



Re-delineation to updated LiDAR downstream of limits shown on FIRM (white line or Zone change) and in FIS (Floodway Data table 24) and Profile

Scope of Work: Riverine-Coastal SFHA Integration



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Scope of Work: Riverine-Coastal SFHA Integration

FLOODING SOURCE		FLOODWAY				1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	WIDTH REDUCED FROM PRIOR STUDY[2] (FEET)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Black River									
A	0	N/A	N/A	N/A		*	573.6[3]	N/A	N/A
B	1,800	344	9,090	3.0	-67	*	573.6[3]	573.6	0.0
C	2,093	511	13,200	2.0	-42	*	573.7[3]	573.7	0.0
D	3,993	390	12,080	2.2		*	573.7[3]	573.7	0.0
E	5,064	314	6,313	4.3	-79	*	573.7[3]	573.7	0.0
F	6,064	754	22,269	1.2	-26	*	573.9[3]	573.9	0.0
G	7,864	860	19,997	1.3	-148	*	573.9[3]	573.9	0.0
H	9,314	401	8,764	3.1	-81	*	573.9[3]	573.9	0.0
I	10,312	555	13,998	1.9	-80	*	574.0[3]	574.0	0.0
J	12,632	507	15,341	1.8		*	574.0[3]	574.0	0.0
K	13,482	948	26,572	1.0		*	574.1[3]	574.1	0.0
L	14,682	407	13,559	2.0	85	*	574.1[3]	574.1	0.0
M	14,882	295	2,288	12.0	-35	*	574.1[3]	574.1	0.0
N	19,515	404	5,043	5.3		579.5	579.5	580.0	0.5
O	20,347	772	4,284	6.2	-102	580.1	580.1	580.1	0.0
P	21,627	242	4,484	6.0	141	581.8	581.8	582.2	0.4
Q	23,274	269	4,009	6.7		583.8	583.8	584.1	0.3
R	24,079	306	5,655	4.7	70	584.8	584.8	585.0	0.2
S	24,791	363	5,541	4.8		585.1	585.1	585.3	0.2
T	26,091	157	2,970	9.0		585.2	585.2	585.4	0.2
U	26,843	300	4,967	5.4		586.3	586.3	586.6	0.3
V	27,070	244	4,126	6.1		586.3	586.3	586.6	0.3

[1] FEET ABOVE MOUTH

[2] SEE EXPLANATION IN SECTION 4.2 FLOODWAYS

[3] ELEVATIONS COMPUTED WITHOUT CONSIDERING BACKWATER EFFECTS FROM LAKE ERIE

* CONTROLLED BY COASTAL FLOODING - SEE FLOOD INSURANCE RATE MAP FOR REGULATORY BASE FLOOD ELEVATION

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

LORAIN COUNTY, OH

AND INCORPORATED AREAS

FLOODWAY DATA

BLACK RIVER

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Scope of Work: Riverine-Coastal SFHA Integration

- **Detailed Zone AE**
  - Beaver Creek 6P
  - Black River 13P
  - Day Ditch 25P
  - Edson Creek 38P
  - Martins Run 53P
  - Powdermaker Ditch 76P
  - Vermillion River 99P
  - Gable Ditch*
  - Heider Ditch*
  - Quarry Creek*
  - Schumaker Ditch*
- **Approximate Zone A***
  - Brownhelm Creek
  - Unnamed Tributary to Lake Erie
    - Lake Haven Estates Reservoir
  - Unnamed Tributary to Lake Erie
    - Old Lake Rd – City of Lorain

*No Profile/FWDT updates, only at confluence with Lake Erie

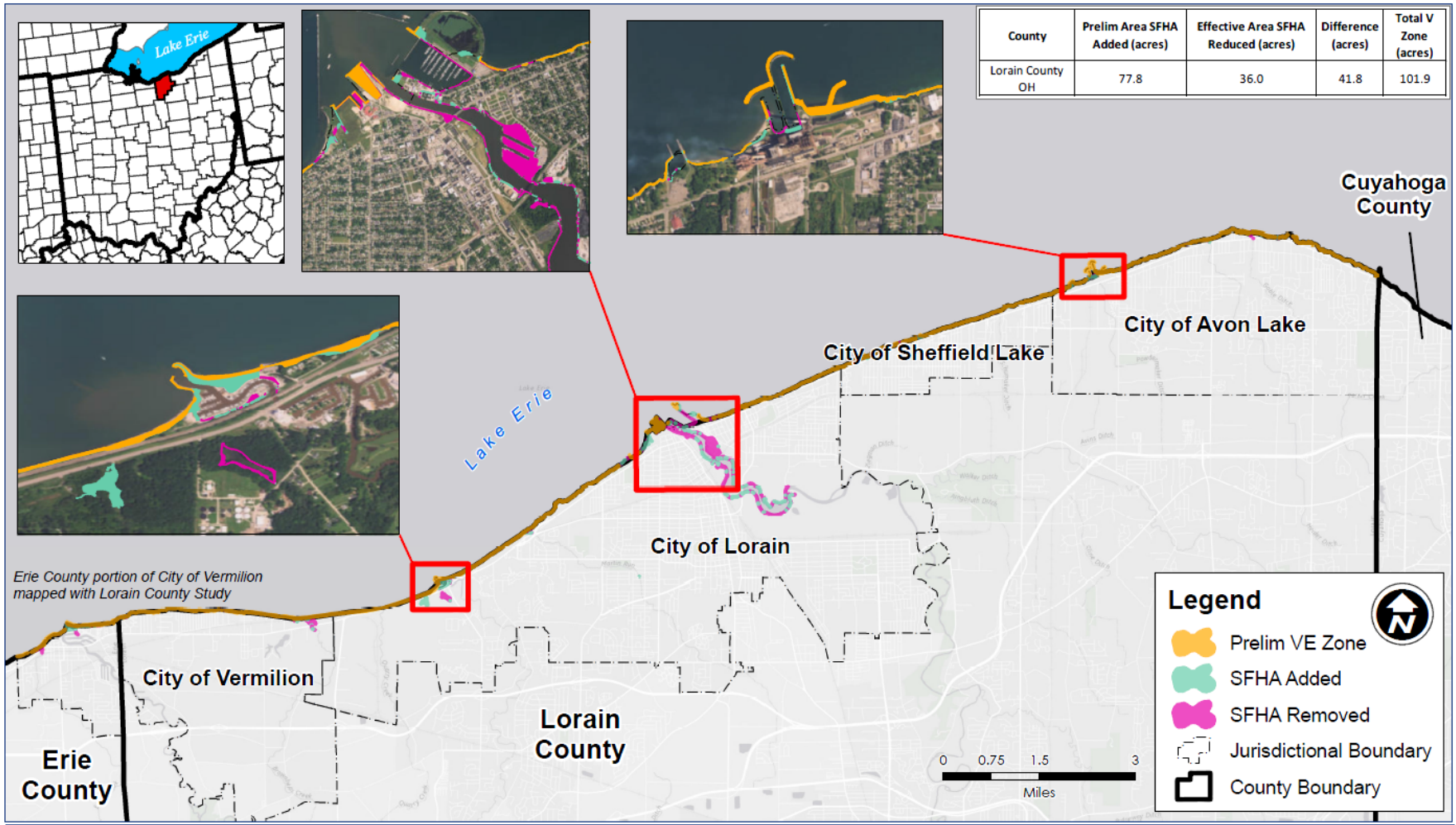
What are “Changes Since Last FIRM” in Lorain County ?

The “Changes Since Last FIRM” (CSLF) product compares the Effective Flood Insurance Rate Maps (FIRMs) to the new Preliminary FIRMs in GIS format.

In Lorain County, as in all counties along the Great Lakes:

- Coastal VE Zone replaced Effective Zone AE
  - Coastal High Hazard (Wave heights > 3ft)
- New Coastal AE Zones
  - Inland (behind shoreline, wave heights < 3ft)
- New Coastal AO Zones
  - Shallow Ponding Depths 1-3ft
- In Lorain County, Riverine AE & A Zones were mapped
  - Coastal Stillwater Backwater Elevations were remapped, where applicable

Changes Since Last FIRM in Lorain County



County	Prelim Area SFHA Added (acres)	Effective Area SFHA Reduced (acres)	Difference (acres)	Total V Zone (acres)
Lorain County OH	77.8	36.0	41.8	101.9

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National Flood Insurance Program

Lorain County Ohio Coastal Update

Changes from 2017 Preliminary Study compared to 2008 Effective

Prepared by:
Dan Cameron 10/31/2017
Data Sources:
Lorain County Effective 8/19/2008
Lorain County Preliminary 10/18/2017

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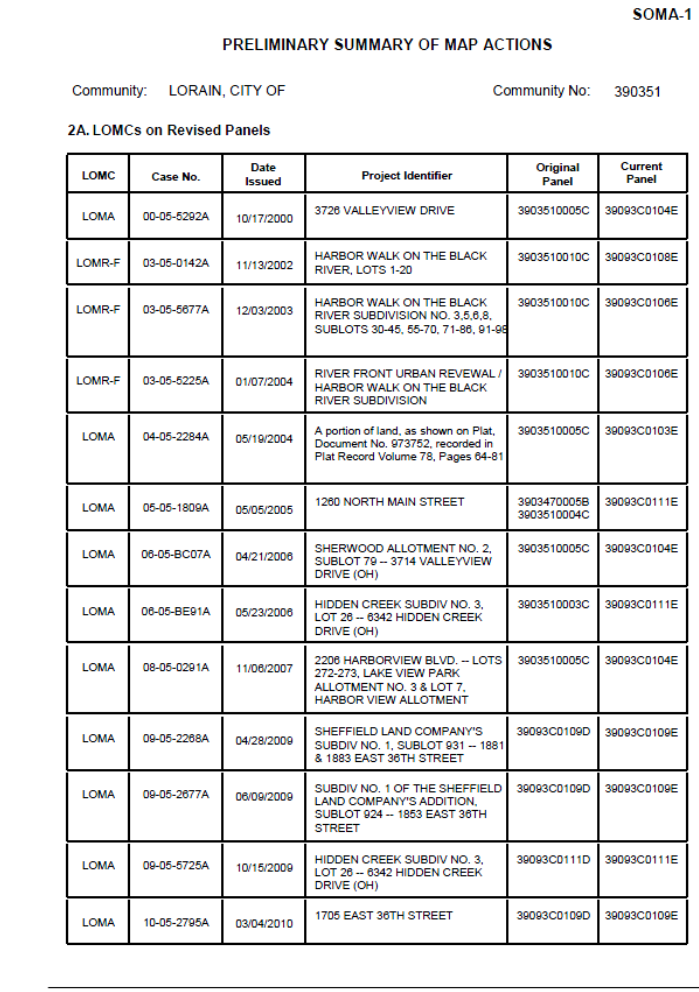
STARR II Strategic Alliance for Risk Reduction

Summary of Lorain County's Letter of Map Changes (LOMCs)



SOMA-1

PRELIMINARY SUMMARY OF MAP ACTIONS

Community: LORAIN, CITY OF Community No: 390351

2A. LOMCs on Revised Panels

LOMC	Case No.	Date Issued	Project Identifier	Original Panel	Current Panel
LOMA	00-05-5292A	10/17/2000	3726 VALLEYVIEW DRIVE	3903510005C	39093C0104E
LOMR-F	03-05-0142A	11/13/2002	HARBOR WALK ON THE BLACK RIVER, LOTS 1-20	3903510010C	39093C0108E
LOMR-F	03-05-5677A	12/03/2003	HARBOR WALK ON THE BLACK RIVER SUBDIVISION NO. 3,5,6,8, SUBLOTS 30-45, 55-70, 71-86, 91-95	3903510010C	39093C0106E
LOMR-F	03-05-5225A	01/07/2004	RIVER FRONT URBAN REVEWAL / HARBOR WALK ON THE BLACK RIVER SUBDIVISION	3903510010C	39093C0106E
LOMA	04-05-2284A	05/19/2004	A portion of land, as shown on Plat, Document No. 973752, recorded in Plat Record Volume 78, Pages 64-81	3903510005C	39093C0103E
LOMA	05-05-1809A	05/05/2005	1260 NORTH MAIN STREET	3903470005B 3903510004C	39093C0111E
LOMA	06-05-BC07A	04/21/2006	SHERWOOD ALLOTMENT NO. 2, SUBLOT 79 -- 3714 VALLEYVIEW DRIVE (OH)	3903510005C	39093C0104E
LOMA	06-05-BE91A	05/23/2006	HIDDEN CREEK SUBDIV NO. 3, LOT 26 -- 6342 HIDDEN CREEK DRIVE (OH)	3903510003C	39093C0111E
LOMA	08-05-0291A	11/06/2007	2206 HARBORVIEW BLVD. -- LOTS 272-273, LAKE VIEW PARK ALLOTMENT NO. 3 & LOT 7, HARBOR VIEW ALLOTMENT	3903510005C	39093C0104E
LOMA	09-05-2268A	04/28/2009	SHEFFIELD LAND COMPANY'S SUBDIV NO. 1, SUBLOT 931 -- 1881 & 1883 EAST 36TH STREET	39093C0109D	39093C0109E
LOMA	09-05-2677A	06/09/2009	SUBDIV NO. 1 OF THE SHEFFIELD LAND COMPANY'S ADDITION, SUBLOT 924 -- 1853 EAST 36TH STREET	39093C0109D	39093C0109E
LOMA	09-05-5725A	10/15/2009	HIDDEN CREEK SUBDIV NO. 3, LOT 26 -- 6342 HIDDEN CREEK DRIVE (OH)	39093C0111D	39093C0111E
LOMA	10-05-2795A	03/04/2010	1705 EAST 36TH STREET	39093C0109D	39093C0109E

9/27/2017 *Page 2 of 7*

All LOMCs were addressed in the preliminary Summary of Map Actions (SOMA) and placed into one of four categories:

1. Incorporated
2. Not Incorporated (validated)
   - LOMCs on Revised Panels
   - LOMCs on Unrevised Panels
3. Superseded
4. To be Re-determined

Be sure to review the prelim SOMA for completeness

If you note a LOMC missing from the list, submit the omission with your comments

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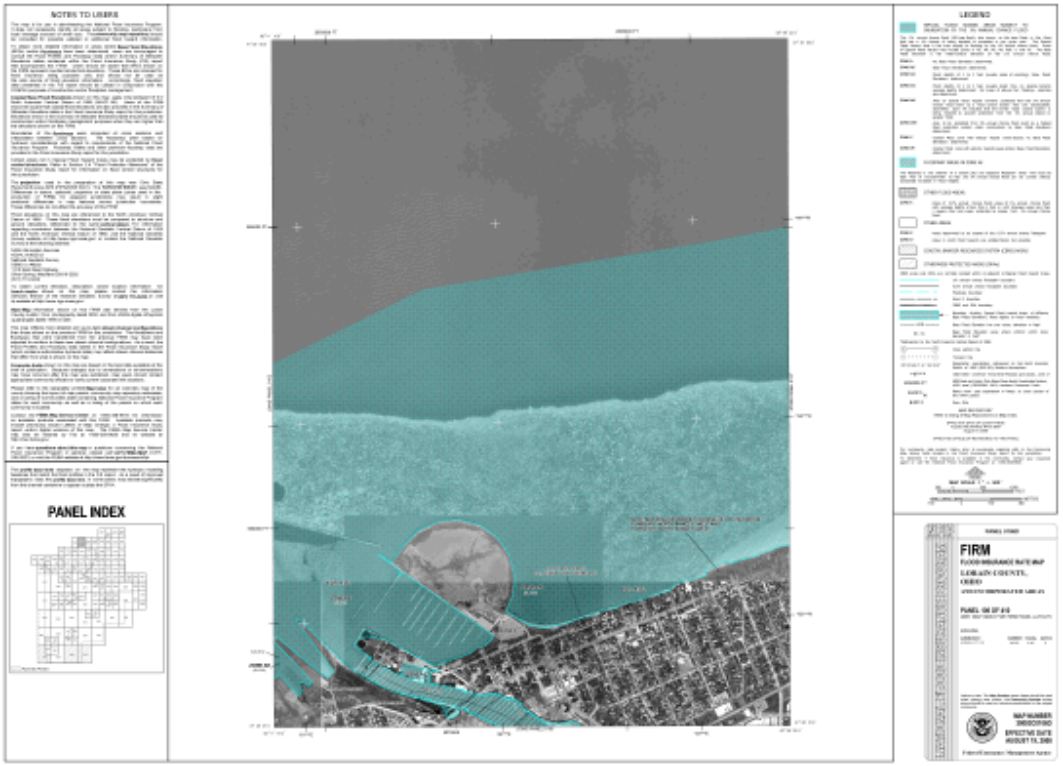
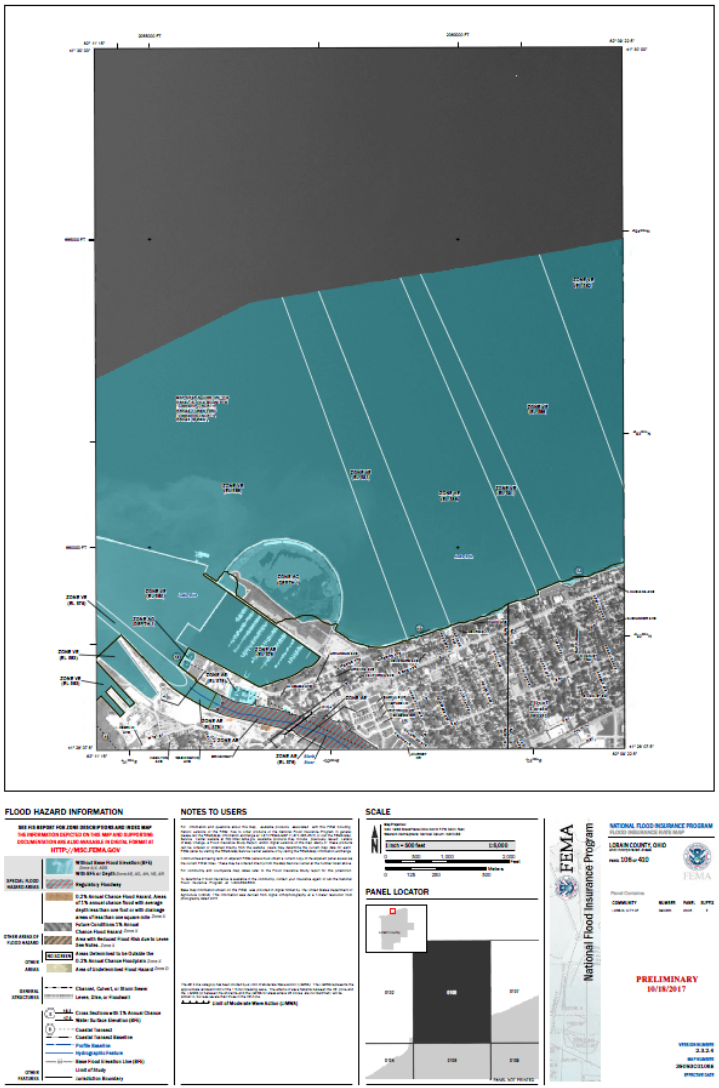
NOTE: Format Changes to the FIRM





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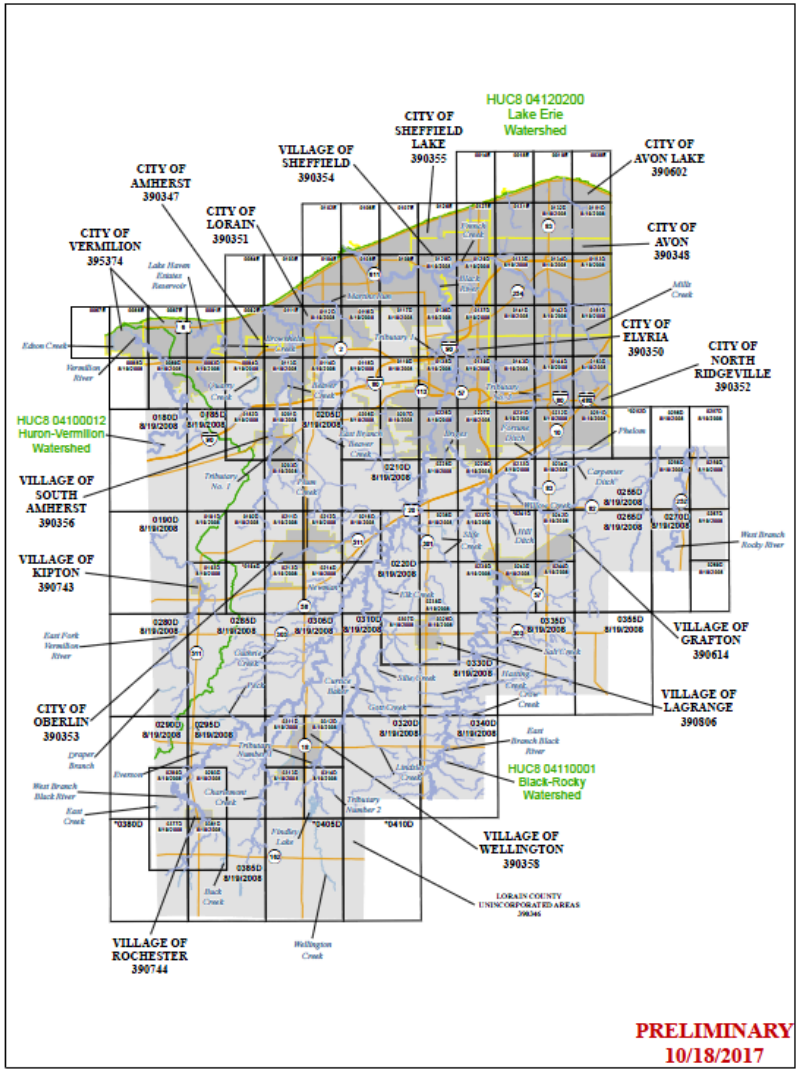
NOTE: Format Changes to the Flood Insurance Study (FIS)

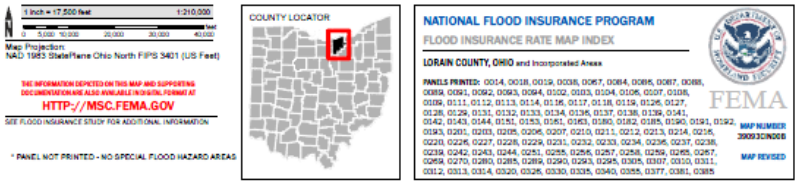
FIRM Index integrated into the FIS

- Simplified significantly
  - FIRM Panel Index, Political Areas, & Watershed Boundaries
  - Panel dates/Panel-Not-Printed notes kept on Index
- 11x17 fold-out
- Map repositories and community dates are moved into FIS tables

Other additions (if applicable):

- Summary Tables added
  - Hydrologic and Hydraulic Analysis
- FIRM “Map Legend” added to FIS
- FIRM “Notes to Users” moved to FIS





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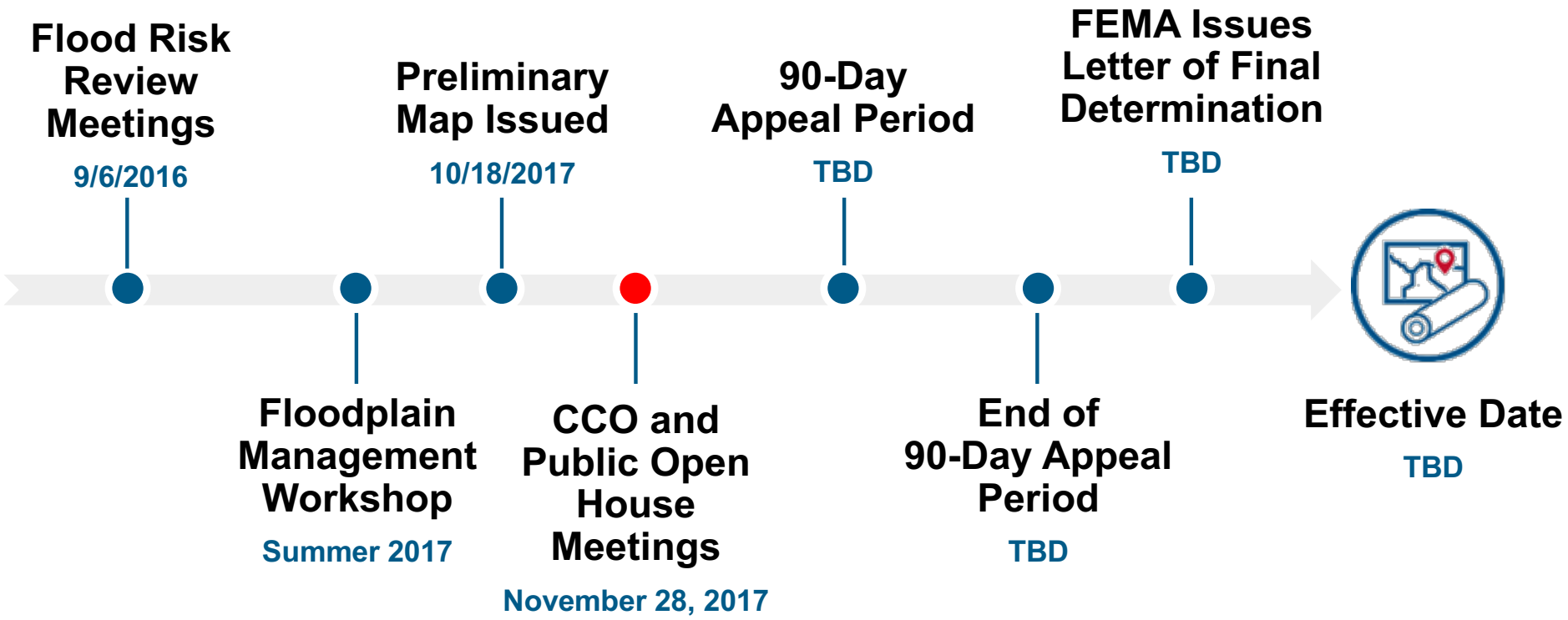
Next Steps in the Map Adoption Process

Timeline for Lorain County



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4-Step Pre-Adoption Process

Inform the Community

Gather Comments and Additional Data

Appeal Process

LFD Issued

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#1: Inform the Community – Open House

- Notifications to the Public
- Property Identification Mapping Assistance
- Comment Sheets Collected for Review
- Attendees Notified as Process Moves Forward

#2: Gather Community Comments

- Comment forms are available at the Open House
- Homeowners submit their comments to local community officials
- Local community officials forward comments to FEMA Region V Service Center

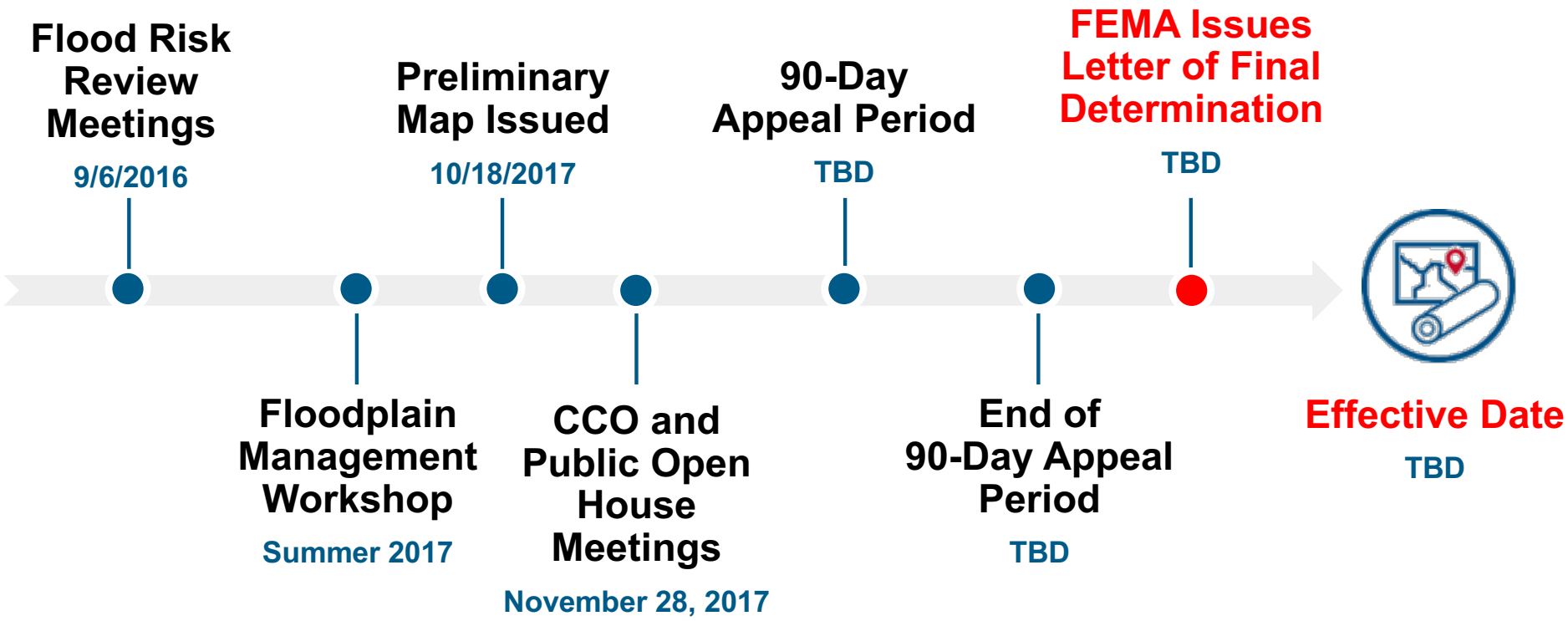
#3: Appeal Process

- **Appeal Period is 90 days**
- **Publication of Notice in Federal Register**
  - Notification to communities by letter including two local newspaper publications
- **All are welcome to submit information**
  - FEMA recommends directing comments through local community officials to provide a consolidated picture
- **Appeals should be submitted to STARR II or FEMA Region V**
  - Additional instructions will be provided to Community CEO
- **FEMA will evaluate all appeals and comments for resolution after the Appeal Period**

The Appeals Period: Appeals vs. Comments

- **To be considered an appeal, a submittal must:**
  - Include data that shows the proposed flood hazard information (e.g. new or modified Special Flood Hazard Area zones or boundaries, Base Flood Elevations, base flood depths, and/or floodway boundaries) is scientifically or technically incorrect;
  - Include the necessary revisions to the FIRM and/or FIS report (e.g. boundaries of revised floodplains);
  - Be received during the statutory 90-day appeal period
- **The term comment is used for any submittal that does not meet the requirements for an appeal as outlined above**

#4: Issuing the Letter of Final Determination



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Understanding Floodplain Management Ordinance Requirements

Participation in the National Flood Insurance Program

- The NFIP is a voluntary program
- Participation requires that communities adopt and enforce floodplain management regulations in the form of a community ordinance.
- At a minimum, the floodplain management regulations need to be based on the risk data provided by FEMA (the FIRM and FIS).
- Participation in the NFIP makes flood insurance available to the residents and businesses within your communities.
- Flood insurance is a requirement for federal loans (insured or otherwise) or other federal financial assistance to purchase, repair, improve or rehabilitate buildings within the Special Flood Hazard Area (SFHA).
- Many forms of disaster assistance are a type of federal loan or federal financial assistance.

Ordinance Adoption During Map Updates

- **Timeline Prior to Effective Date:**
  - 6 months prior: FEMA 6-month LFD Letter
  - 4 months prior: Draft Ordinance (suggested)
  - 3 months prior: FEMA 90-day Reminder Letter
  - 1 month prior: FEMA 30-day Reminder Letter

- **Ordinance needs to be compliant prior to effective date of FIRM & FIS (or community may be suspended from NFIP)**

Where to Find Minimum NFIP Requirements

- NFIP Minimum Floodplain Management Standards are found in Part 60 of Title 44, Code of Federal Regulations
- Coastal specific standards are found in Part 60.3(e)
- FEMA establishes the minimum requirements; however, states and local communities are encouraged to adopt more restrictive standards to better address their flood risk. When these higher standards are in place, they take precedent over the minimums.

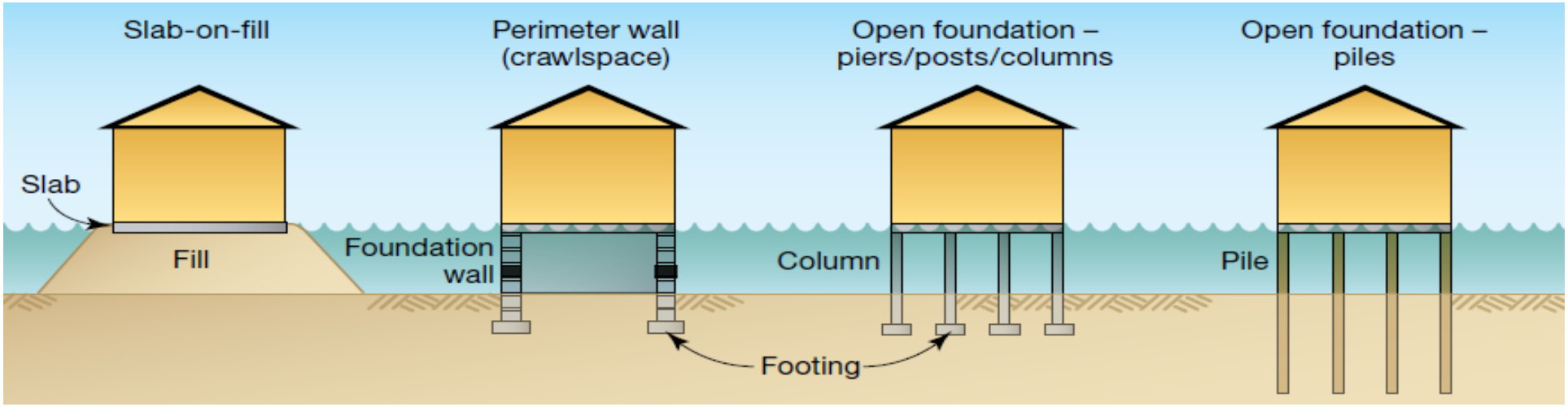
Differences in Development Requirements

A Zones

- Fill outside the floodway or which can be shown to not cause a rise to the BFE allowed.
- Fully-enclosed foundation wall (flood openings required) construction allowed.
- Lowest floor elevated to or above the base flood elevation (BFE).
- As built lowest floor elevation required to be on file with permit records.

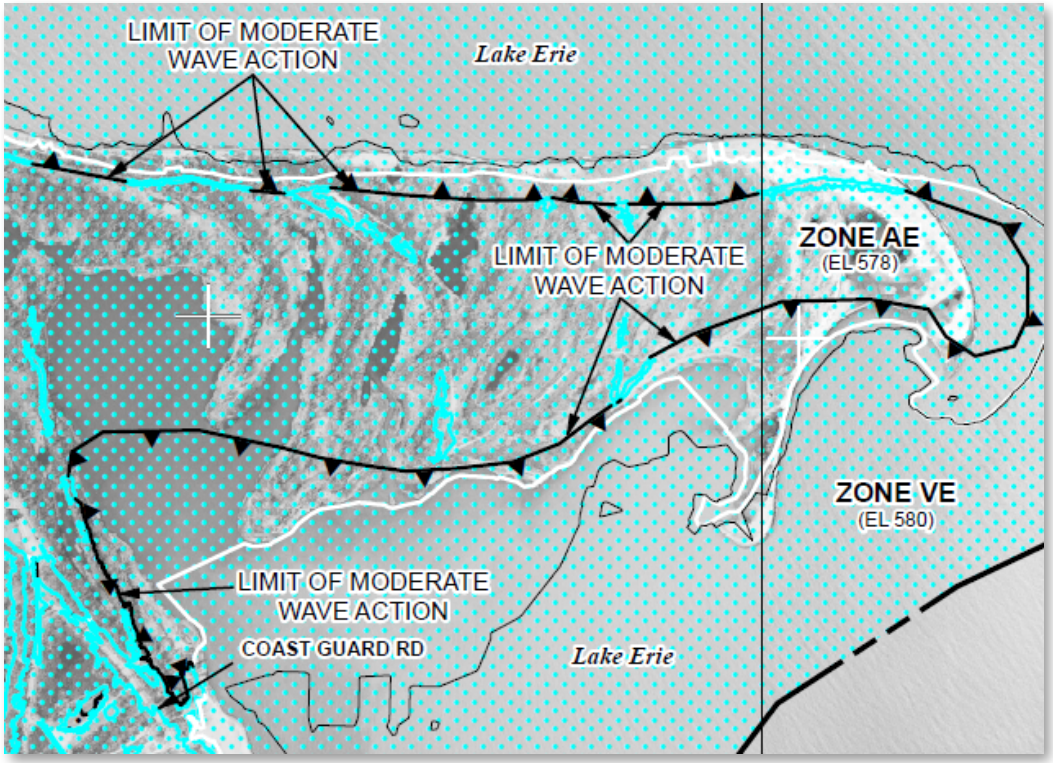
V Zones

- Fill not allowed for structural support of buildings.
- Open foundation on columns or piles free of obstructions or designed with break away walls.
- Bottom of lowest horizontal structural member to or above BFE.
- Professional Engineer or Architect shall certify the design, including wind loading, of the structure and be on file with the permit records.



LiMWA (Limit of Moderate Wave Action) on the Map

- At present, not a regulatory requirement
- Community Rating System (CRS) benefit for communities requiring VE Zone construction standards in areas defined by LiMWA or areas subject to waves greater than 1.5 feet
- Building codes may require construction to VE Zone standards when in a LiMWA

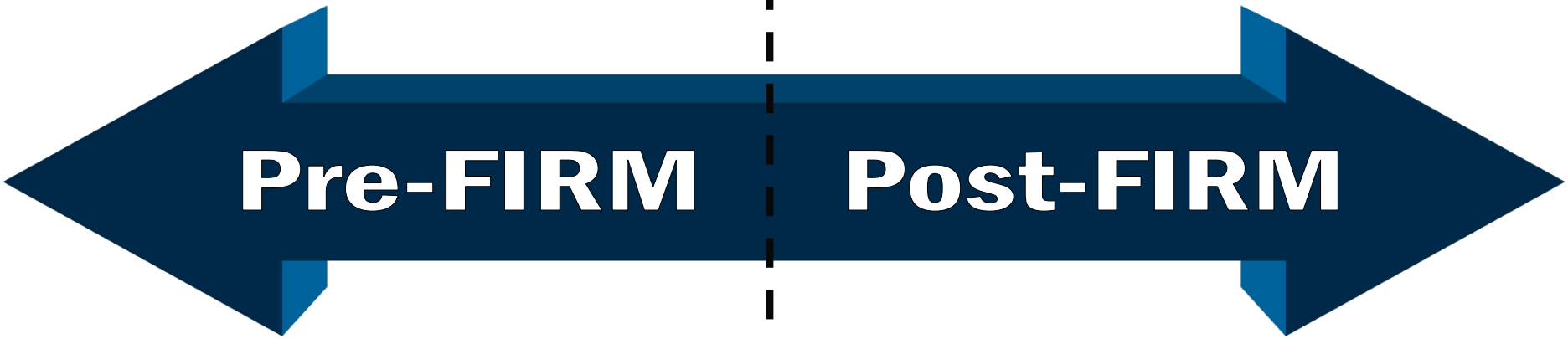


Understanding Flood Insurance

Flood Insurance Basic Concepts

- Structures built on or before **December 31, 1974**, or before the effective date of the initial FIRM of the community, whichever is later.

- Structures built after **December 31, 1974**, OR on or after the effective date of the initial FIRM of the community, whichever is later.



Flood Insurance Basic Concepts

- **Pre-FIRM (subsidized) rates**
  - For structures built before the first maps of the community
  - Do not reflect the structure's true risk negatively or positively
  - Based on building type, occupancy
  - Subsidies are being phased out, with some categories increasing more quickly
- **Post-FIRM (actuarial) rates**
  - Uses the structure's elevation information to determine risk
  - Based on elevation difference between BFE (Base Flood Elevation) and lowest floor
  - For Post- and Pre-FIRM structures, if there is an elevation certificate

Effects of New Flood Zones on Flood Insurance

- **A property owner's insurance needs may change with the new zones.**

  The new FIRM may:

  - Map a property into the SFHA for the first time
    - Their lender may require them to get an insurance policy
  - Create a zone change on an already mapped-in property
    - Moving from an "A" zone to a "V" zone
    - Rating will change the next policy year
  - Not affect a property or an insurance policy at all

Insurance Rates in Zone VE

Subsidized Rate Class

- Structures are likely already shown in the SFHA (zone A, AE, A1-30, AH, or AO) on the prior FIRM, and
- In Standard Rated Policy
  - The rates may be somewhat higher than other rate classes and are receiving subsidy phase-out

Actuarial (Elevation Based) Rate Class

- Built after first FIRM or New construction in V zones
- Rates are higher across the board based on obstructions: lattice work, horizontal member, enclosures, etc.
- Built correctly without obstruction can be less costly

New Construction in Post-FIRM VE Zone

- Don't expect, or predict, "affordable" flood insurance to be available for new construction in Zone VE
- Hold design professionals and construction contractors to the highest standard in Zone VE
- Avoid it if possible

Insurance Rating and Product Possibilities

- **Grandfathering (Standard)**
  - Keeps lower rate zone and/or BFE
- **Two Ways**
  - Continuous coverage (Pre & Post)
    - Coverage obtained prior and through a map change
  - Built-in-compliance
    - Post-FIRM ONLY
    - Built in compliance with the map at the time
- **Newly Mapped Preferred Risk Policy**
  - Must be Newly Mapped into SFHA from previous FIRM
  - Must have two or fewer losses from NFIP or disaster assistance
  - Bundled standard Preferred Risk Policy for the first year
  - Multiplier added after the first year

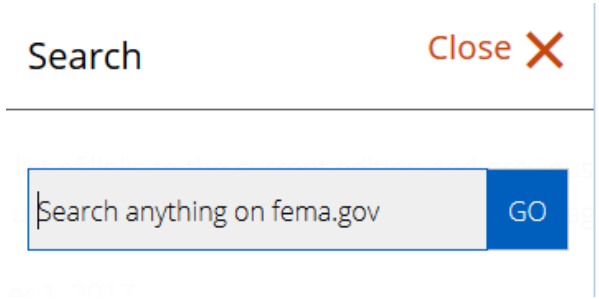
Insurance Rating and Product Possibilities

- **Grandfathering (Standard)**
- **Exceptions**
  - Can't have lapse in coverage
  - Building can't be altered/substantially improved

- **Newly Mapped Preferred Risk Policy**
- **Exceptions**
  - Can't be community's first FIRM
  - Multi-unit buildings insured under the RCBAP
  - Policy is first purchased more than 12 months after the effective date of the FIRM
  - Can't have lapse in coverage
  - Building can't be altered/substantially improved

Resources for Insurance

- **FEMA.Gov**



- **Grandfathering**
- **Newly Mapped PRP**
- **Flood Insurance Reform**

- **Flood Insurance Manual**
  - https://www.fema.gov/flood-insurance-manual
    - General Rules
    - Newly Mapped
    - Rating
- **Flood Insurance Rate Maps**
  - www.msc.fema.gov

Question & Answer Session

Questions and Additional Information

Visit:

www.greatlakescoast.org

www.fema.gov/preliminaryfloodhazarddata

FEMA ArcGIS Online Preliminary Map Viewer

Contact:

STARR II (Contractor)

Adam Pooler

513-842-8237

Adam.Pooler@starr-team.com

FEMA Region V

Ken Hinterlong

312-408-5529

Ken.Hinterlong@fema.dhs.gov

Next Step: Open House