Current Monroe County Coastal Study

Data is outdated

• Surge analysis is 30-40 years old
• Limited detail profiling of coastline
• Climate data is from the 1970's
• Extensive development and land alterations
# Monroe County Coastal Study Timeline

|----------|-----------|-------------|-------------------------|----------------|

## Discovery
- Data Collection & Stakeholder Coordination
- Kickoff Meeting
- Discovery Meeting
- Discovery Map, Discovery Report, & Project Charter Creation/Distribution

## Model Validation

## Stillwater Level Modeling

## Overland Wave Modeling

## Draft Map Production

## Preliminary FIRM and FIS Report

## Appeal and Compliance Period

## Effective FIRM and FIS Report

### Technical Update Meetings (As Needed)
- Storm Surge Analysis Update Meeting

### Identify, Plan, and Implement Mitigation Actions
- Preliminary Map Release Planning
- Flood Risk Review Meeting
- CCC Meeting/Open House
- Community FIRM/FIS Report Review
- Appeal Period
- Appeal/Comment Review & Resolution
- Letter of Final Determination Issuance
- Resilience Meeting
- Post-FIRM Outreach

* Dates are subject to change
# Impact of Map Changes on NFIP

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Insurance Option</th>
<th>Messaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Newly Identified in High-Risk Area but Building Is Not (e.g., Zone X to A; Zone X to V)</td>
<td>No Change – but strongly encourage to purchase a Preferred Risk Policy (PRP) if there is no coverage in place</td>
<td>Most lenders won’t require flood insurance. You are close to a high-risk area and encouraged to buy a PRP as Mother Nature doesn’t read flood maps. About 25% of all flood claims come from these moderate-low risk areas.</td>
</tr>
<tr>
<td>Building Newly Identified in High-Risk Area (e.g., Zone X to A; Zone X to V)</td>
<td>Newly Mapped Procedure – buy w/in 12 months of map change and maintain coverage; rates will go up no more than 18% annually until they reach a full risk rate. If lapses, pre-FIRM buildings must be rated w/new maps; post-FIRM can be grandfathered.</td>
<td>Flood insurance will be required by most lenders. Cost-saving options are available. Have a PRP in effect before the maps change and renew it each year. The cost-saving policy can be transferred to a new owner.</td>
</tr>
</tbody>
</table>
### Impact of Map Changes on NFIP

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<tr>
<td>High-Risk to Higher-Risk (e.g., Zone A to V, increase in Base Flood Elevation (BFE))</td>
<td>Grandfathering – have a policy effective before the maps change to lock in the lower risk zone or lower BFE for future rating. If lapses, pre-FIRM buildings must be rated w/new maps; post-FIRM can be grandfathered again.</td>
<td>Cost-saving options available. Have a policy in effect before the maps change to lock in the lower risk zone or BFE for future rating; and renew it each year. The cost-saving policy can be transferred to the new owner.</td>
</tr>
<tr>
<td>Decrease in Level of High-Risk (e.g., Zone V to A, decrease in BFE)</td>
<td>Re-rating – Policy should be re-rated when new maps become effective.</td>
<td>Still at risk, but flood insurance just got cheaper. Contact your insurance agent to re-rate your policy (when the maps become effective). Most lenders will continue to require flood insurance.</td>
</tr>
</tbody>
</table>
## Impact of Map Changes on NFIP

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<tr>
<td><strong>No Longer in High-Risk Area (e.g., Zone V to X, Zone A to X)</strong></td>
<td>Conversion – Convert current high-risk policy to a PRP and receive a refund in difference in premium. Contents are automatically included.</td>
<td>Flood insurance just got cheaper. Most lenders will no longer require flood insurance. However, the risk has only been reduced, not removed. Convert your current policy to a lower-cost PRP and receive a refund in the difference in premium – and contents is automatically included.</td>
</tr>
<tr>
<td><strong>Seaward of Limit of Moderate Wave Action (LiMWA) (e.g., Coastal Zone A)</strong></td>
<td>No Change – Insurance rates are the same on either side of the LiMWA in Zone A; however, the seaward-side risk is higher.</td>
<td>Most lenders require flood insurance. No impact on insurance costs; however, the risk is even higher due to stronger wave action. Fully insure all buildings.</td>
</tr>
</tbody>
</table>
J3 - Staff Recommendations

Staff is recommending that the Board of County Commissioners examine the information presented and offer Staff direction on how to proceed with public information of Physical Map Revision, gathering comments, and direction to staff to prepare a Request for Proposal (RFP) for potential procurement of consultants for analysis of the FEMA maps and potential appeal, if necessary. Staff is recommending BOCC review of map change process.
Coastal Hazard Area Regulatory Zone Definition

LiMWA = Limit of Moderate Wave Action

* NEW!
Building Requirements

Higher Standards for Coastal A Zones

FBC:
• V Zone Requirements where Coastal A delineated – Florida Building Code: ASCE-24-14

IRC:
• 1’ Freeboard in Coastal A where delineated

CRS Credit
• Credit for regulating Coastal A with V Zone standards
• Credit limited to percentage of A Zone regulated to V
J4 - Staff Recommendation

Staff recommends the Board of County Commissioners examine the information presented and offer Staff direction to proceed with a land development code amendment to Chapter 122 (floodplain) and Chapter 138 (ROGO) to potentially regulate to preliminary maps, pending staff review of draft maps to ensure technical accuracy.
What is Freeboard?

FEMA defines Freeboard as, “a factor of safety usually expressed in feet above a flood level for purposes of floodplain management.”

- NFIP construction standards requires new construction and substantial improvements to be above Base Flood Elevation (BFE)
- AE Flood Zones – Lowest Floor Elevation (LFE)
- Coastal High Hazard (VE) Flood Zones – Lowest Horizontal Structural Member (LHSM) aka bottom of the beam
- Freeboard is any additional elevation above BFE for a structure’s FFE or LHSM
- This would apply to new construction ONLY and not to substantially damaged/improved structures
Freeboard Discussion

- BFE +1 ft. is minimum elevation required by FBC (6th Ed.)
- Maximum dwelling coverage ($250,000) and contents ($100,000) for a one-story single family home (no basement, no enclosure, no obstructions). Fees included.

*Unofficial estimates using 2017 rates; use only for comparison purposes
**Savings over at-BFE premium
Adoption of Freeboard Requirements
Pro’s & Con’s

**FLOOD INSURANCE PREMIUMS:**

- **4 ft below BASE FLOOD ELEVATION**
  - $9,500/yr
  - $95,000/10 yrs

- **level with BASE FLOOD ELEVATION**
  - $1,410/yr
  - $14,100/10 yrs

- **3 ft above BASE FLOOD ELEVATION**
  - $427/yr
  - $4,270/10 yrs

**MONROE COUNTY FLOODPLAIN PROGRAM**
Freeboard in Monroe County

• 6th Edition of the Florida Building Code requires one (1) foot of freeboard
• AE Flood Zones – BFE +1’ to Lowest Floor Elevation
• Coastal High Hazard (VE) Flood Zones – BFE +1’ to Lowest Horizontal Structural Member
• FEMA maps do not include Sea Level Rise in their calculations
• Freeboard, however, is a way to account for Sea Level Rise
Freeboard in Monroe County

- Goal 1:BE1.1 and Goal 2-18 call for Monroe County to conduct additional study of a freeboard initiative to elevate and floodproof buildings in Monroe County
Comp Plan:

Policy 101.5.32

Within in 1 year of the effective date of this policy, Monroe County shall adopt Land Development Regulations which provide a Flood Protection Height Exception to Policy 101.5.30 to promote public health, safety and general welfare; allow adaptation to coastal flooding, storm surge and other hazards; protect property from flooding and minimize damages; minimize public and private losses due to flooding; minimize future expenditures of public funds for flood control projects and for recovery from flood events; and mitigate rising flood insurance premiums. A Flood Protection Height Exception of up to a maximum of five (5) feet above the 35-foot height limit shall be provided to allow lawfully existing buildings to be voluntarily elevated up to three (3) feet above FEMA base flood elevation; and a flood protection height exception of a maximum of three (3) feet above the 35-foot height limit shall be provided to allow new (new construction or substantially improved) buildings to voluntarily elevate up to three (3) feet above FEMA base flood elevation. These exceptions are in order to promote flood protection, minimize flood damage, reduce flood insurance premiums and minimize future expenditures of public funds for recovery from flood events. In no case shall a Flood Protection Height Exception result in a new building exceeding a maximum height of 38 feet or a lawfully existing building exceeding a maximum height of 40 feet.
## Current Freeboard Requirements

<table>
<thead>
<tr>
<th>City/Municipality</th>
<th>Freeboard Requirement?</th>
<th>Amount of Freeboard Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key West</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>Marathon</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>Key Colony Beach</td>
<td>??</td>
<td>??</td>
</tr>
<tr>
<td>Layton</td>
<td>Yes</td>
<td>3 Feet</td>
</tr>
<tr>
<td>Islamorada</td>
<td>No</td>
<td>N/A</td>
</tr>
</tbody>
</table>
# Freeboard Savings – Residential Construction

<table>
<thead>
<tr>
<th>Flood Zone</th>
<th>Freeboard (ft)</th>
<th>Cost of Freeboard (% increase)</th>
<th>Average Premium Savings as a Percent of Total Cost of Construction</th>
<th>Average Payback Period for Additional Cost of Freeboard (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V Zone</td>
<td>BFE + 1</td>
<td>0.4–1.8</td>
<td>0.45</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>BFE + 2</td>
<td>0.8–3.6</td>
<td>0.87</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>BFE + 3</td>
<td>1.3–5.4</td>
<td>1.09</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>BFE + 4</td>
<td>1.7–7.2</td>
<td>1.19</td>
<td>3.1</td>
</tr>
<tr>
<td>Coastal A Zone</td>
<td>BFE + 1</td>
<td>0.5–3.9</td>
<td>0.18</td>
<td>4.4</td>
</tr>
<tr>
<td></td>
<td>BFE + 2</td>
<td>0.7–4.8</td>
<td>0.24</td>
<td>6.0</td>
</tr>
<tr>
<td></td>
<td>BFE + 3</td>
<td>1.1–6.1</td>
<td>0.26</td>
<td>7.9</td>
</tr>
<tr>
<td></td>
<td>BFE + 4</td>
<td>1.4–8.1</td>
<td>0.25</td>
<td>9.6</td>
</tr>
<tr>
<td>A Zone</td>
<td>BFE + 1</td>
<td>0.2–2.3</td>
<td>0.20</td>
<td>3.3</td>
</tr>
<tr>
<td></td>
<td>BFE + 2</td>
<td>0.3–4.5</td>
<td>0.26</td>
<td>4.6</td>
</tr>
<tr>
<td></td>
<td>BFE + 3</td>
<td>0.7–6.8</td>
<td>0.28</td>
<td>6.4</td>
</tr>
<tr>
<td></td>
<td>BFE + 4</td>
<td>0.9–9.1</td>
<td>0.27</td>
<td>8.2</td>
</tr>
</tbody>
</table>
Freeboard Savings – Floodproofing (Nonresidential Construction)

<table>
<thead>
<tr>
<th>Freeboard Elevation</th>
<th>Average Premium</th>
</tr>
</thead>
<tbody>
<tr>
<td>BFE +1</td>
<td>$1,380</td>
</tr>
<tr>
<td>BFE +2</td>
<td>$540*</td>
</tr>
</tbody>
</table>

*61% savings by adding an extra foot of freeboard to floodproofing requirements
Staff is recommending that the Board of County Commissioners examine the information presented and offer Staff direction on how to proceed with a land development code amendment that would require a 3' freeboard requirement, which is 2' above the 1' freeboard requirement in the Florida Building Code.
Land Development Code Text Amendment – Best Case Timeline
Chapter 122 (Entire Chapter) and Chapter 138 (ROGO)

- Community Meeting – April (when Draft Maps are issued)
- Development Review Committee – May
- Planning Commission – June 26 or July 31
- BOCC Adoption – August 21 KW or Sept 18 in KL
- County Appeal Period – 30 days
- Transmit to DEO – October 20, 2019
- DEO review period – 60 days – December 20, 2019
- DEO issues Final Order – December 20, 2019
- Challenge Period – 21 days after Final Order – Jan 10, 2020
- Effective after challenge period – potentially January 10, 2019

Sec. 138-25. Application Procedures for Residential ROGO.

(b) Expiration of allocation award. Except as provided for in this article, an allocation award shall expire when its corresponding building permit is not picked up within 60 days of notification by certified mail of the award, or, after issuance of the building permit, upon expiration of the permit or after failure of the applicant to submit required plan revisions by the required date set forth in subsection (c) or after the failure to conclude the required coordination with FWS under the Permit Referral Process in Section 122-8(d)(5).

(c) Revisions of building permit applications requiring the ROGO allocation(s). A building permit application for a proposed dwelling unit requiring a ROGO allocation must be approved prior to submitting a ROGO application. In the event that the Florida Building Code is amended between the date that a ROGO allocation is submitted and the date on which a building permit, requiring the ROGO allocation(s) applied for, is issued (which follows the date on which the required allocation(s) is awarded), if necessary, the applicant shall submit plan revisions to the building permit application demonstrating full compliance with the current Florida Building Code in effect. These plan revisions shall be submitted within 180 days of the ROGO allocation award date or the applicant shall forfeit the ROGO allocation award. Following receipt of the plan revisions, the Building Department shall review the revisions as if the application is new (however retaining the same building permit number for administrative purposes), based on the building code, for compliance prior to issuance of the building permit requiring the ROGO allocation(s) by the Building Official. Such mandatory revisions and review are limited to the modifications necessary to demonstrate compliance with the Florida Building Code in effect at the time of building permit issuance. This is not applicable to the Land Development Code.

Sec. 138-52. Application procedures for NROGO.

(i) Expiration of allocation award. Except as provided for in this article, an allocation award shall expire when its corresponding building permit is not picked up within 60 days of notification by certified mail of the award, or, after issuance of the building permit, upon expiration of the permit or after failure of the applicant to submit required plan revisions by the required date set forth in subsection (m) or after the failure to conclude the required coordination with FWS under the Permit Referral Process in Section 122-8(d)(5).

(m) Revisions of building permit applications requiring the NROGO allocation(s). A building permit application for a proposed nonresidential floor area requiring an NROGO allocation must be approved prior to submitting an NROGO application. In the event that the Florida Building Code is amended between the date on which an NROGO application is submitted and the date on which a building permit requiring the NROGO allocation(s) applied for is issued (which follows the date on which the required allocation(s) is awarded), if necessary, the applicant shall submit plan revisions to the building permit application demonstrating full compliance with the current Florida Building Code in effect. These plan revisions shall be submitted within 180 days of the NROGO allocation award date or the applicant shall forfeit the NROGO allocation award. Following receipt of the plan revisions, the Building Department shall review the revisions as if the application is new (however retaining the same building permit number for administrative purposes), based on the building code, for compliance prior to issuance of the building permit requiring the NROGO allocation(s) by the Building Official. Such mandatory revisions and review are limited to the modifications necessary to demonstrate compliance with the Florida Building Code in effect at the time of building permit issuance. This is not applicable to the Land Development Code.