National Flood Insurance Program (NFIP)

Naugatuck Valley Council of Government (NVCOG)

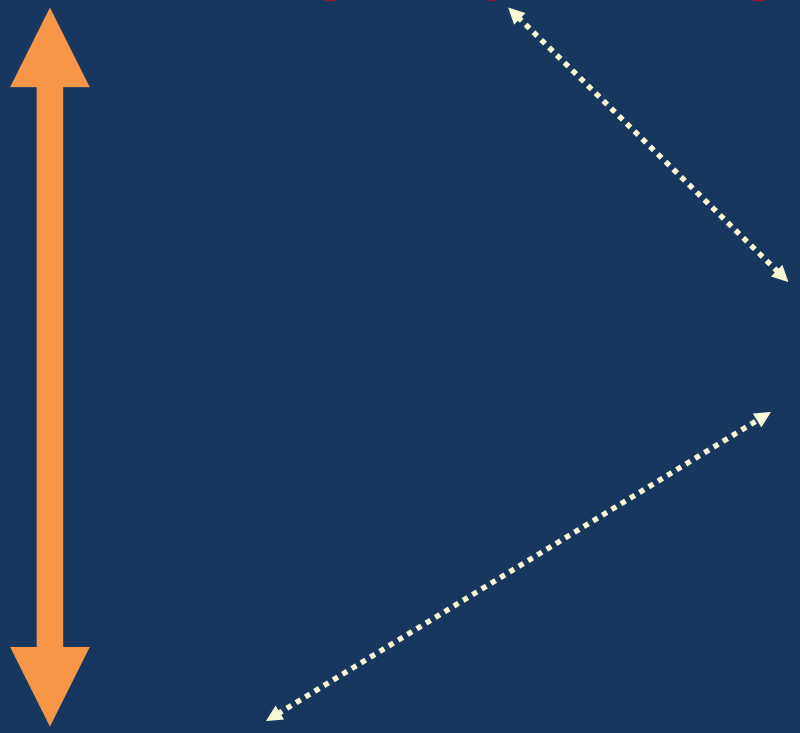
September 21, 2023 - Ansonia

Diane Ifkovic, State NFIP Coordinator

National Flood Insurance Program

- Billion Dollar Betsy, hurricane 1965
- National Flood Insurance Act of 1968
- **Flood Maps** – FEMA produces flood maps
- **Flood Regulations** – Communities must adopt the flood maps and minimum FEMA construction requirements into local zoning regulations
- **Flood Insurance** – FEMA makes federal flood insurance available to property owners in NFIP participating communities

Roles and Responsibilities



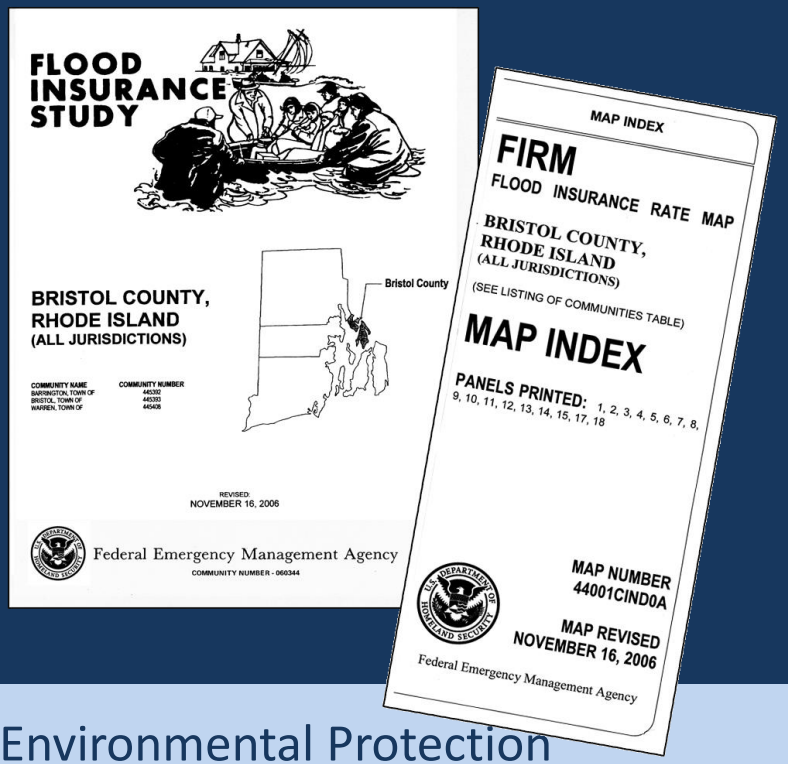
Federal Emergency Management Agency

State NFIP Coordinating Agency - CTDEEP

Community (Town, City, Borough, Fire District, Association – regulates development through zoning)

Flood Maps and Flood Studies

- **Flood Insurance Rate Map (FIRM)**
- **Primary floodplain management tool. It all starts with the FIRM.**
- **Product of the Flood Insurance Study (FIS).**
- **Identifies flood zones in your community**
- **Product is used by many audiences**
  - **Government Officials**
  - **Lenders**
  - **Insurance Agents**
  - **Surveyors**
  - **Design Professionals**
  - **Realtors**
  - **Residents**

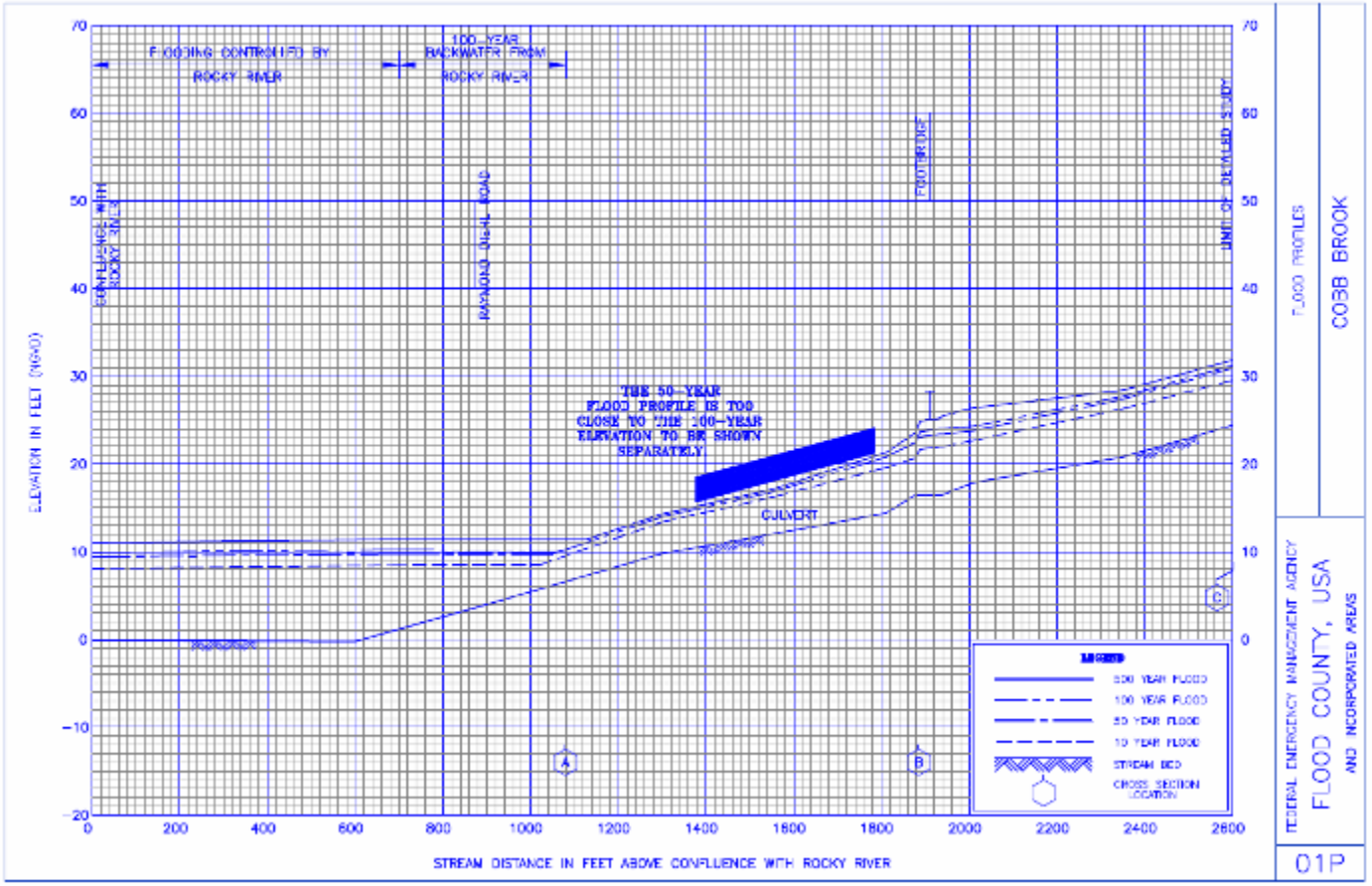


FLOOD INSURANCE STUDY

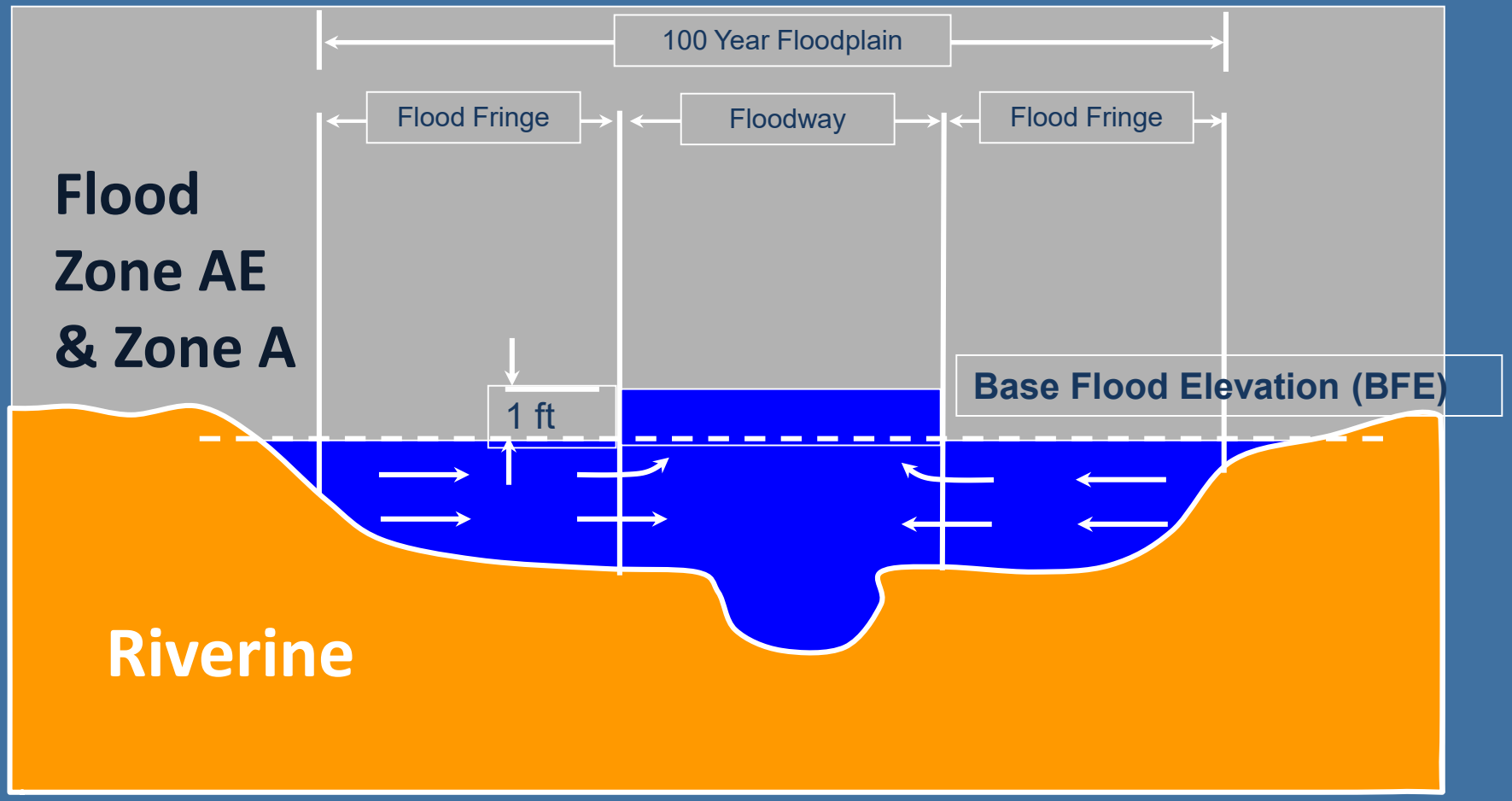
FLOOD
USA
AND INCO

COMMUNITY
NAME
FLOOD COUNTY
(UNINCORPORATED AREA
FLOODVILLE, 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

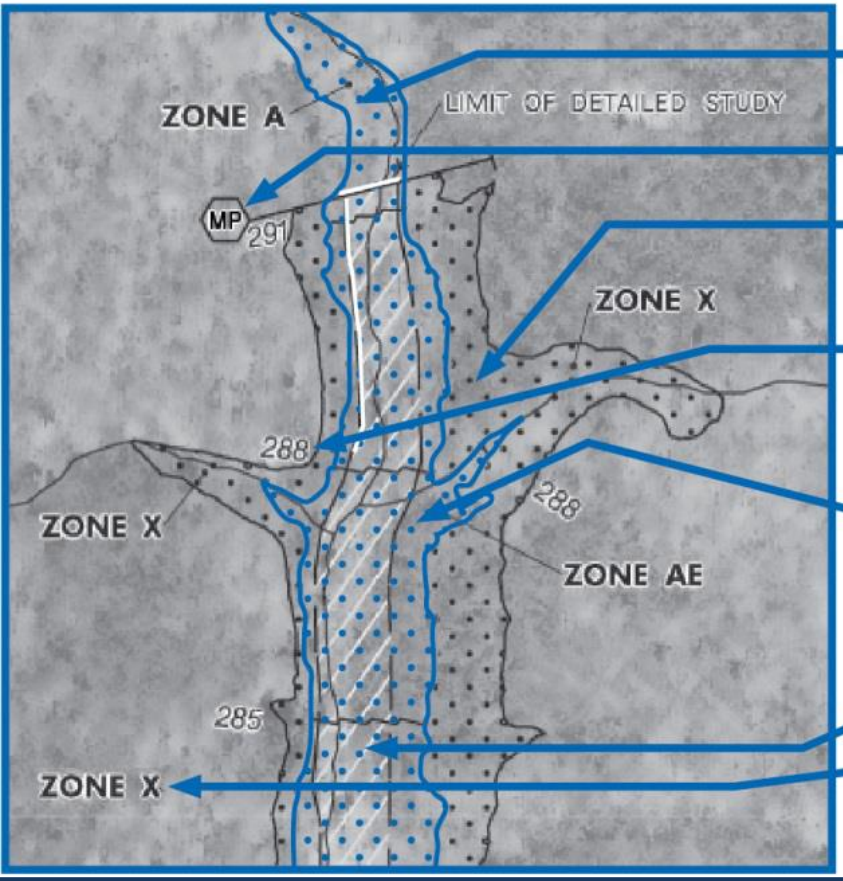


What is the 100-Year Floodplain?



The 100-year floodplain is the land subject to a 1% or greater chance of flooding in any given year. It is also called the Special Flood Hazard Area (SFHA) by FEMA. Floodway is the channel and adjacent land reserved in order to discharge the base flood.

FEMA Flood Insurance Rate Map (Riverine)



1. **Zone A** (approximate) is the flood hazard area without BFEs.
2. **Cross Section** location.
3. **Shaded Zone X** is the 0.2-percent-annual-chance (500-year) floodplain (formerly Zone B).
4. **Base Flood Elevation (BFE)** is the water surface elevation of the base flood rounded to the nearest whole foot (consult FIS profiles and tables for more accurate elevations).
5. **Zone AE** is the 1-percent-annual-chance (100-year) floodplain with BFEs (formerly Zones A1-A30).
6. The **Floodway** is the cross-hatched area.
7. **Unshaded Zone X** is all other areas considered low risk (formerly Zone C).

- NVCOG is comprised of 19 communities
- Four Counties – New Haven, Litchfield, Fairfield, Hartford
- Four Major Watersheds – Quinnipiac, Saugatuck, Farmington, Housatonic Rivers

History of FEMA Flood Mapping

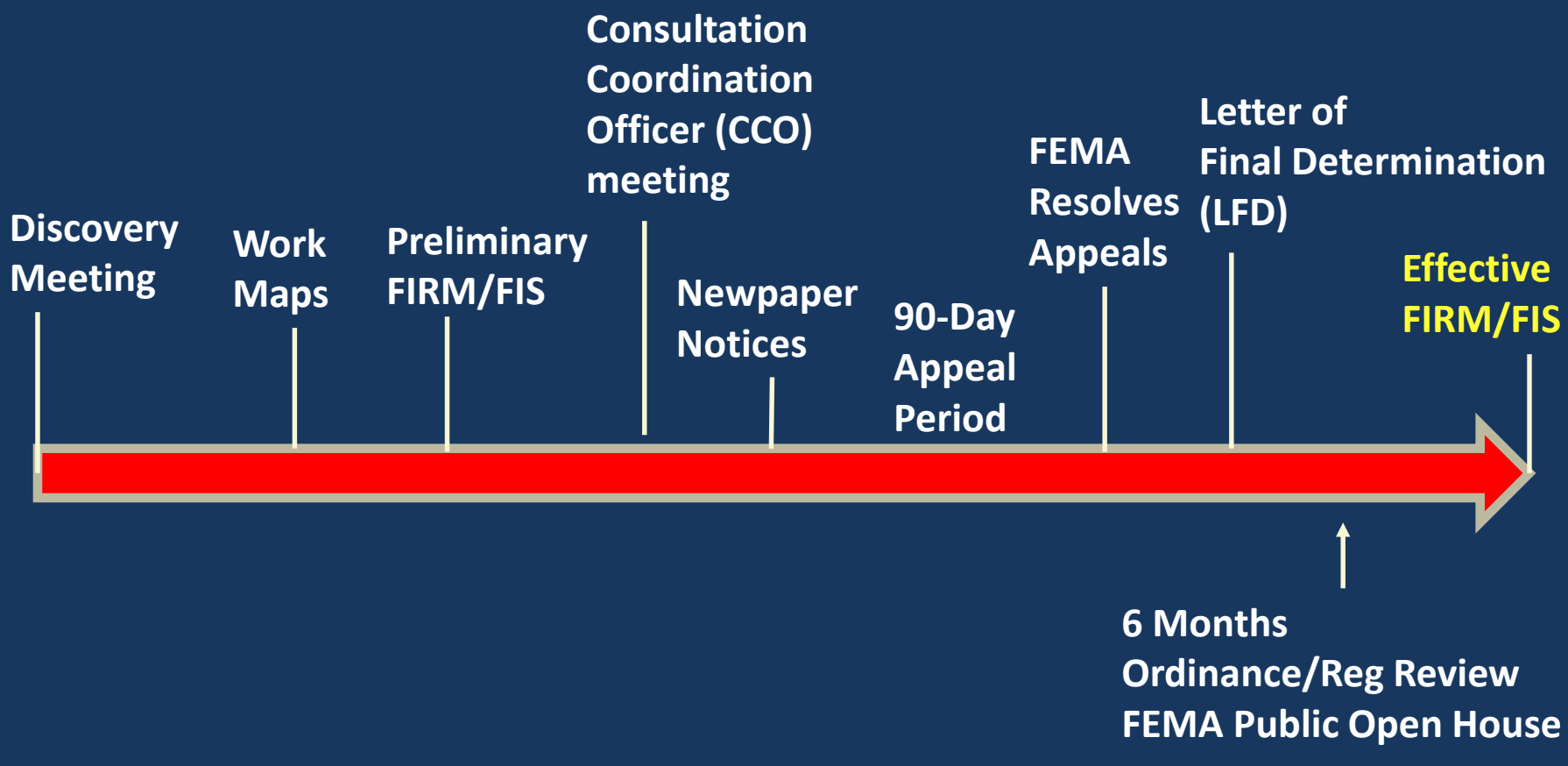
- Individual Community Maps (joined NFIP 1978 to 1990)
- County Maps (2008-2010)
  - New Haven County – December 17, 2010
  - Hartford County (Bristol) – September 26, 2008
  - Fairfield County (Shelton) – June 18, 2010
  - Litchfield County – No countywide update
    Bethlehem, Plymouth, Thomaston, Watertown, Woodbury

onia, Derby

- Watersheds (2015 to present)
  - Quinnipiac River Watershed – May 16, 2017
    Ansonia, Bristol, Cheshire, Derby

Mapping Process Timeline

Congressional Appropriation $



CT Flood Map Updates - Watersheds

Saugatuck River Watershed

20 communities in Fairfield County

1 NVCOG community - Shelton

USGS mapping contractor

Preliminary maps/study issued July 26, 2023

CCO Meeting held September 12, 2023 with individual town meetings September 14 & 27, 2023

Effective maps/study projected October 2025

- Discovery meetings were held June 7, 2016

CT Flood Map Updates - Watersheds

Farmington River Watershed

27 communities in Hartford & Litchfield Counties

2 NVCOG communities – Bristol, Plymouth

Compass is mapping contractor

Hartford County (Bristol) – prelim maps/study June 29, 2023

CCO meeting held August 29, 2023

Effective maps/study projected September 2025

Litchfield County (Plymouth) – prelim maps/study June 2024

CT Flood Map Updates - Watersheds

Housatonic River Watershed

54 communities in Fairfield, Hartford, Litchfield & New Haven Counties

All 19 NVCOG communities included in watershed study

Includes levee study on Naugatuck River (Ansonia & Derby)

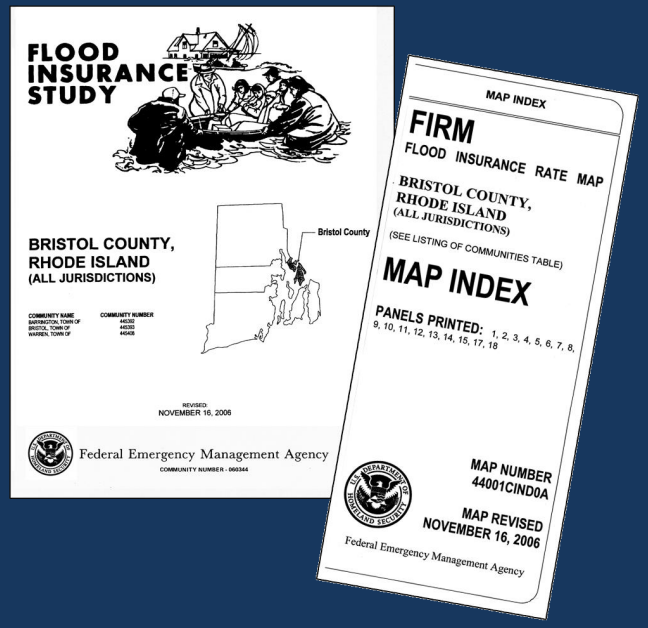
***September 28, 2023 meeting at Ansonia Public Works**

U.S. Geological Survey mapping contractor

Work maps scheduled for release December 6, 2023

Where can I get a FIRM or FIS?

https://msc.fema.gov/portal/home



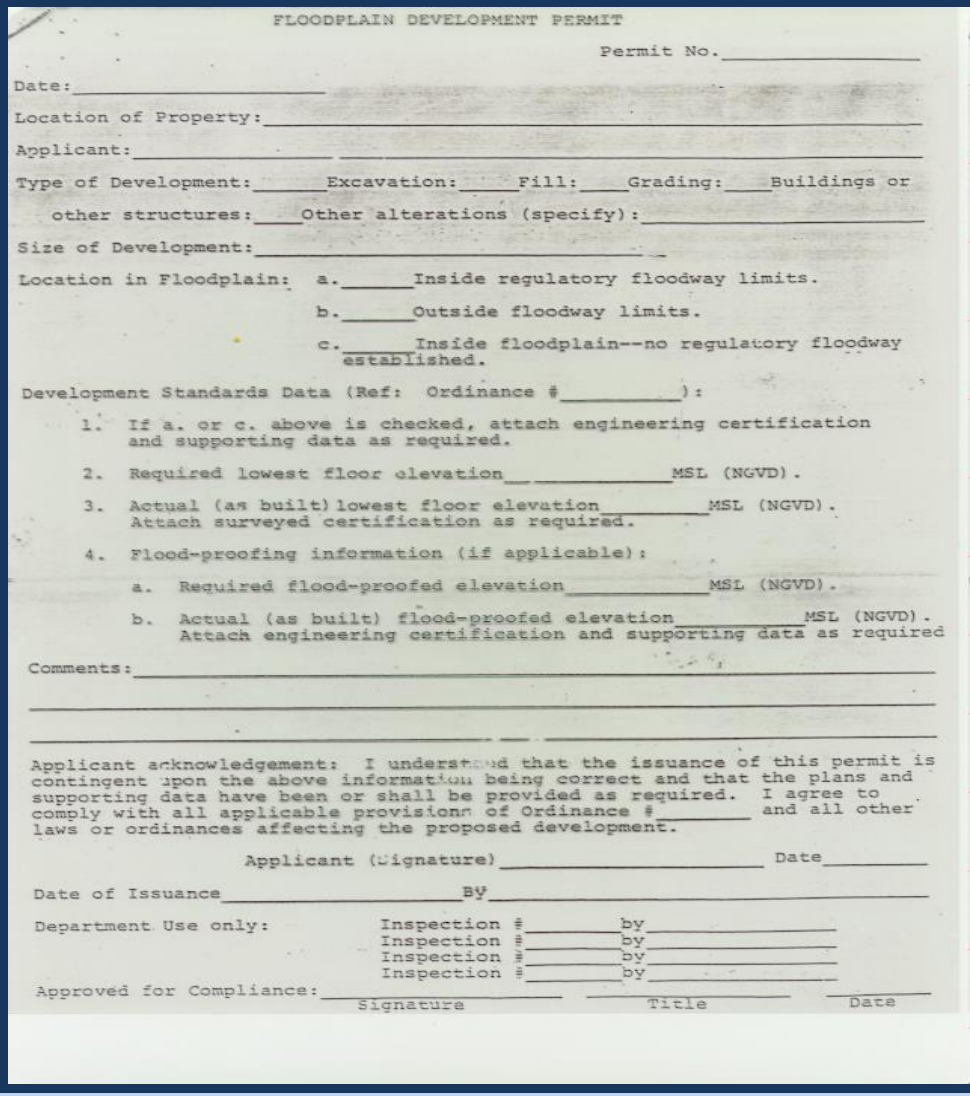
Hard copy in town hall- planning, zoning, engineering, building, town clerk, can reprint from MSC

Floodplain Regulations

- To participate in the NFIP, municipality must adopt and enforce floodplain management regulations or ordinance that meet FEMA minimum standards
- **Currently, ALL Connecticut municipalities participates in the NFIP!**
  - **Mortgages (Mandatory Purchase Requirement)**
  - **Federal Disaster Assistance for community (Public Assistance – PA $$$)**

Permits and Enforcement

- Municipality enforces the federal NFIP standards through local zoning and building permit process
  - **Zoning Permit**
  - **Development Permit**
  - **Building Permit**
  - **Land Use Permit**
  - **Floodplain Permit**



FLOODPLAIN DEVELOPMENT PERMIT

Permit No._____

Date:_____

Location of Property:_____

Applicant:_____

Type of Development:_____Excavation:____Fill:____Grading:____Buildings or other structures:____Other alterations (specify):_____

Size of Development:_____

Location in Floodplain: a._____Inside regulatory floodway limits.
b._____Outside floodway limits.
c._____Inside floodplain--no regulatory floodway established.

Development Standards Data (Ref: Ordinance #_____):

1. If a. or c. above is checked, attach engineering certification and supporting data as required.
2. Required lowest floor elevation_____MSL (NGVD).
3. Actual (as built) lowest floor elevation_____MSL (NGVD). Attach surveyed certification as required.
4. Flood-proofing information (if applicable):
   a. Required flood-proofed elevation_____MSL (NGVD).
   b. Actual (as built) flood-proofed elevation_____MSL (NGVD). Attach engineering certification and supporting data as required

Comments:_____

Applicant acknowledgement: I understand that the issuance of this permit is contingent upon the above information being correct and that the plans and supporting data have been or shall be provided as required. I agree to comply with all applicable provisions of Ordinance #_____ and all other laws or ordinances affecting the proposed development.

Applicant (Signature)_____ Date_____

Date of Issuance_____BY_____

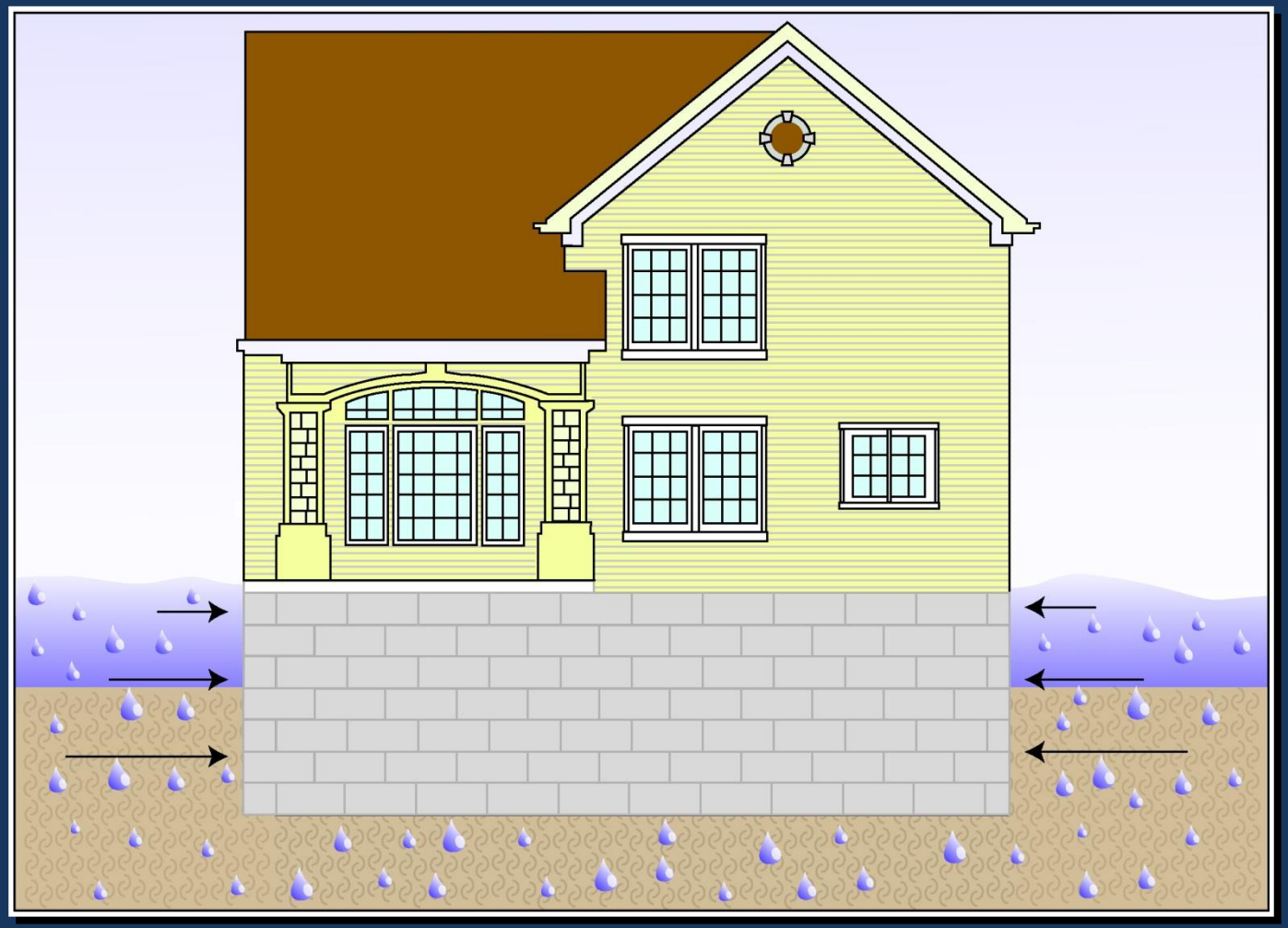
Department Use only: Inspection #_____by_____
Inspection #_____by_____
Inspection #_____by_____
Inspection #_____by_____

Approved for Compliance:_____ _____ _____
Signature Title Date

State Building Code Update

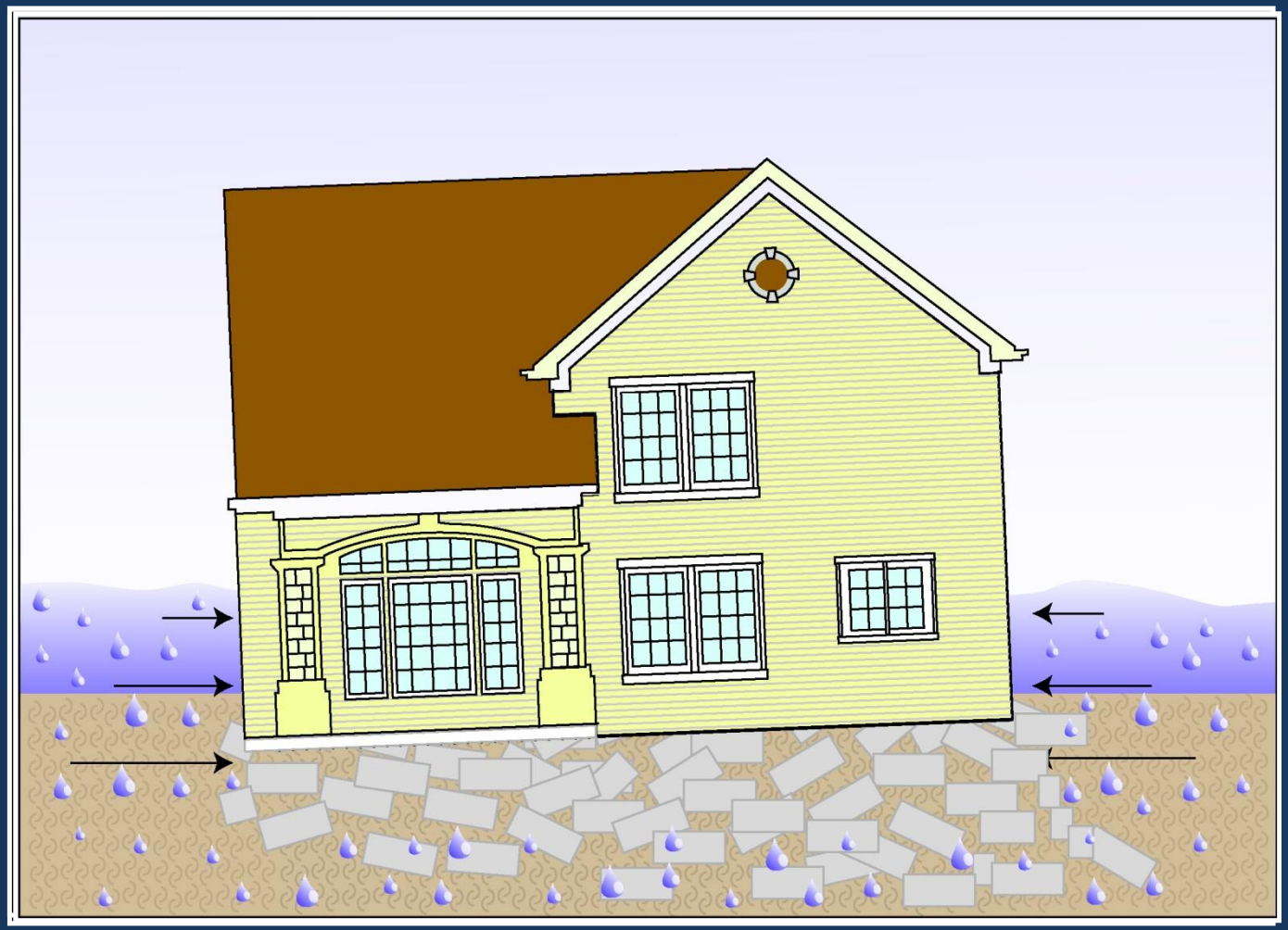
- 2015 International Residential Code (IRC) adopted October 1, 2018
- 2021 IRC adopted October 1, 2022
- Section R322, Flood-Resistant Construction
  - **AE and A Zones – Lowest floor elevated to BFE plus 1 foot**
  - **Coastal AE and VE Zones – Bottom of the lowest horizontal structural member supporting the lowest floor elevated to BFE plus one foot on pier, post or pile foundation. Coastal AE zone breakaway walls must also contain flood vents.**
- Coastal High Hazard Area now includes VE zones and Coastal AE zones
- Coastal AE zone defined by the Limit of Moderate Wave Action (LiMWA) line on a FIRM. Area with wave action between 3.0 - 1.5 ft.

Hydrostatic Forces



Weight of standing water on a structure exerts a horizontal force. The deeper the water, the more it weighs and the greater the hydrostatic pressure. Installation of flood vents allow pressure to equalize so foundation does not collapse.

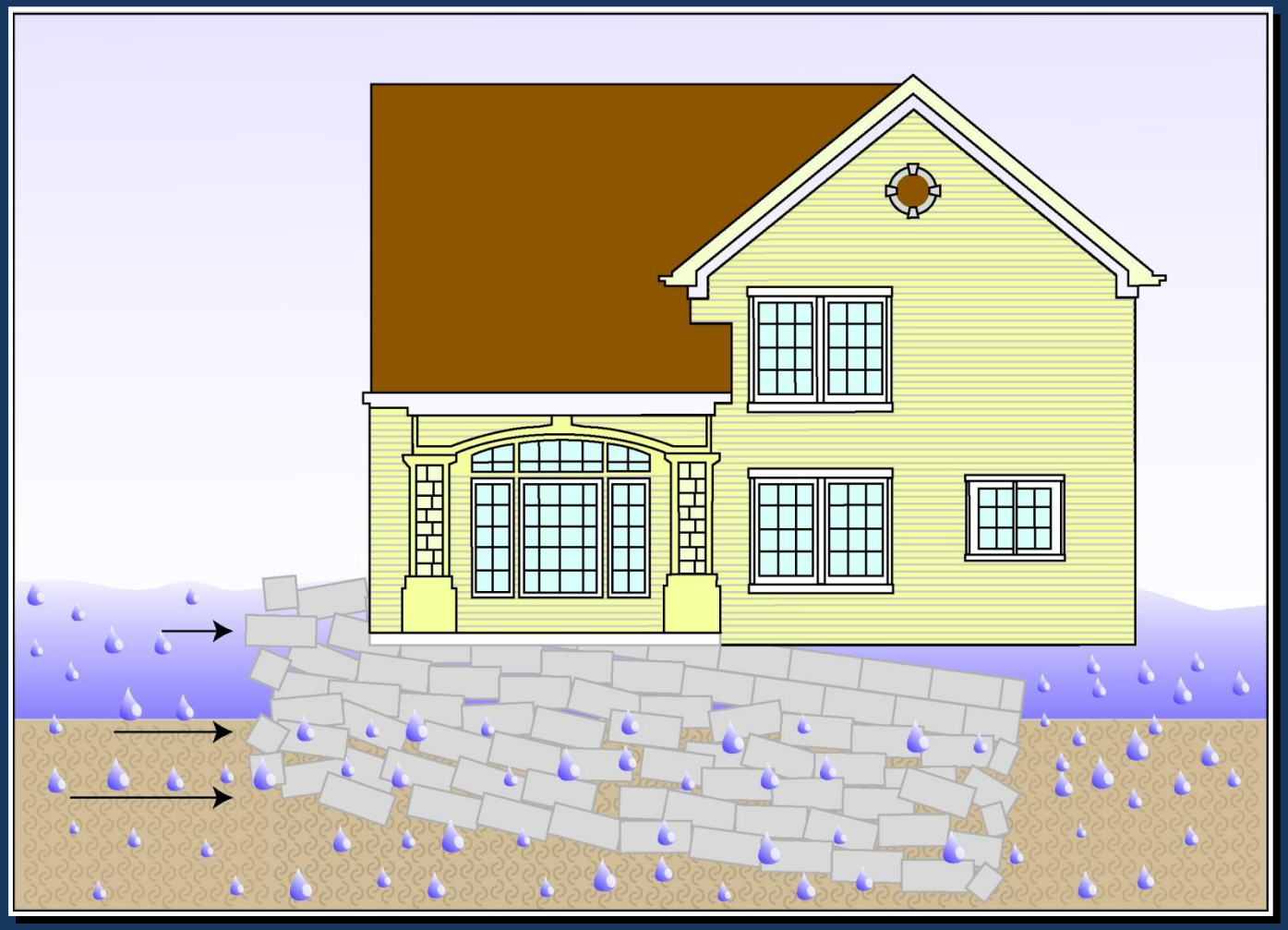
Hydrostatic Forces



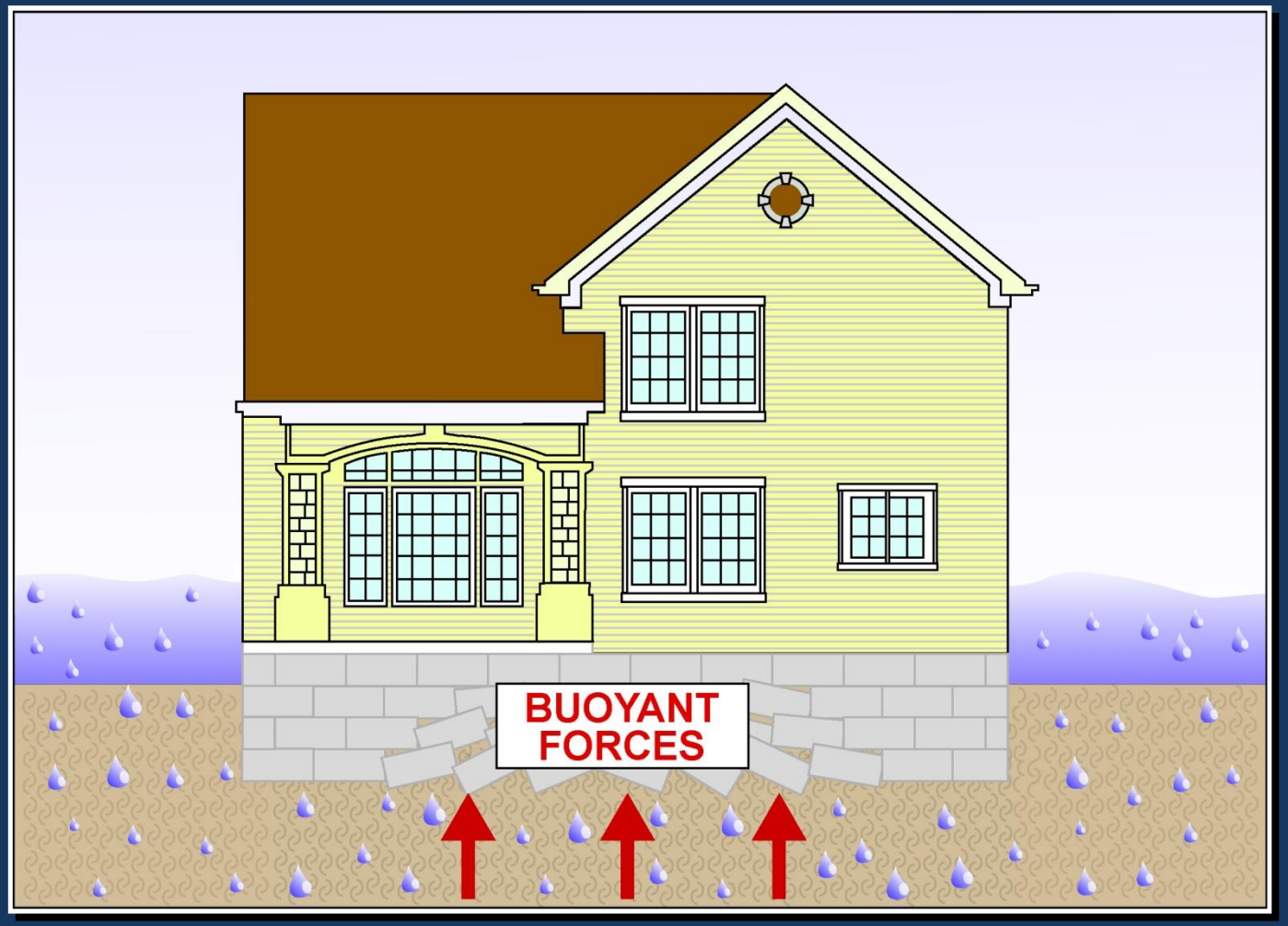
Hydrodynamic Forces

Moving water creates hydrodynamic forces that can create frontal impacts, drag effects, and negative pressure (suction). This can destroy the foundation or move a structure off its foundation.

Hydrodynamic Forces



Buoyant Forces



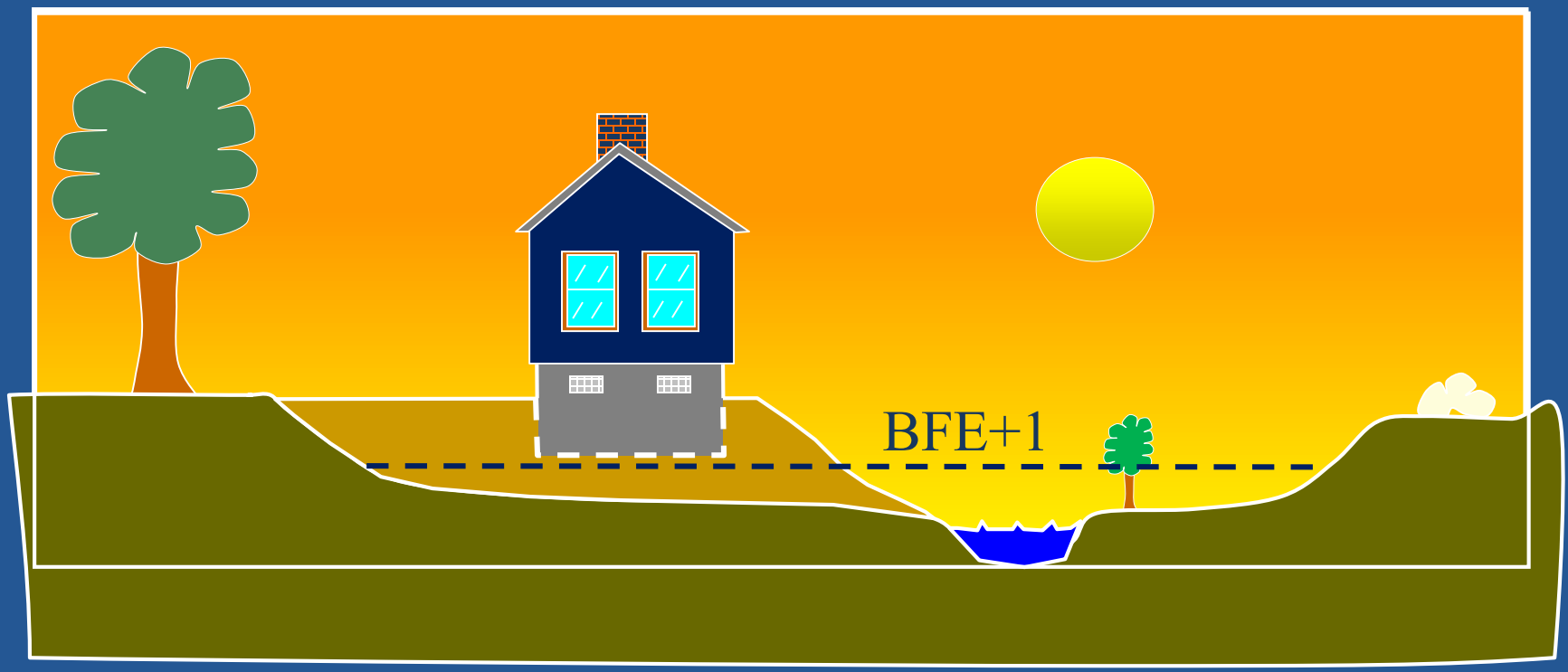
Upward force, up thrust

Debris Impact Forces

Tanks, logs, lumber, ice, boats, vehicles

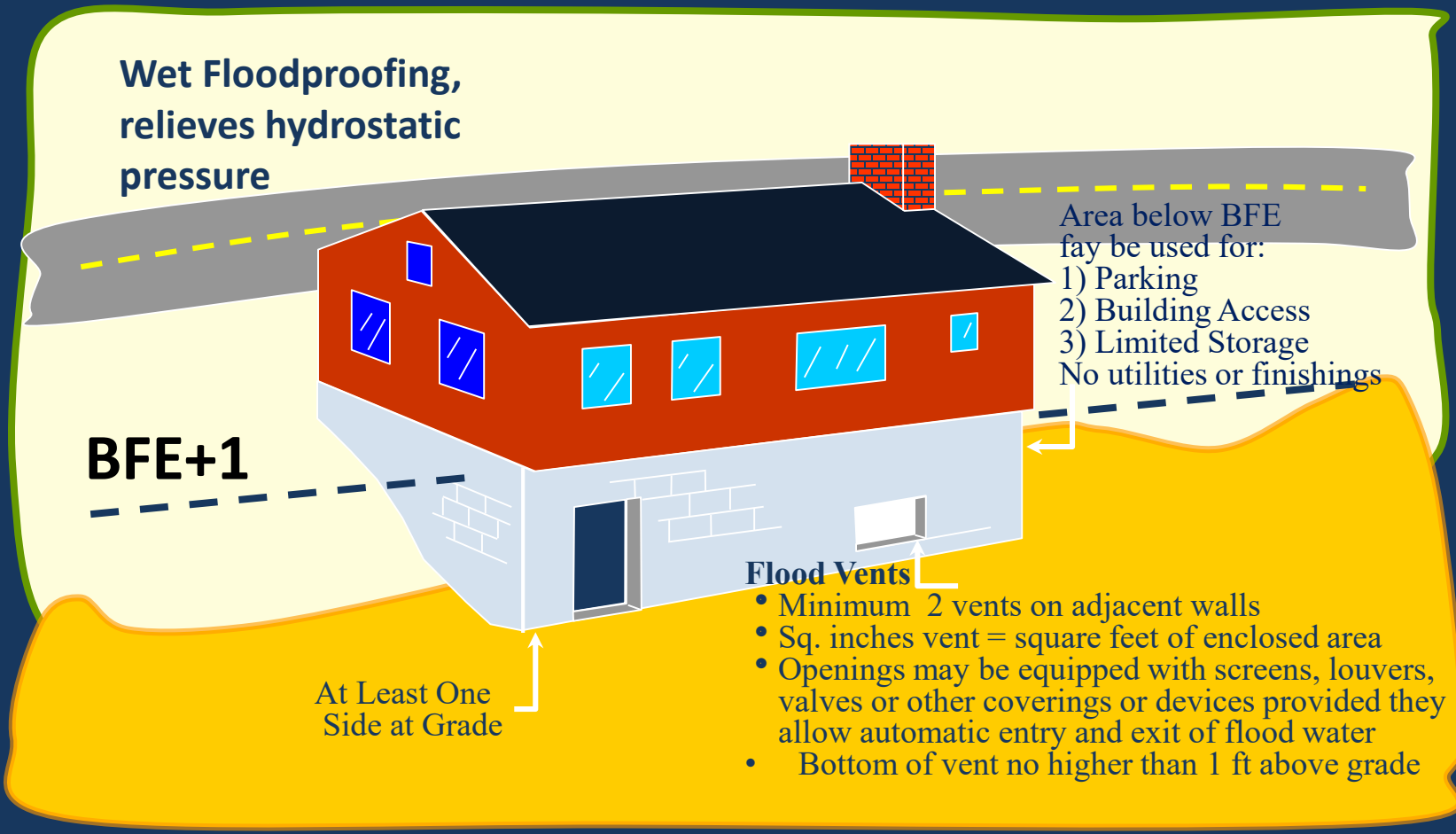
Elevated Residential Structures in Riverine AE & A Zones

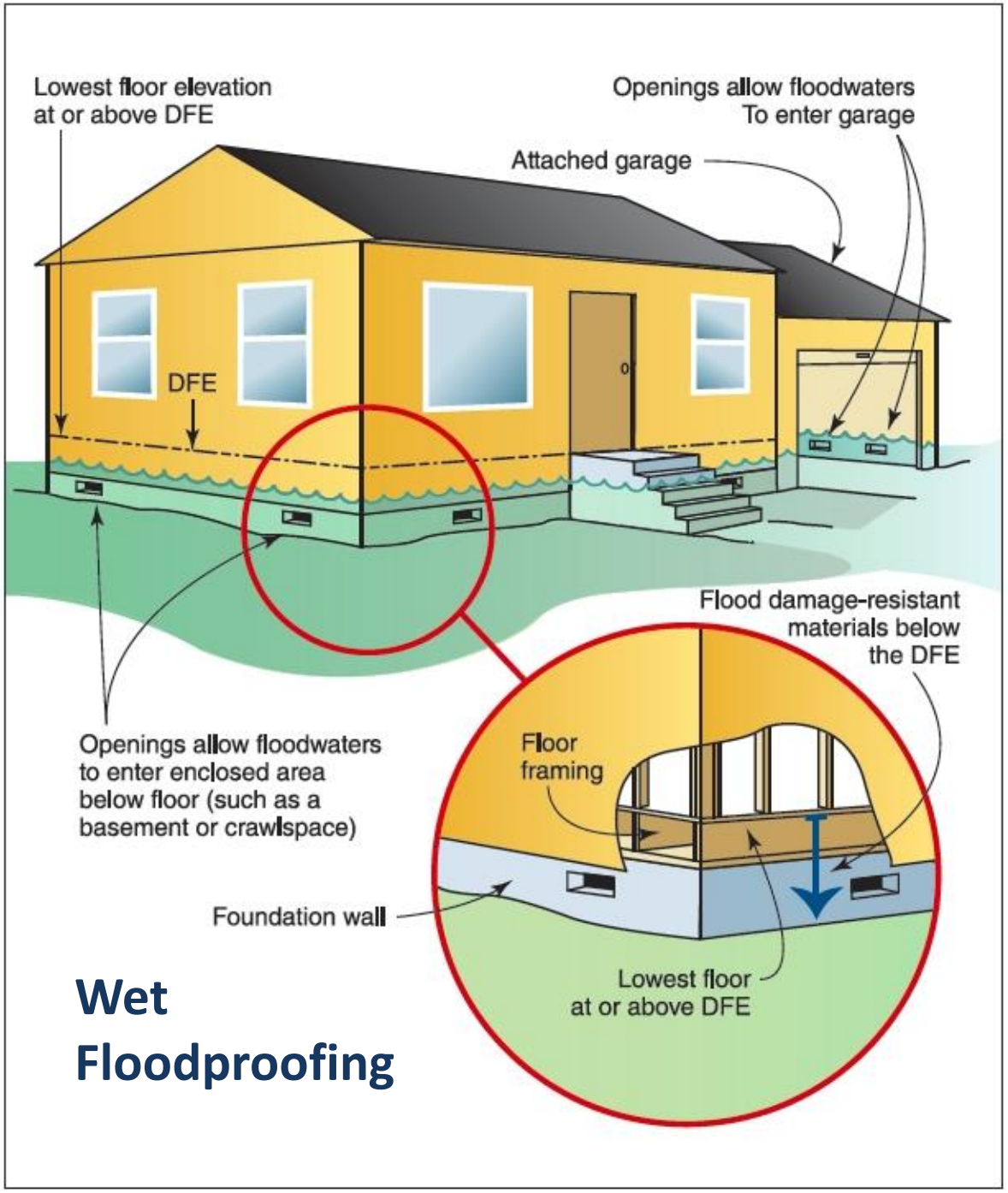
Lowest floor must be elevated at or above BFE



Fully Enclosed Areas Below BFE

FEMA Technical Bulletin 1, Openings in Foundation Walls and Walls of Enclosures
FEMA Technical Bulletin 2, Flood Damage Resistant Materials
FEMA Technical Bulletin 7, Wet Floodproofing Requirements





Wet Floodproofing

FEMA Technical Bulletin 11-Crawlspace Construction for Buildings in the Special Flood Hazard Area

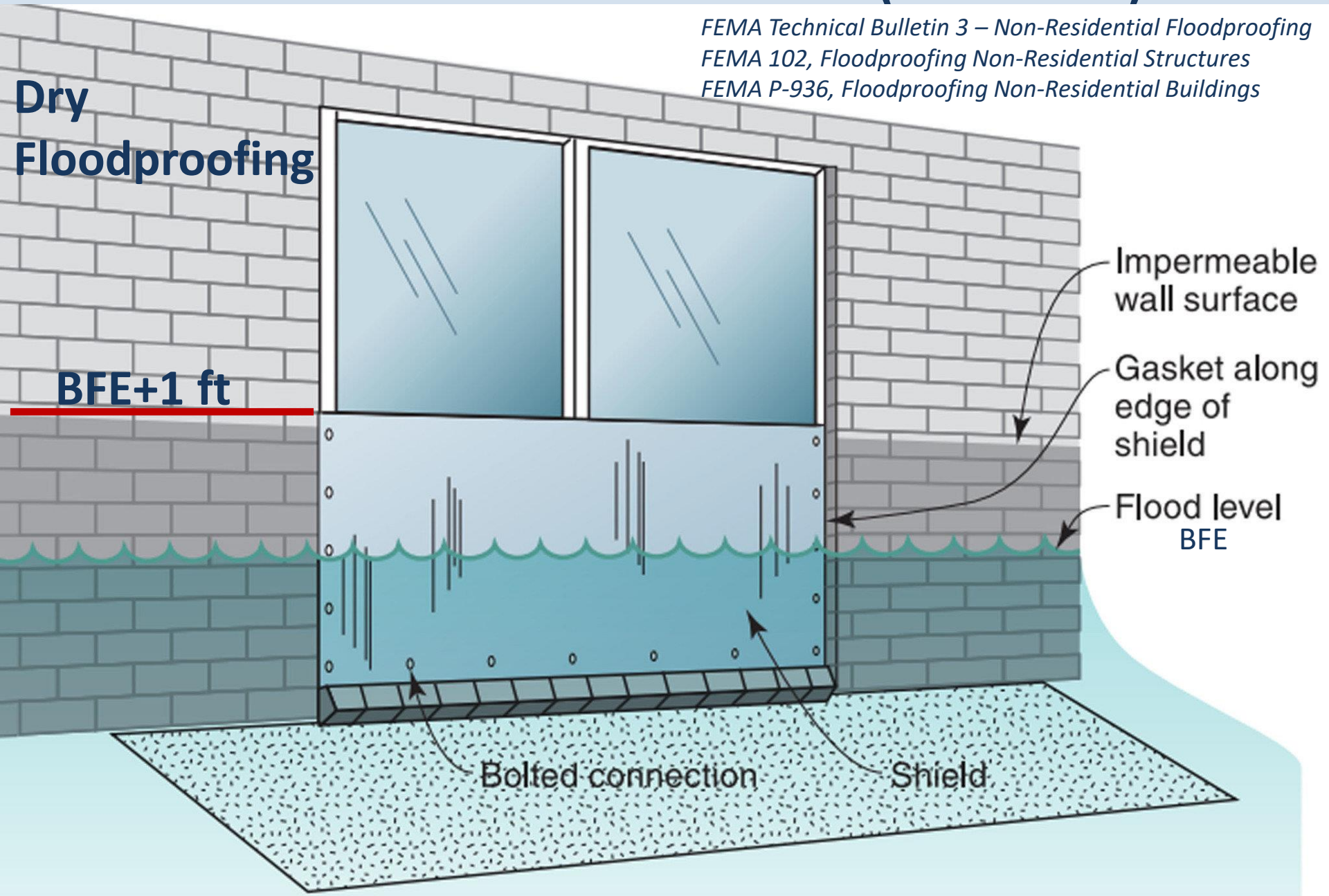
Below grade crawlspaces are considered "basements" under the FEMA definition. They can only be allowed if specific language is adopted into your local ordinance.

Below grade crawlspaces will also incur increased insurance costs.

Inland Non-Residential (A & AE)

FEMA Technical Bulletin 3 – Non-Residential Floodproofing
FEMA 102, Floodproofing Non-Residential Structures
FEMA P-936, Floodproofing Non-Residential Buildings

Dry Floodproofing



Homeowner's versus Flood Insurance

- Water that falls from the sky that damages your home is covered by your Homeowner's Insurance Policy.
- Broken pipe, sewer backflow covered by homeowner's policy or separate policy rider.
- If water flows over the ground from a watercourse or ocean, it is covered by a separate flood insurance policy.

Legacy Rating (Old Rating Structure before 2021)

- Flood zone from the flood map
- Base flood elevation (BFE)
- Lowest floor elevation
- Foundation Type
- Date of Construction

Risk Rating 2.0 – October 1, 2021

- Fundamental change to rating flood risk.
- Individualized property risk.
- Many more data points used in rating algorithm.
- Federal and commercial data sets.
- Rates that are easier to understand for agent and policyholder.
- New policies rated with RR 2.0 on October 1, 2021.
- Renewed policies rated with RR 2.0 on April 1, 2022.
- Previous grandfathering rules/rates slowly phased out to actuarial rate.

Risk Rating 2.0 - Rating Criteria

- Distance to the flooding source/water
- Stream order
- Broader range of flood frequencies (10, 50, 100, 500 year)
- Flood type (coastal, riverine, ponding)
- Ground elevation (topography)
- First floor height (not basement floor height)
- Number of floors
- Foundation type (slab on grade, crawlspace, basement, elevated)
- Construction type (wood, masonry)
- Building occupancy (residential, commercial)
- Prior claims
- Cost to rebuild (affordability)

Want More Training?

- **FEMA Emergency Management Institute (EMI)**
- **Association of State Floodplain Managers (ASFPM), www.floods.org**
- **CT Association of Flood Managers (CAFM), www.ctfloods.org, Annual Conference Nov. 1, 2023, Housatonic Community College, Bridgeport**
- **Torrent Newsletter, CTDEEP website, publications**

Questions?

Diane Ifkovic
State NFIP Coordinator
Phone: (860) 424-3537
Email: diane.Ifkovic@ct.gov