



NJDEP Resilient Environments and Landscapes (REAL)

Presentation by: The Hyland Group

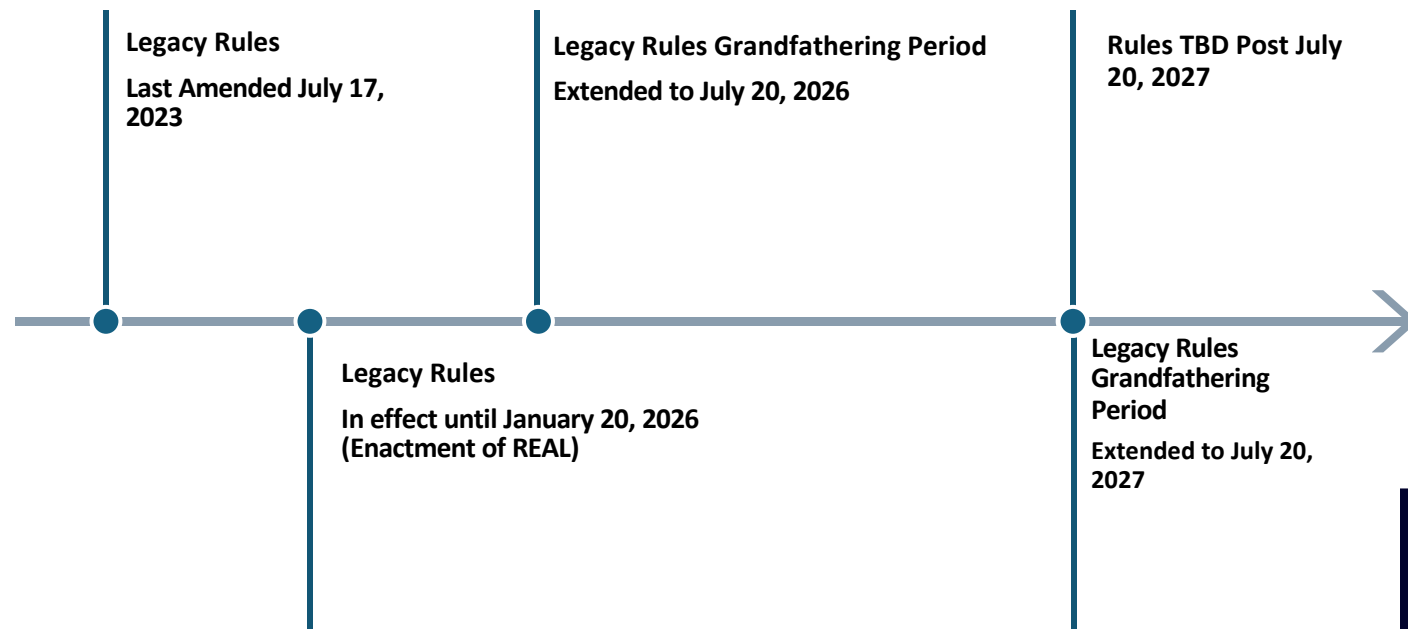
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Purpose of Presentation

1. Understand Current Rules (Legacy), Future Rules (REAL), and the effective periods.
2. Understand how current Design Flood Elevation (DFE) requirements are determined.
3. Understand how new NJDEP REAL Rules impact Design Flood Elevation.
4. Understand Substantial Improvement Rule impacts; Legacy vs REAL.
5. What does this mean to Residential/Commercial business owners?

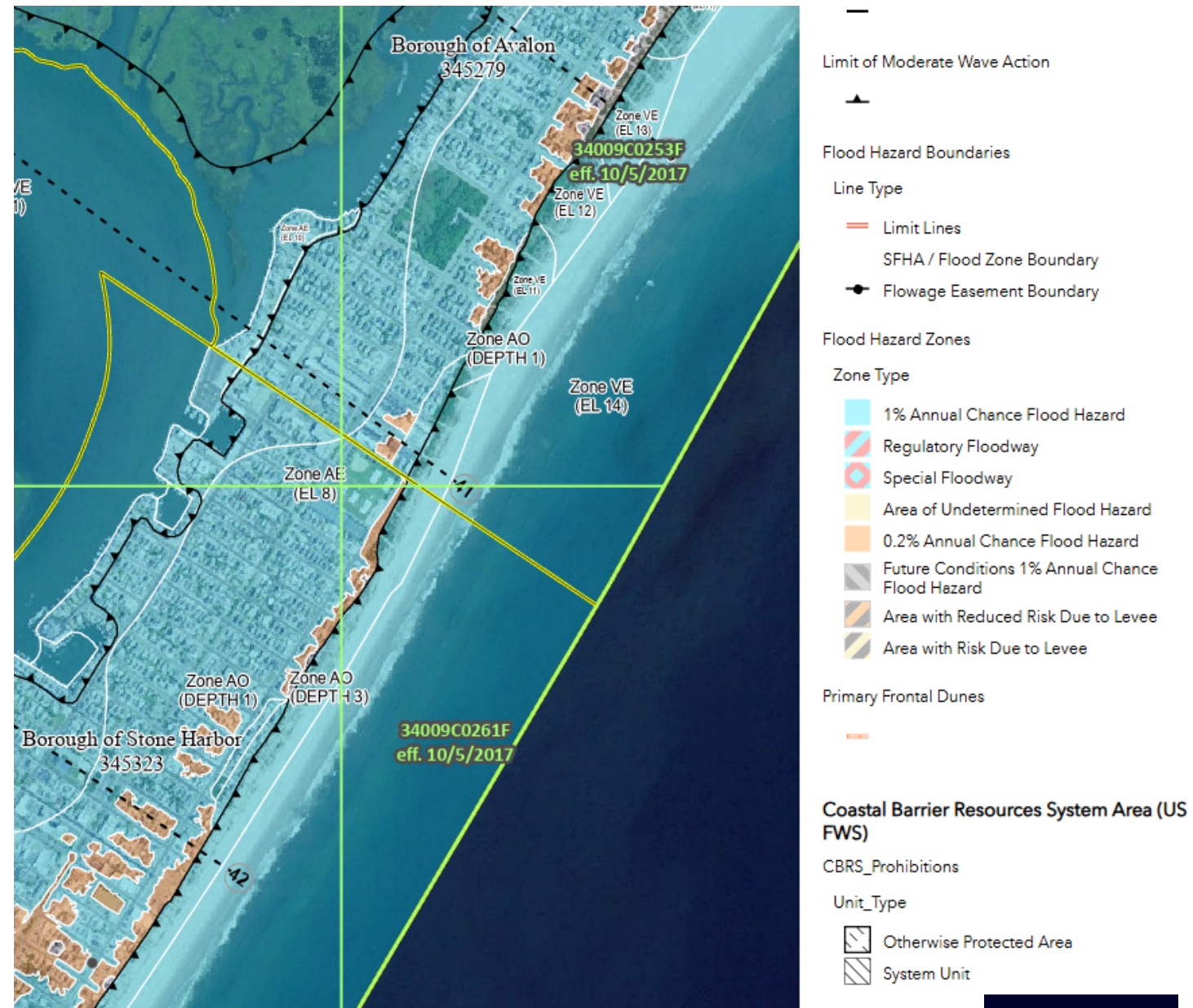
1. NJDEP Legacy vs. REAL Rules

- Legacy Provisions (Last Amended July 17, 2023): In effect by NJDEP until January 20, 2026. Legacy grandfathering period extended from July 20, 2026 until July 20, 2027.
- REAL Rules Amended the Coastal Zone Management rules (NJAC 7:7), the Freshwater Wetlands Protection Act rules (NJAC 7:7A), the Flood Hazard Area Control Act rules (NJAC 7:13), and the Stormwater Management rules (NJAC 7:8) for adaptation to climate change.
 - NJ's main concerns include:
 - Damage to buildings in flood hazard areas (and welfare of those using them)
 - Increased stormwater runoff
 - Vegetation loss leading to erosion and water quality decrease
 - Constraints of the REAL Rules include:
 - Flood Hazard Areas (FHA)
 - Climate-Adjusted Flood Elevation (CAFE)
 - Inundation Risk Zone (IRZ)
 - Floodways (N/A to Stone Harbor & Avalon)



2. How is Current Design Flood Elevation (DFE) Determined?

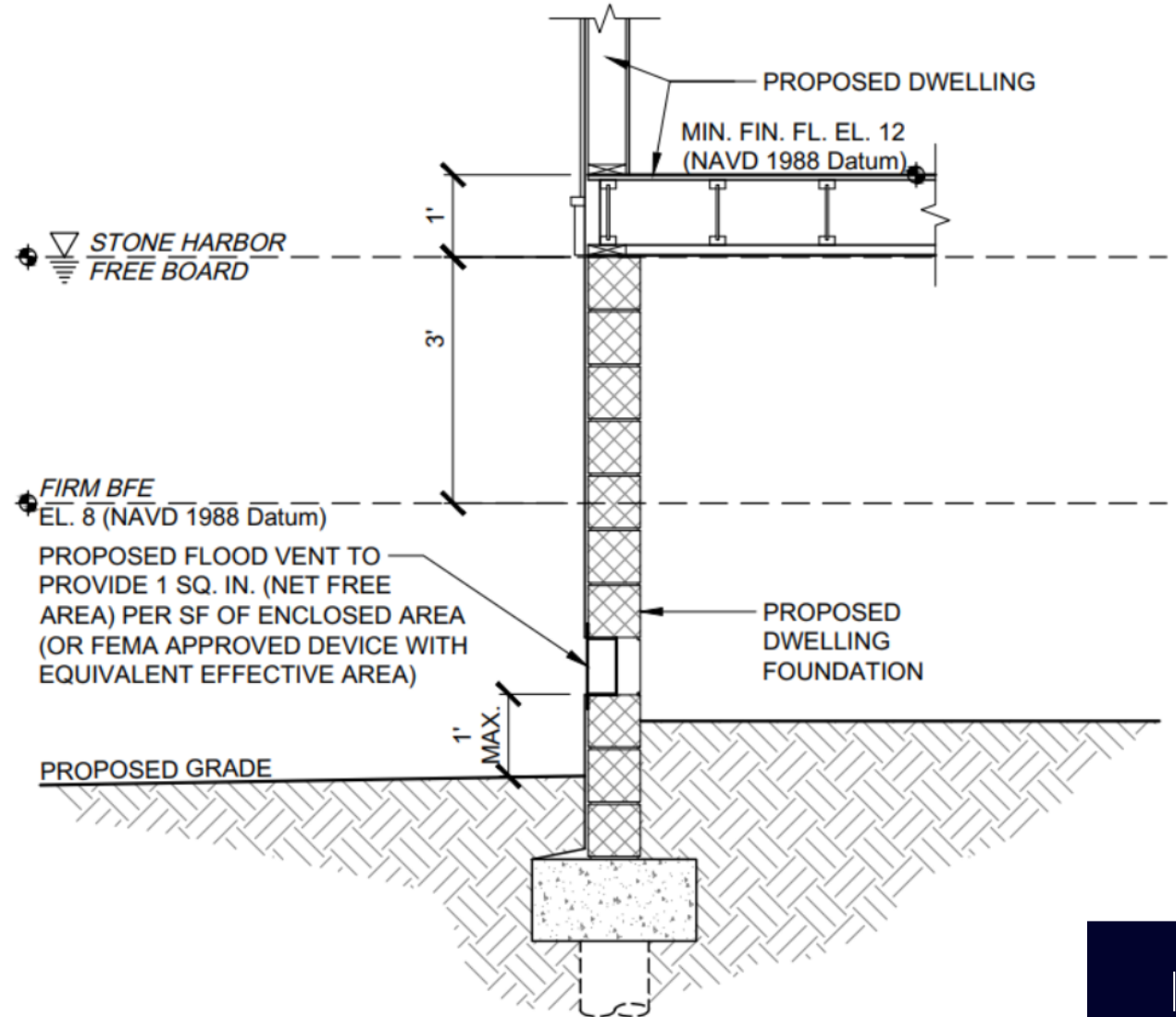
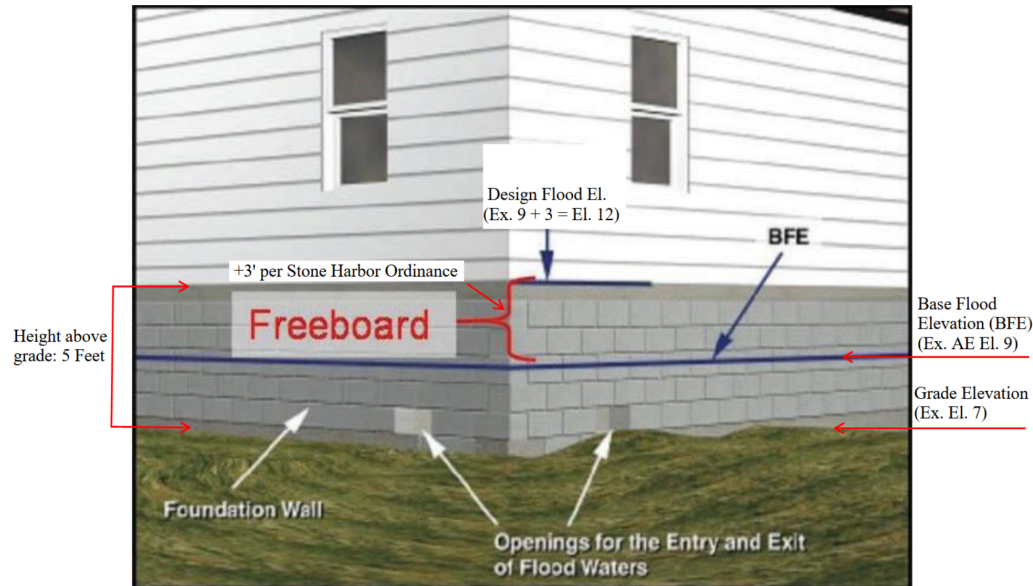
- Design Flood Elevation (DFE):
 - Base Flood Elevation (Determined By FEMA Flood Maps) + Freeboard (Based on Local Ordinance/NJDEP)
- FEMA's flood insurance maps identify **Base Flood Elevations (BFE)** in Flood Hazard Areas
 - Areas subject to the 100-year Design Flood
 - Current maps effective October 5, 2017
- 3 Types of Flood Zones:
 - X Zone – Not subject to flooding
 - AE Zone – Flooding with no velocity
 - VE Zone – Subject to wave attack



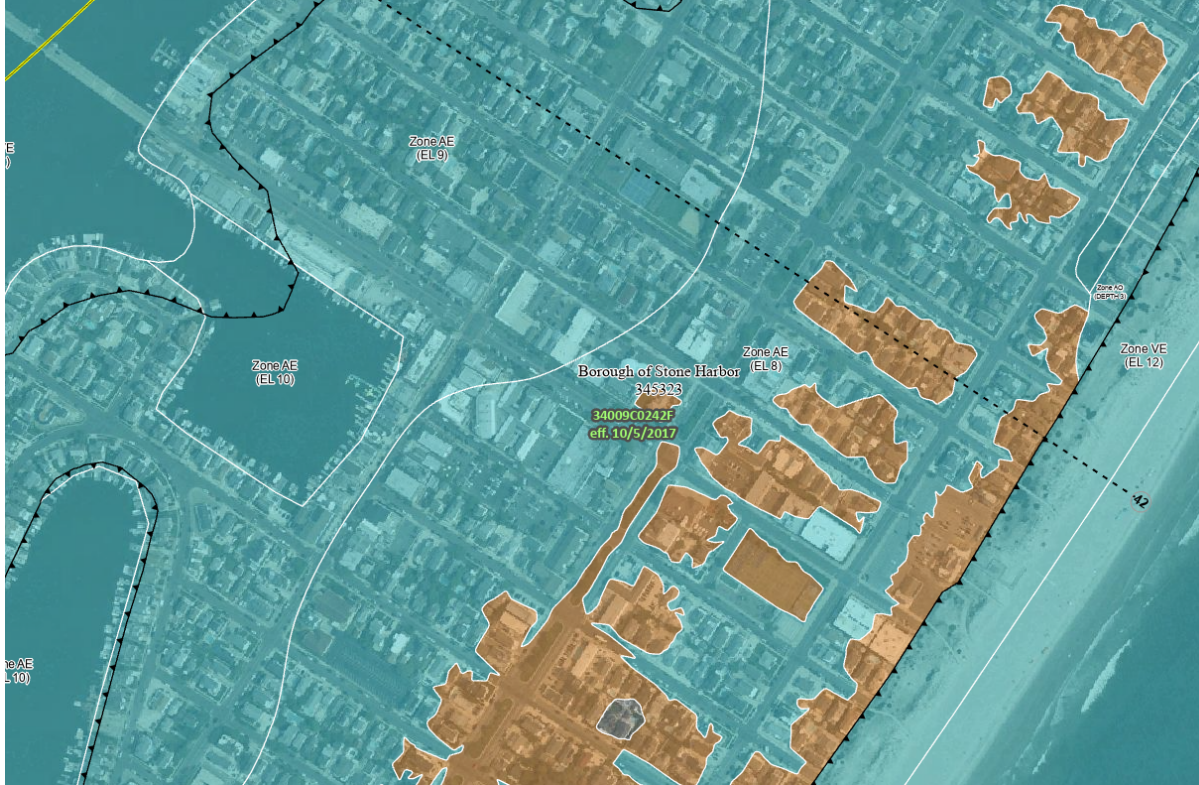
Screenshot of FEMA's National Flood Hazard Layer (NFHL) Viewer.

2. Local Flood Prevention Ordinance

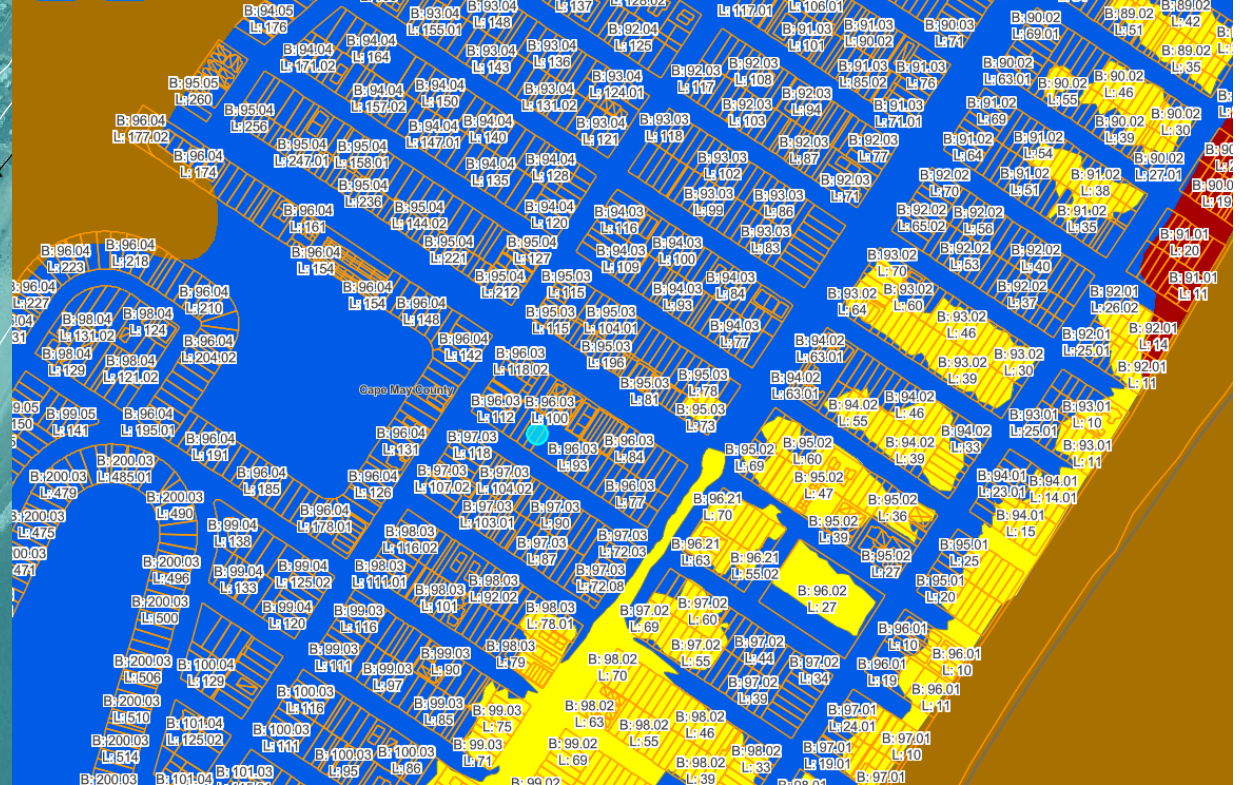
- **Freeboard** = Additional height used as a safety factor in determining the level at which a structure's lowest floor must be elevated/floodproofed (FEMA, 2020).
 - Determined by Local Ordinance and Flood Design Class (FDC); Residential & Commercial properties = Flood Design Class 2
- Stone Harbor & Avalon require **3 feet of freeboard** above the Base Flood Elevation (BFE) per FEMA Mapping = Design Flood Elevation (DFE)
 - Any materials that are located at or below flood elevation must be capable of being exposed to flood water without damage.
 - Typical construction will be 3' freeboard + 1' for non-water-resistant materials or **BFE +4'**



3. NJGeoWeb CAFE Mapping Layer



FEMA Flood Map



NJGeoWeb.com Tidal Climate Adjusted Flood Elevation (CAFE SLR 4ft) Layer

CAFE Layer Key Descriptions:

- **Blue:** Area mapped as V/AE Zone per FEMA with CAFE Zone +4 Feet applied.
- **Yellow:** Area mapped as X-Zone (No Flood Zone) per FEMA but is below the adjacent CAFE Flood Zone Elevation.
 - Example: FEMA AE El. 8 becomes CAFE El. 12 (Blue Area), any adjacent areas below El. 11 have been mapped in Yellow and are subject to CAFE El. 12 (most restrictive adjacent zone applied).
- **Red:** Area mapped as AO Zone per FEMA, Outside CAFE Zone
 - Example: Grade Elevations above CAFE El. 12
- **Summary:** Unless you are mapped in Red, the CAFE Standards Apply.

- ☑ Tidal Climate Adjusted Flood Elevation (CAFE SLR 4ft) for New Jersey

- Sea Level Rise - 4 Feet
- FEMA AE Zone (1 pct chance)
- FEMA AO Zone (1 to 3ft depth)
- FEMA Floodway
- FEMA Open Water
- FEMA VE Zone (1 pct chance)
- FEMA A Zone (Approximate)

4. Substantial Improvement

- Substantial improvement = any reconstruction, rehabilitation, addition, or other improvement where the **cost of the improvement is at least 50% of the market value** of the existing structure prior to the start of work (National Flood Insurance Program (NFIP) rules, 44 CFR 59.1)

Stone Harbor

- Identifies **40% of the market value** as substantial improvement and substantial damage
 - Includes the **cumulative cost** of all improvements made to the structure in the last **10 years**

Avalon

- Identifies **50% of the market value** as substantial improvement
 - Includes the **cumulative cost** of all improvements made to the structure in the last **10 years**
- *Substantial damage* includes **cumulative cost** of all improvements made to the structure in the last **5 years**

- **Any** substantial improvement to the existing buildings triggers lowest finished floor elevation compliance:
 - Raising the structure to meet Design Flood Elevation standards.
 - Flood-proofing (commercial development).
- Non-substantial improvement = only proposed improvement needs to meet required finished floor
- ****TBD over coming year**** New construction/Substantial Improvement (post July 20, 2027) must comply with the NJDEP REAL lowest finished floor elevation/CAFE

4. Flood-Proofing (Significant Impacts to Commercial Properties)

- Dry flood-proofing = **preventing** floodwaters from entering a building
 - Installing waterproof doors/ windows, impermeable membranes, and sealing walls
- Non-Residential Only
- Wet flood-proofing = allow floodwaters to **enter and exit** a building to keep the integrity of the structure
 - Through flood vents/ breakaway walls/ flood-resistant materials to
 - FHA Rules allow existing residential use of wet flood-proofing only for areas above the lowest floor of a building where both apply:
 1. Elevating the lowest floor is not feasible
 2. It is not feasible to dry flood-proof the building
- Residential and non-residential

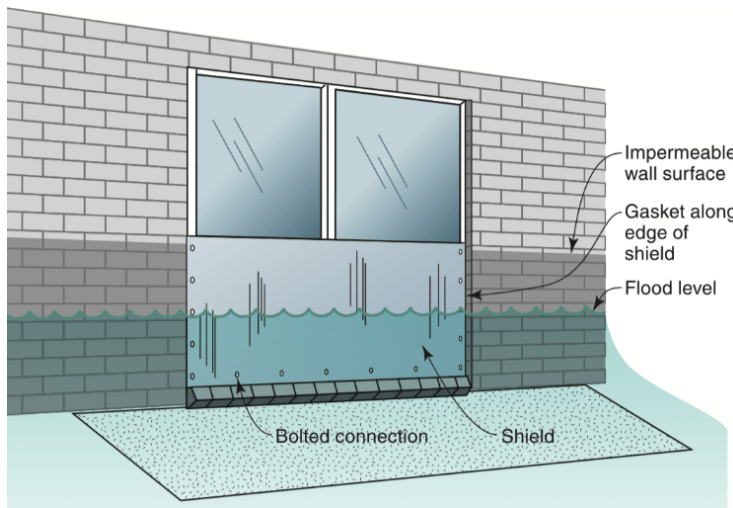


Image from <https://ibhs.org> (2026).

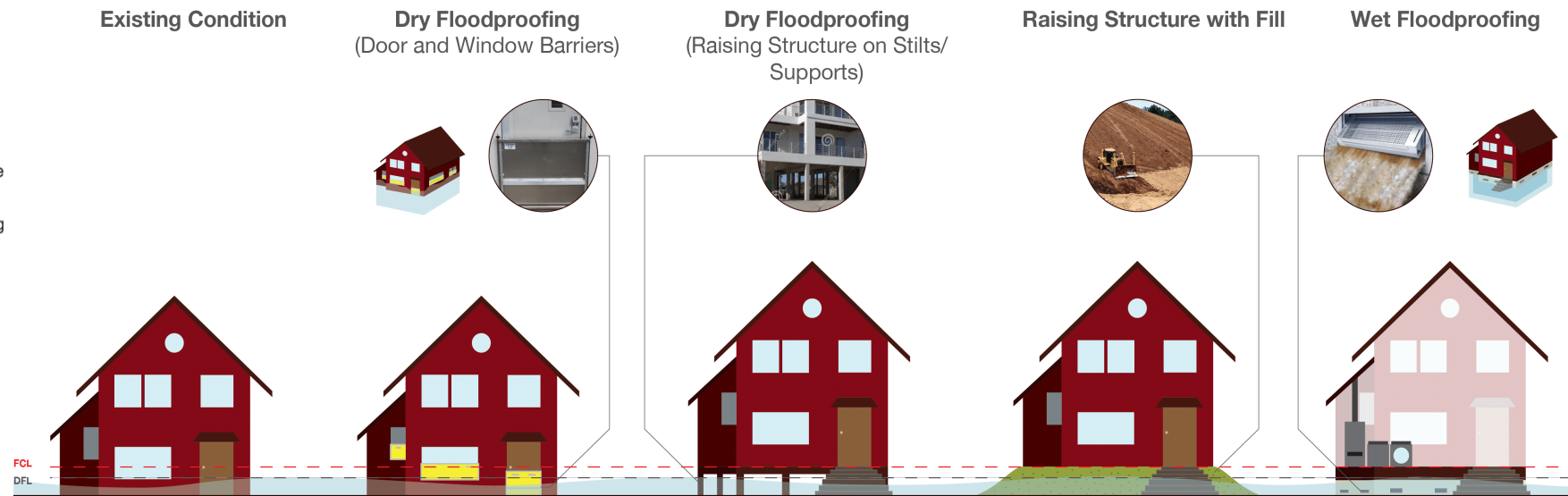


Image from [Floodproofing in BC | FloodWise](#) (2026).

5. What does this mean to me?

- Design Flood Elevation Requirements/ Lowest Floor (Finished Floor) Elevation
- Deed Restrictions
- Zoning Implications
 - Variances for Building Height
- Insurance

- **How do you protect yourself?**
 - Application under Legacy Flood Hazard Area (FHA) Rules before end of 1-Year extension period deadline; July 20, 2027
 - Application must be deemed Administratively & Technically Complete before deadline.
 - Insulate from REAL impacts for lifetime of permit (5 years) with extension to 10 years if applicable.

Post Presentation Information

- Inundation Risk Zone (IRZ)
- Building Requirements (Residential/Commercial)
- Substantial Improvement (Continued)
- Dry Access (Roadways/Driveways)
- Other Implications relevant to residential and commercial owners in Tidal Flood Hazard Areas
- NJDEP Definitions

Inundation Risk Zone (IRZ)

- The Inundation Risk Zone (IRZ) = all land that lies **within four feet of the elevation** of the mean higher high-water line (MHWL).
- Considered Special Flood Hazard Areas; expected to be inundated by tidal flooding regularly by 2100.
- May require deed restrictions highlighting the danger of purchasing within the IRZ.
- The IRZ does NOT apply to commercial buildings/ infrastructure.

IRZ Layer Key:

Blue = Within the IRZ

Green = Outside IRZ, below 4' increase from MHWL



Screenshot of the Flood Hazard Layer (Sea Level Rise Inundation - 4 ft) on the NJDEP Land Resource Protection Web Application.

Building Requirements

- Per 7:13-12.5 Requirements for a building
 - (d) The Department shall issue an individual permit to construct, elevate, enlarge, or reconstruct a building only if the following setbacks are satisfied:
 1. **Any new building is located at least 25 feet from any top of bank** or any pipe, culvert, or bridge that encloses a regulated water;
 - **Summary: If a property does not have an existing bulkhead a set back of 25' will be applied to any proposed development (including a bulkhead).**
 2. If an existing building is to be enlarged, such as through the construction of an addition, the enlarged portion of the building is located at least 25 feet from the top of bank or any pipe, culvert, or bridge that encloses a regulated water, unless the applicant meets the requirements at (e) below; and
 - (e) In cases where compliance with the requirements at (d)2 and/or 3 above is not feasible, the applicant shall:
 1. Demonstrate in writing the reasons why compliance with (d)2 and/or 3 above, as appropriate, is not feasible; and
 2. Provide an engineering certification confirming that the location of the proposed construction is stable and suitable for the proposed building, and not subject to erosion or undermining due to its proximity to the top of bank without the need to construct or reconstruct a bulkhead or retaining wall or otherwise armor the channel of the adjacent regulated water.
 - (h) The Department shall issue an individual permit to construct a single-family home or duplex or to convert a building to one of these uses, only if the lowest floor of the building is set at least one foot above the climate adjusted flood elevation and no lower than the elevation required pursuant to the Uniform Construction Code, N.J.A.C. 5:23.
 - (m) In addition to the requirements at (h) above for a single-family home or duplex, (i) above for a critical building, and (j) above for a multi-residence building, the Department shall issue an individual permit to construct a critical building, a multi-residence building, or two or more single-family homes or duplexes, or to convert any building into any of these uses, only if the following requirements are met:
 1. **No portion of any (Proposed) building is located in a V zone or VE zone;**

Dry Access

- Dry access = the need to provide elevated roadways so building occupants can escape and emergency personnel can reach the building during a flood.
 - Includes any multi-residence building, residential subdivision of more than two single-family home or duplex, and any critical building (either new construction or conversion of an existing building to one of these uses)
- Currently required to be raised 1 foot above BFE.
- Under REAL, at least one access roadway per building needs to be at least 1 foot above CAFE
 - **Unless determined by a licensed Engineer** under N.J.A.C. 7:13-12.5(m)2... N.J.A.C. 7:13-12.6(c)2...
 - High/ disproportionately high construction costs
 - Flood storage cannot feasibly be created in compensation either onsite or offsite
 - The design does not meet necessary transportation safety, geometric design, or access point requirements
 - The design causes unavoidable adverse environmental impacts (ex. impacts to the channel, riparian zone, or aquatic or terrestrial resources)
 - The design causes adverse impacts to existing drainage patterns and/or adjacent property structure

Substantial Improvement Continued

Stone Harbor

- Identifies **40% of the market value** as substantial improvement and substantial damage
 - Includes the **cumulative cost** of all improvements made to the structure in the last **10 years**

- National Flood Insurance Program (NFIP) assign specific risk rates; the more conservative the local requirement, the lower the risk, and the lower the rates are for the entire community.
 - Benefit of a lower substantial improvement threshold is reduced rates for the community at large.
- Substantial damage = damage to a structure where cost of restoring to pre-damaged condition is at least 40% (50% per NJDEP) of the structure's market value before damage.
 - Subject to minimum NFIP Standards and effective NJDEP requirements.

Other Possible Implications

- Higher required elevations may conflict with:
 - Municipal height limits
 - Story limitations
 - Stair requirements/setbacks
 - Parking design
- The NJDEP has explicitly stated the REAL rules do not directly change FEMA flood zones, flood insurance requirements, or NFIP premiums. However, the rules could have indirect effects on:
 - Future flood map expansion
 - Skewed insurance rates for elevated vs non-elevated structures
 - Property value impacts
 - Reduced claims/ losses to flooding

NJDEP Regulatory Definitions

- "Administratively complete" means that every item required on the application checklist for the coastal permit being sought is included in the application.
- "Technically complete" means that each item included in an application for a coastal permit other than a CAFRA individual permit provides sufficient information for the Department to declare the application complete for review. For an application for a CAFRA individual permit, technically complete means that each item included in the application provides sufficient information for the Department to determine the application is complete for public comment or complete for public hearing.
- "Climate-adjusted flood elevation" means the regulatory flood hazard elevation that is anticipated to occur as a result of climate change and sea level rise. The methods for determining the climate-adjusted flood elevation are provided at N.J.A.C. 7:13-3.2.
- "FEMA flood mapping" means information published or publicly released by FEMA regarding the frequency, location, and/or extent of flooding in a community, such as flood elevations, flood profiles, flow rates, and floodway limits, and FEMA 100-year flood elevation as defined in the Flood Hazard Area Control Act Rules at N.J.A.C. 7:13-1.2. For the purposes of this chapter, such information shall include only that information adopted as part of the most recent effective FEMA Flood Insurance Study, dated on or after January 31, 1980, the most recent of any advisory, preliminary, or pending flood mapping, that may have been issued by FEMA after the date of the effective flood mapping, if the most recent advisory, preliminary, or pending flood mapping results in higher flood elevations, wider floodway limits, and greater flow rates, than depicted in the most recent effective FEMA Flood Insurance Study, or indicates a change from an AE zone to a VE zone or coastal A zone. If a regulated water is depicted on FEMA flood mapping but lacks a flood profile or other identifying flood information in the Flood Insurance Study, the FEMA flood mapping cannot be used pursuant to this chapter to determine flood elevations or floodway limits for that regulated water. Effective, preliminary, and pending FEMA flood mapping can be viewed at <https://msc.fema.gov> and advisory flood mapping for coastal areas, where available, can be viewed at <https://r2-coastal.fema.hub.arcgis.com/>. Questions regarding the availability, use, derivation, or modification of FEMA flood mapping should be directed to FEMA at (800) 358-9616.
- "FEMA 100-year flood elevation" means the 100-year water surface elevation at a given location, most recently released as an effective FEMA base flood elevation, or any more recent advisory or proposed (preliminary) flood elevation, if either elevation is higher than the effective base flood elevation.

NJDEP Regulatory Definitions

- “Inundation risk zone” means the portion of a tidal flood hazard area that has been determined to be at significant risk for future permanent or daily inundation by 2100, based on Rutgers University’s findings of the New Jersey Science and Technical Advisory Panel (STAP) report and which, therefore, represents a high level of hazard for existing and proposed development and habitation. The limits of the inundation risk zone on a particular site are determined using the methods set forth at N.J.A.C. 7:13-3.4(c).
- "Lawfully existing" means an existing fill, structure and/or use, which meets all Federal, State and local laws, and which is not in violation of this chapter because it was established:
 1. Prior to January 31, 1980; or
 2. On or after January 31, 1980, in accordance with the requirements of this chapter as it existed at the time the fill, structure and/or use was established.
- "Lowest floor“ (also known as Finished Floor) means:
 1. The bottom of the lowest supporting horizontal structural member of a building, where any portion of the building is located within a V zone or a coastal A zone, as delineated or otherwise defined by FEMA; and
 2. The top surface of the floor of the lowest enclosed area of any building not located within a V zone or coastal A zone, excluding any unfinished or flood-resistant enclosure that is usable solely for vehicle parking, building access, or limited storage, and is constructed in compliance with this chapter.
- "Flood-proofing" means measures applied to a building that are intended to prevent or provide resistance to displacement, buoyancy, and damage from flooding up to a certain elevation, so as to eliminate or reduce potential flood damage to the building and its contents. There are two types of flood-proofing:
 1. Wet flood-proofing, which are measures that allow floodwaters to enter a building, and thereby balance hydrostatic pressure on the structure during a flood. Wet flood-proofing generally includes using flood-resistant materials, protecting mechanical and utility equipment, and using openings or breakaway walls; and
 2. Dry flood-proofing, which are measures that prevent floodwaters from entering a building. Dry flood-proofing generally includes making the building watertight through sealing openings, installing waterproof doors and windows, or sealing walls with waterproof coatings, impermeable membranes, and/or a supplementary layer of masonry or concrete.

NJDEP Regulatory Definitions

- "Substantial damage" means damage of any origin sustained by a structure whereby the cost of restoring the structure to its condition before damage, including the cumulative cost of all improvements made to the structure after January 20, 2026, would equal or exceed 50 percent of the market value of the structure before the damage occurred. Restoration of a substantially damaged structure shall constitute a substantial improvement.
- "Substantial improvement" means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which, including the cumulative cost of all improvements made to the structure after January 20, 2026, equals or exceeds 50 percent of the market value of the structure as determined before the start of construction of the improvement. This term includes structures that have sustained substantial damage regardless of the actual repair work performed. Substantial improvement does not include:
 1. Any project for improvement of a structure to correct existing violations of State or local health, sanitary, or safety code specifications that have been identified by the local code enforcement officer and that are the minimum necessary to ensure safe living conditions; or
 2. Any alteration of a building designated by the State as an historic structure; provided that the alteration will not preclude the structure's continued designation as an historic structure.