



Coastal Flood Risk Information and the Limit of Moderate Wave Action

The Federal Emergency Management Agency (FEMA) has undertaken a multi-year effort to better identify and communicate the flood hazards and risks in coastal communities through coastal engineering, analysis, and mapping.

New and updated coastal Flood Insurance Rate Maps (FIRMs) communicate two elements of regulatory flood mapping: the area of land at risk of inundation by the base (1-percent-annual-chance) flood, and the associated flood elevation(s) in these areas, which are called Base Flood Elevations. In addition to identifying these two regulatory mapping elements, FEMA provides an informational line called the Limit of Moderate Wave Action (LiMWA). This fact sheet explains what the LiMWA is and why it should be of interest to homeowners and local officials

Background on Coastal Zones

FIRMs in coastal areas identify two different flood zones:

- **Zone VE** is mapped in areas that are subject to coastal flooding with wave heights **of 3 feet or higher**. These areas are referred to as Coastal High Hazard Areas (CHHAs).
- **Zone AE** is mapped in areas subject to coastal flooding with wave heights of **less than 3 feet**.

The primary reason for having two different coastal flood zones is that the risk of structural damage is higher within Zone VE, due to the significant wave energy that can occur in these areas. As a result, flood insurance rates are higher and building codes are stricter for structures in Zone VE.

However, over the past decade, post-storm damage surveys have confirmed that even wave heights as low as 1.5 feet can cause significant structural damage to buildings that were not built to withstand forces such as the wave hazards in VE zones.

For More Information

A FEMA fact sheet titled “Using the Limit of Moderate Wave Action (LiMWA) to Build Safer and Stronger Coastal Communities” is available for communities that want to learn more about how they can use the LiMWA to implement higher construction standards.

Anyone interested in obtaining a copy of that fact sheet should contact a FEMA Map Specialist through the FEMA Map Information eXchange (FMIX). The FMIX can be reached by telephone, toll free, at 1-877-FEMA MAP (1-877-336-2627), choose “Option 1”; by email at femamapspecialist@riskmapcds.com; or by live chat through https://www.floodmaps.fema.gov/fhm/fmx_main.html.

“FEMA’s mission is to support our citizens and first responders to ensure that as a nation we work together to build, sustain, and improve our capability to prepare for, protect against, respond to, recover from, and mitigate all hazards.”

On its recently updated FIRMs, FEMA notifies communities of the potential for significant wave damage by using both the regulatory Zone VE designation (coastal flooding, plus waves of 3 feet or higher) and an informational line depicting the extent of 1.5-foot wave heights. This line is called the **LiMWA**.

LiMWA and Coastal A Zone Mapping

Using the LiMWA shown on a FIRM, homeowners and communities can better understand which portions of the areas identified as Zone AE are at risk for high wave energy. Those higher risk portions of Zone AE, the areas between the LiMWA and the Zone VE boundary, are referred to as the **Coastal A Zone**. Figure 1 shows how these hazards and zones are defined.

Once the coastal flood hazard analyses are complete, FEMA provides preliminary versions of the updated FIRMs and Flood Insurance Study (FIS) reports to local officials and residents for their review and use. On the updated FIRMs, the LiMWA is shown as a line with triangular arrows that point toward the area of higher hazard—that is, toward Zone VE.

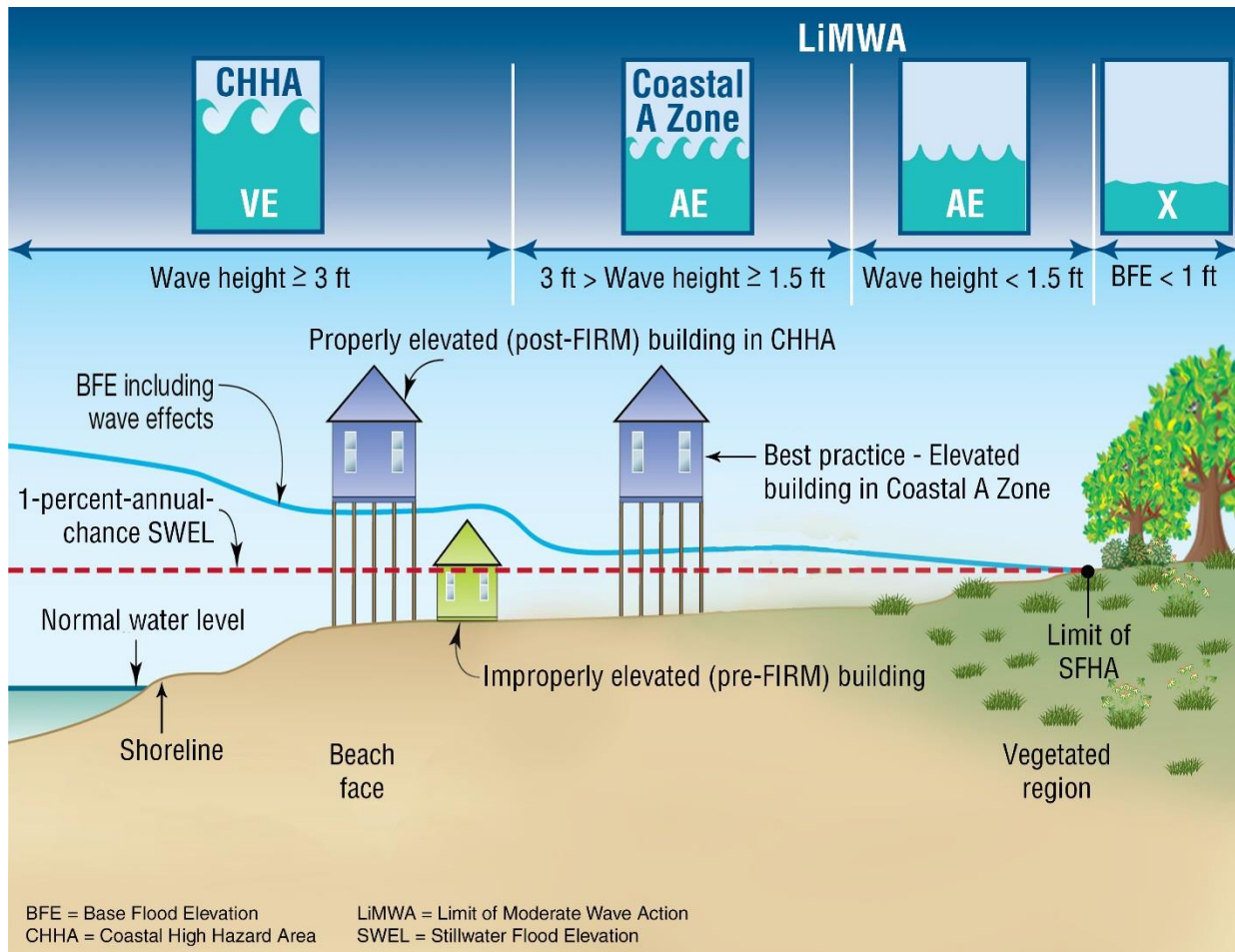


Figure 1. Coastal Flood Zones. Not all coastal communities' FIRMs include LiMWA lines.

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Figure 2 shows what the LiMWA looks like on an updated FIRM. Some flood maps may include different symbols to mark the LiMWA; consult the map's legend for details specific to your community's flood map. Flood maps may also be accessed through FEMA's National Flood Hazard (NFHL) digital map webviewer. (NFHL users should be aware that the appearance of the LiMWA line on the NFHL differs from that on most FIRM panels.)

LiMWAs, Flood Insurance, and Higher Construction Standards

Property owners are encouraged to build structures with a higher first floor and to purchase flood insurance. While the LiMWA is not a regulatory element of the FIRM and has no effect on a structure's National Flood Insurance Program (NFIP) flood zone status or on the rates for federal flood insurance premiums, some communities require Zone VE building code standards in the Coastal A Zone. These communities use the LiMWA to determine where higher construction standards are required.

Through the [Community Rating System \(CRS\)](#), FEMA encourages sound floodplain management practices by offering reduced insurance rates within communities that proactively adopt flood mitigation actions. In coastal areas, CRS credits are offered to communities that use the LiMWA data to identify where structures should be improved to withstand the higher wave energy expected within the Coastal A Zone. Communities that require foundations designed and built to withstand Zone VE conditions in the Coastal A Zone can earn up to 225 CRS points. Communities that regulate structures in all flood hazard zones to follow Zone VE standards can earn up to 650 CRS points.

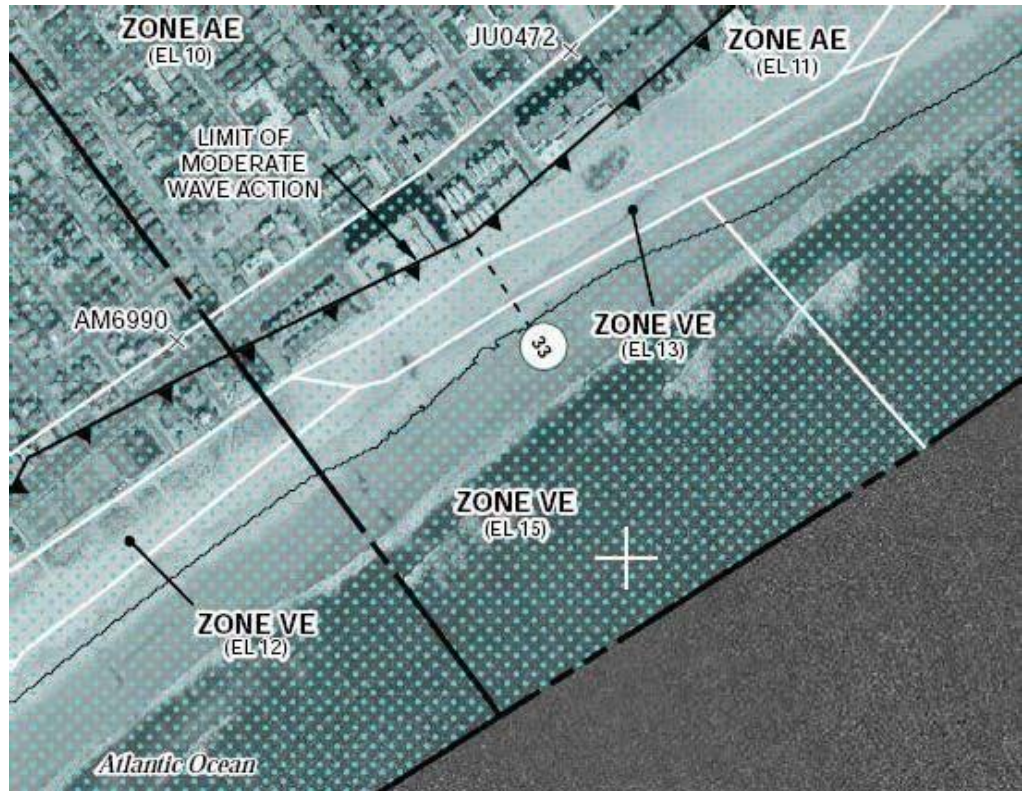


Figure 2. Sample updated FIRM showing Zone AE, the LiMWA, and Zone VE. Base Flood Elevations for each zone are noted in parentheses below the Zone AE/VE text.