FEMA
VE Flood Zone

Building and Zoning Overview
Meeting Outline

Covered Topics
- Development Standards
  - Building Code
  - Zoning Code
- Potential adaptation plans

Not Covered Topics
- Insurance requirements
- Insurance rates
- In depth details of construction requirements
*(Handouts and contact information available)*
Filing for Map Revision with FEMA (LOMR)

- Submit new study to FEMA
- Estimated to take two years
- Intent to remove more properties from the Flood Map
Influence of Flood Boundary:

1) Ocean Swells
2) Storm events
3) Orientation
4) Beach slope
5) Foreshore feature
2016 Initial Study by FEMA
Result of the City appeal - reduced flood boundary
Building Code Overview
Elevated Buildings

- Use of pilings, piers, or columns

- Lowest structural member at or above the Base Flood Elevation (BFE)
BFE Variants
VE Flood Zones vary in distance onto different properties.
VE Flood Zones vary in distance onto different properties

Beach

Extent of Flood Zone Limit
Comparison of VE Zone Requirements

FOUNDATION TYPE

NFIP and IBC/ASCE 24

Slab-on-fill

Perimeter wall (crawlspace)

Open foundation – piers/posts/columns

Open foundation – piles

Slab

Fill

Foundation wall

Column

Pile

X = Not permitted

The IBC/ASCE 24 requires foundation designs to specifically account for erosion and scour.
Remodels & Additions

- What is considered new?
  - Substantial improvement
  - 50% value of structure
Lowest Floor Elevation

**LOWEST FLOOR ELEVATION** at bottom of LHSM

**NFIP**

- LHSM = Lowest horizontal structural member
- BFE = lowest floor elevation
- Foundation element

**IBC/ASCE 24**

- LHSM parallel to wave direction
- BFE + 1 ft or DFE* = lowest floor elevation
- Foundation element

**ASCE 7-10 Chapter 6**

- LHSM perpendicular to wave direction
- DFE = lowest floor elevation
- Foundation element

*whichever is higher
Enclosed Area
ENCLOSURES below elevated buildings

NFIP and IBC/ASCE 24

The IBC/ASCE 24 specifically prohibits mounting or penetration of utilities on breakaway walls.

Use of enclosure is restricted to parking, building access, and storage.

Area under elevated building must be free of obstruction or use breakaway walls, open lattice, or louvers.

Breakaway wall
What is allowed below the BFE?

Free of obstructions except:

• A vehicle
• A small storage container less than 100 SF
• Miscellaneous items
Stairs & Elevators
Can I avoid this?
• https://www.fema.gov/building-code-resources
Building Height

Existing Grade vs Finished Floor

Existing Design

- Existing Grade 12’
- BFE 15’
- Finish Floor 17’
- Existing Grade 12’

FEMA Compliant Design

- Existing Grade 12’
- BFE 15’
- Finish Floor 17’
- Existing Grade 12’
- Height 34’
Code Conflicts

Existing Design

FEMA Compliant Design

Access

Access

Garage
• Zoning Code requires garages
• Breakaway wall designs
  • Seismic & wind-load conflicts
• Garages may be infeasible
• Carports?
  • Variance/ Modification
  • Code Amendment
Access to Dwellings

Carport Access
• Landing interference with parking spaces
• Safety issue if primary entrance

Front Setback
• 42” accessory height limit

Side Setback
• Landing within setback?
• 18” stair/deck limit, 6’ accessory height limit
Accessory Structures

- Measure height from existing grade or finished floor?
- Allow raised decks to encroach into setbacks?
- Visual, compatibility, privacy issues
- Building code challenges
Potential Zoning Amendments

- Changes to building height measurement?
- Allow carports instead of garages?
- Allow access stairs in setbacks?
- Allow height flexibility for other accessory structures?
Options for Moving Forward

1. Locate structure outside VE flood zone
2. Comply with new building codes and
   • Request variance for conflicting features or
   • Wait for Zoning/LCP amendments
3. Wait for City’s FEMA challenge
   • Could take 1-2 years
   • May be unsuccessful
Continue the Discussion

- Add your email to the sign-in sheet
- Attend future public meetings
- Email us directly

- City Website – FEMA Resource Page
  - PowerPoint available online

Questions

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**FEMA contact information available at the back**