A Presentation on Newport Harbor’s Base Flood Elevation (BFE) & Balboa Island Sea Wall Height

2. Results of the Base Flood Elevation Study by DHI.

Hurricane Season in 2005 - Katrina, Rita, Wilma cost the nation $17.7 Billion. Then came Sandy in 2012.

- Government paid out more $ in claims than premiums received.

- Additional financial burden to Taxpayers.
National Flood Insurance Program Changes

- Biggert-Waters Flood Insurance Reform Act of 2012
  - Rates are going to reflect current RISK.
  - The Higher the Risk the Higher the Premium.
- Same concept as auto insurance.
Risk will be based on whether the property is above or below the Base Flood Elevation (BFE).

Establishing the height of the BFE and the height of the property in reference to the BFE is critical.

Current Base Flood Elevation is 9.0'.
NFIP Rating Examples: The Impact of Loss of Subsidies

Rate comparisons

Non-Actuarial

1 foot above BFE

$2,235/yr

1 foot below BFE

$819/yr

Actuarial

Building- $200,000 Contents- $80,000 (2012 Rates)

10 feet below BFE

$25,000+/yr

$5,623/yr
How Much are the Rates?

<table>
<thead>
<tr>
<th>a single-story structure:</th>
<th>Subsidized Premium Rates before BW12</th>
<th>Premium Rates following elimination of subsidies – after October 1, 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest floor of property is 4 feet above base flood elevation</td>
<td>$3,600</td>
<td>$553</td>
</tr>
<tr>
<td>Lowest floor of property is at base flood elevation</td>
<td>$3,600</td>
<td>$1,815</td>
</tr>
<tr>
<td>Lowest floor of property is 4 feet below base flood elevation</td>
<td>$3,600</td>
<td>$10,723</td>
</tr>
</tbody>
</table>
Insurance Costs

- Insurance will increase at a rate of 25% per year until at adjusted rate.

- Non-primary residence
- Owners of businesses
- Change of Ownership / New Loan
- New Policy
- Insurance Lapse
Reduce Insurance Costs

How do you Address your Risk?

- Know your property elevation compared to BFE.  
  *You may need to hire a surveyor.*

- Speak to your Insurance Agent.

www.newportbeachca.gov

Search: surveyors elevation
HOW DO YOU REDUCE INSURANCE RATES?

- Elevate the building;
- Discuss mitigation measures with your Agent;
- Increase the deductible;

- More information can be found at:

  [www.fema.gov/bw12](http://www.fema.gov/bw12)
Insurance Costs

- Current Congressional Spending bill & future bills.

May delay rate increase for some property owners.
Base Flood Elevation Study
Base Flood Elevation (BFE)

Study (public copy provided) conducted by DHI w/ help from Lyle Engineering:

1. To Determine if FEMA’s BFE of 9.0’ is correct?

2. To Determine BFE based on recent data?

3. Minimum Seawall height so Balboa Island is no longer in a flood zone.
Base Flood Elevation (BFE)

TERMINOLOGY:

- **NGVD29** – Established in 1929, as the vertical control datum establishing vertical control surveying.

- **NAVD88** – Proposed in 1988, a more sophisticated method for vertical control surveying.

- Conversion between NGVD29 and NAVD88 is an increase of 2.3’ for our area.
Determine if FEMA’s BFE of 9.0’ is correct?

1978 The Flood Map showed a Base Flood Elevation of 6.0’ NGVD29.
In Late 2003 FEMA Converted its paper Flood Maps to Digital Maps, but at the same time converted the maps to NAVD88.

Flood Levels were converted and rounded using various conservative assumptions.
Base Flood Elevation (BFE)

- NGVD29 was converted to NAVD88:

  \[ 6.0' + 2.3' = 8.3' \text{ NAVD88} \]

- For some reason this was rounded UP to 9.0' instead of DOWN to 8.0'.

Confirmed Error by FEMA’s Contractor.
Determine BFE based on recent Data.

- DHI performed engineering analysis of National Oceanic Atmospheric Administration (NOAA) tide gages using FEMA approved methods.

- Consultants analyzed the data two different ways.
Results:

- Base Flood Elevation is 7.7’ today. (8.0’)
- Waves in harbor from ocean are minimal.
- Waves generated from wind require further analysis.
To be considered as a coastal levee, a 2-foot freeboard is required on the seawall.

- Top of Seawall – 11.0’
- BFE – 9.0’
- Proposed Top of Seawall – 10.0 Min
- Proposed BFE – 8.0’
Coastal Study

- California Coastal Analysis and Mapping Project
  - A study to update the Flood Insurance Rate Maps.

- Open a dialogue with FEMA and share the results of our study so as to ensure the BFE is at 8.0’.
Balboa Island Sea Wall Height & Drainage
Existing Drainage System on Balboa Island
Tide Valves
Protects the Island from Flooding due to High Tides
Currently Manually Operated

Power Assisted with
Manually Operated Up/Down Switch

Manually Operated with Valve Key
New Rubber Tide Valve (Check Valve)

- No Moving Mechanical Parts - Silent, Non-Slamming
- Non-Corrosive - Durable Rubber Construction
- Minimal Maintenance and Periodic Inspection Needed
- Around 1" of Water Pressure Opens Valve helping Eliminate Standing Water
- Simple Installation. Estimated 25-Year Life
New Rubber Tide Valve (Check Valve)
Existing Island Seawall and Flood Protection Conditions

- Existing FEMA Base Flood Elevation = 9.0’ *(NAVD 88)*
- Finish Floor’s at or above 9.0’ will pay a lower Flood Insurance Rate.
- Finish Floor’s below 9.0’ will pay a higher Flood Insurance rate.

Existing Base Flood Elevation (BFE) = 9.0’
Existing Island Seawall and New FEMA Base Flood Elevation

- Possible New FEMA Base Flood Elevation = 8.0’ (NAVD 88)
- Requires Letter of Map Revision (LOMR) by FEMA
- Finish Floor’s at or above 8.0’ will pay a lower Flood Insurance Rate.
- Finish Floor’s below 8.0’ will pay a higher Flood Insurance Rate.

Existing Base Flood Elevation (BFE)

Possible New FEMA Base Flood Elevation (BFE) = 8.0’
Proposed New FEMA Certified Island Seawall with Drainage System That would provide 100 Year Storm Protection

- Island Removed from prior FEMA Flood Plain with Seawall Elev. = 10.0’
  (Stillwater Elev. of 8.0’ + 2.0’ of Freeboard)
- Base Flood Elevation Determined by Drainage System—100 Year Storm Water Elevation.
- Adjacent Grade of Structure must be above 100 Year Storm Water Elevation to be out of the Flood Plain and will pay a lower Flood Insurance Rate.
NEW DRAINAGE SYSTEM CONCEPT

- Reduce Number of Discharge Points
- Automate Tide Values
- Provide High Water Pump-Out Capacity
Will also Need to Develop Acceptable Flood Proof Solution for Ferry Landing
Coordinated Effort To Reduce Potential Flooding and Reduce Insurance Rates

- FEMA to Process a Letter of Map Revision (LOMR) to Lower Base Flood Elevation from 9.0’ to 8.0’ & Collaborate with FEMA during the California Coastal Analysis and Mapping Project to ensure 8.0’ BFE.

- Review and Provide Comments to the pending Sea Level Rise Policy Guidance Document to Ensure Ability to Construct and/or Maintain Necessary City/ Harbor Flood Protection Improvements.

- Work toward the Eventual Upgrading or Replacement of Balboa Island and Other Critical Sea Wall Flood Structures.
Questions?

Community Development Department

Public Works Department

Protecting and Providing
Quality Public Improvements and Services