City of Newport Beach

A Presentation on Newport Harbor's Base Flood Elevation (BFE)

&

Balboa Island Sea Wall Height

Presentation

1. Changes to the National Flood Insurance Program. Biggert-Waters Flood Insurance Reform Act of 2012

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

3. Balboa Island - Sea Wall Replacement.

National Flood Insurance Program Changes

- Hurricane Season in 2005 - Katrina, Rita, Wilma cost the nation $17.7Billion. Then came Sandy in 2012.
- Government paid out more $ in claims than premiums received.
- Additional financial burden to Taxpayers.

National Flood Insurance Program Changes

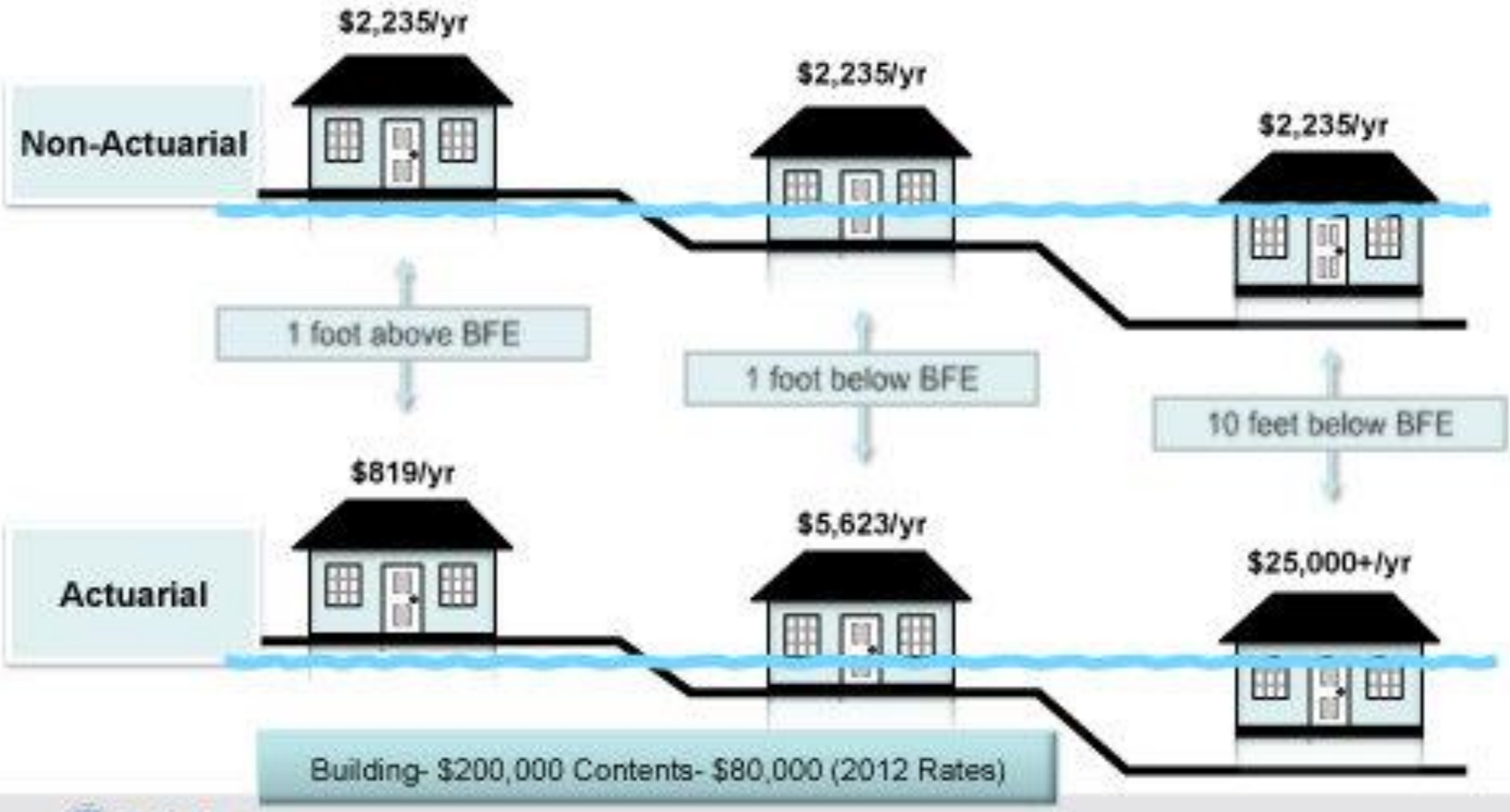
- Biggert-Waters Flood Insurance Reform Act of 2012
  - Rates are going to reflect current RISK.
  - The Higher the Risk the Higher the Premium.
- Same concept as auto insurance.

National Flood Insurance Program Changes

- 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



How Much are the Rates?

a single-story structure:

	Subsidized Premium Rates before BW12 Pre-BW12 Subsidized Rates for $250K/$100K Building/Contents Policy in **high risk, non-coastal AE zones (no elevation certificate)** .	**Premium Rates following elimination of subsidies – after October 1, 2013** Post-BW12 non-subsidzed Rates for $250K/$100K Building/Contents Policy in **high-risk non-coastal AE zones (with Elevation Certificate).**
Lowest floor of property is 4 feet above base flood elevation	$3,600	$553
Lowest floor of property is at base flood elevation	$3,600	$1,815
Lowest floor of property is 4 feet below base flood elevation	$3,600	$10,723

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

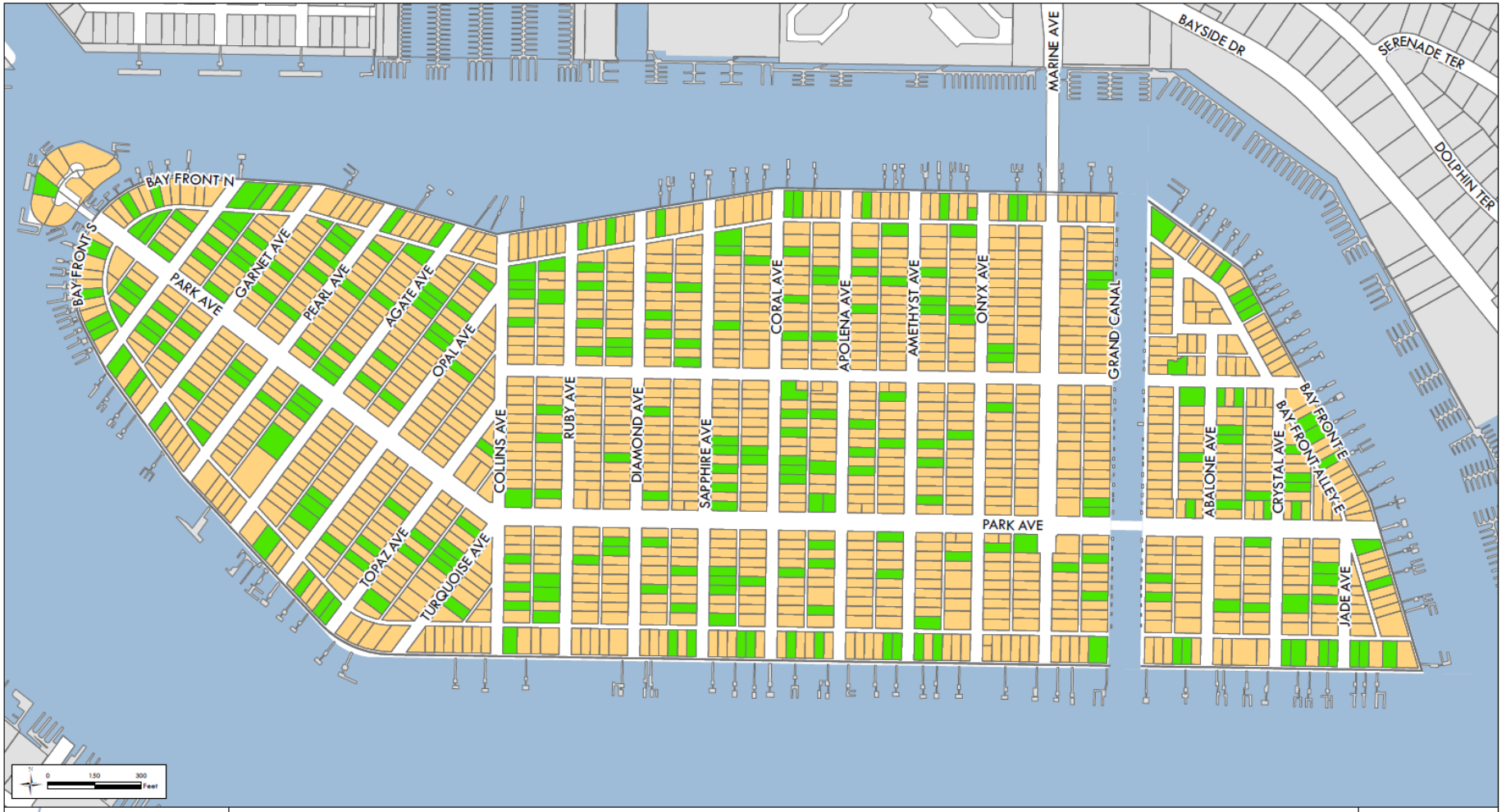
How do you Address your Risk?

- 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



Balboa Island - EC's by Year (1989 - 2013)

1989 - 7 Units	1994 - 7 Units	1999 - 12 Units	2004 - 12 Units	2009 - 11 Units
1990 - 11 Units	1995 - 13 Units	2000 - 12 Units	2005 - 12 Units	2010 - 7 Units
1991 - 12 Units	1996 - 9 Units	2001 - 6 Units	2006 - 13 Units	2011 - 8 Units
1992 - 13 Units	1997 - 7 Units	2002 - 16 Units	2007 - 22 Units	2012 - 6 Units
1993 - 10 Units	1998 - 11 Units	2003 - 9 Units	2008 - 8 Units	2013 - 15 Units

Parcels with EC's - 269 Total or 19%

Parcels without EC's - 1,148 Total or 81%

City of Newport Beach
GIS Division
January 09, 2014

BalboaIslandFinaledPermitsVer2_11x17_Landscape.mxd

Reduce Insurance Costs

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

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.

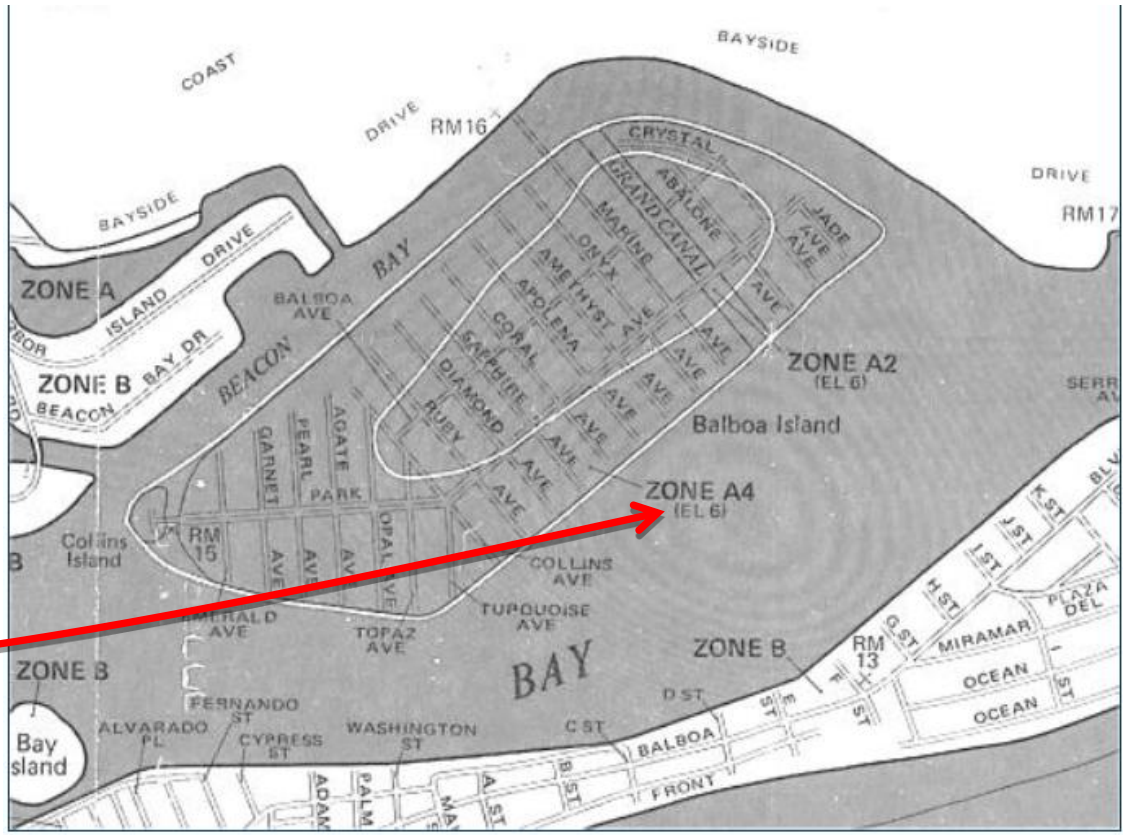
Base Flood Elevation (BFE)

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.

Base Flood Elevation (BFE)

- Determine if FEMA's BFE of 9.0' is correct?
- 1978 The Flood Map showed a Base Flood Elevation of 6.0' NGVD29.



Base Flood Elevation (BFE)

- 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’ NAVD88

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

  Confirmed Error by FEMA’s Contractor.

Base Flood Elevation (BFE)

- 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.

Base Flood Elevation (BFE)

- Results:

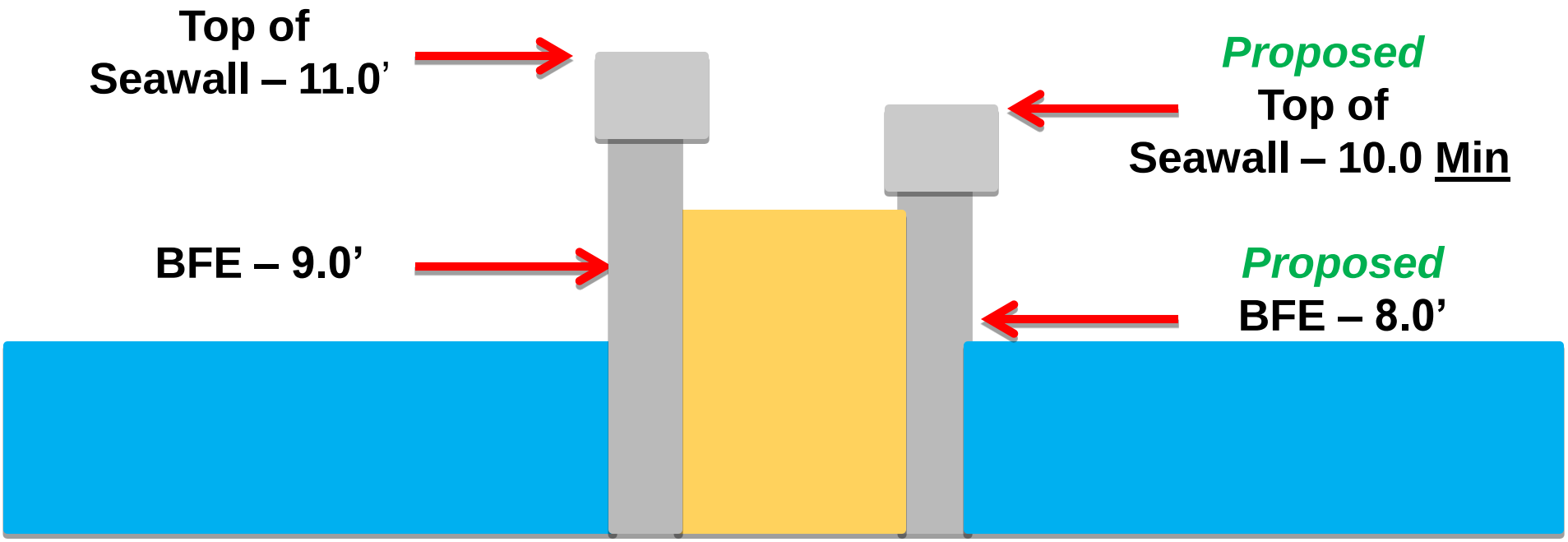
- Base Flood Elevation is 7.7’ today. (8.0’)

- Waves in harbor from ocean are minimal.

- Waves generated from wind require further analysis.

Seawall Height

- To be considered as a coastal levee, a 2-foot freeboard is required on the seawall.



Coastal Study

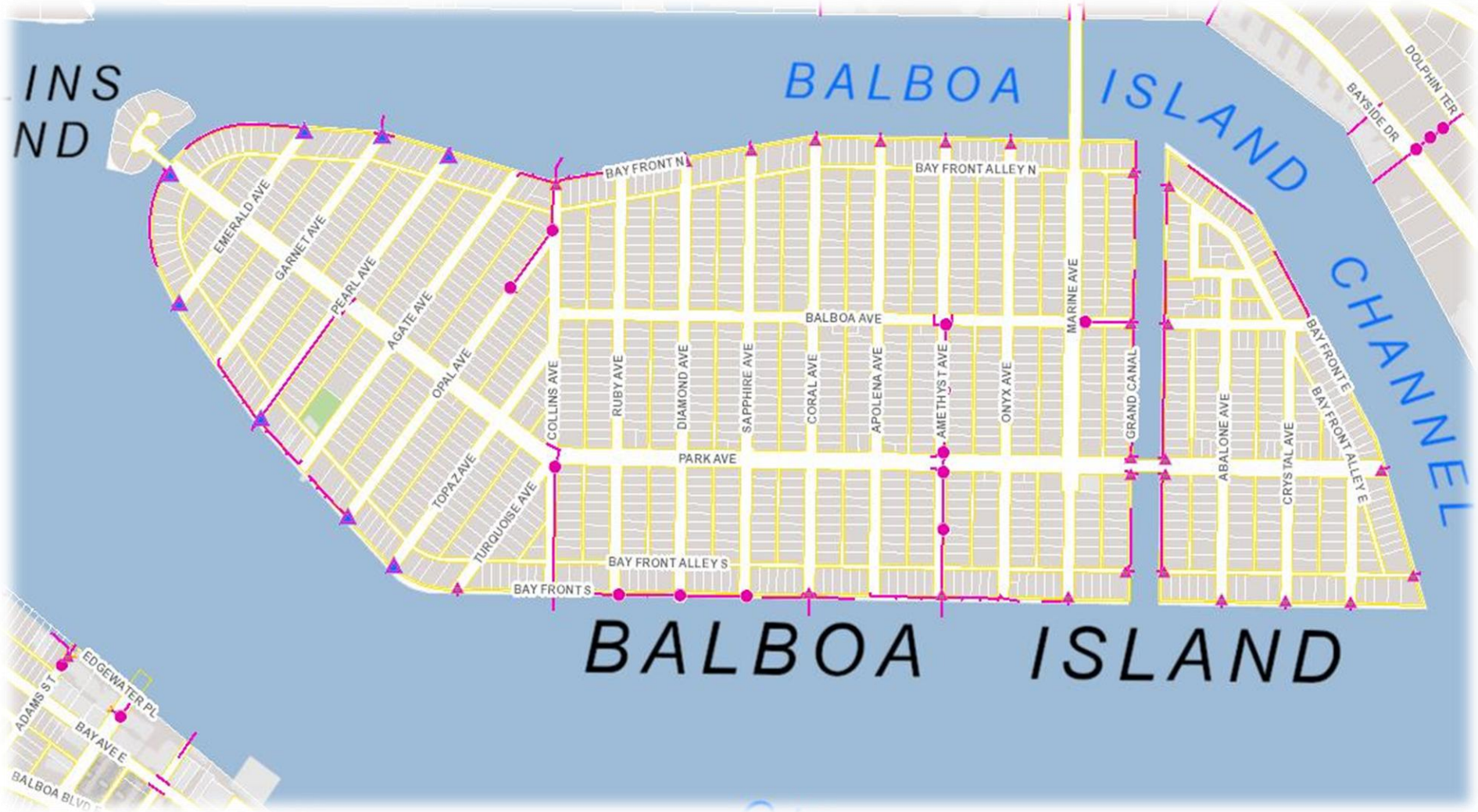
- California Coastal Analysis and Mapping Project

-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

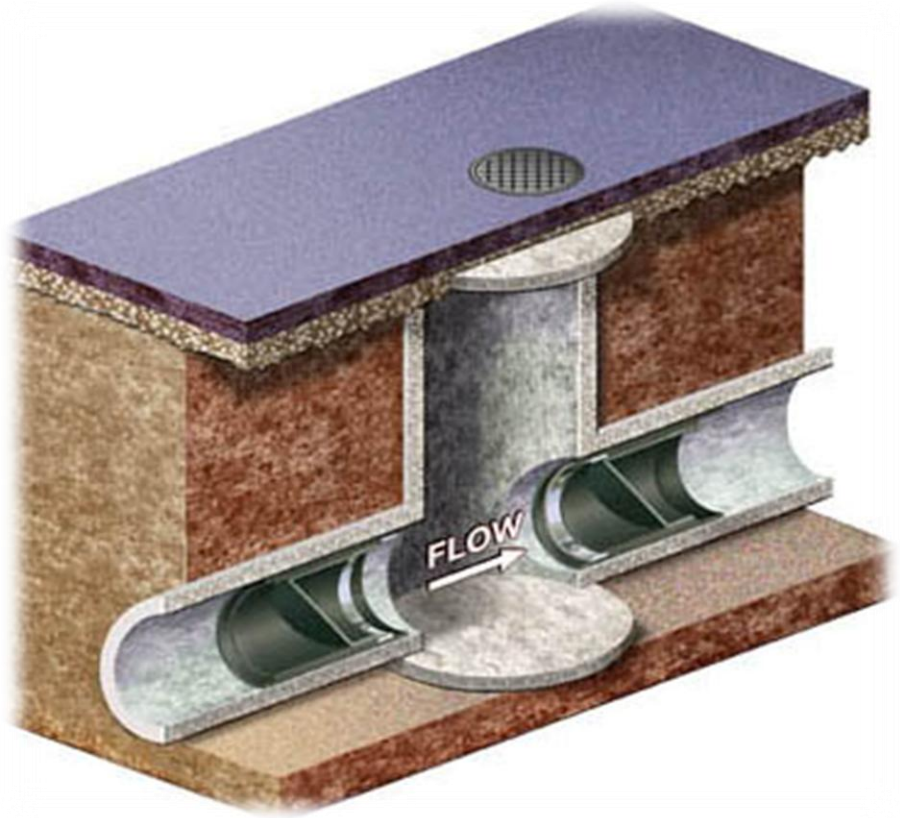
Currently Manually Operated

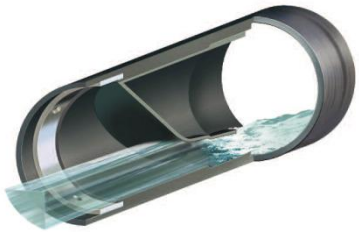
Power Assisted with
Manually Operated Up/Down Switch

Manually Operated
with Valve Key

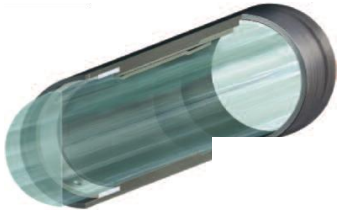
New Rubber Tide Valve (Check Valve)

- 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





Low Flow Open



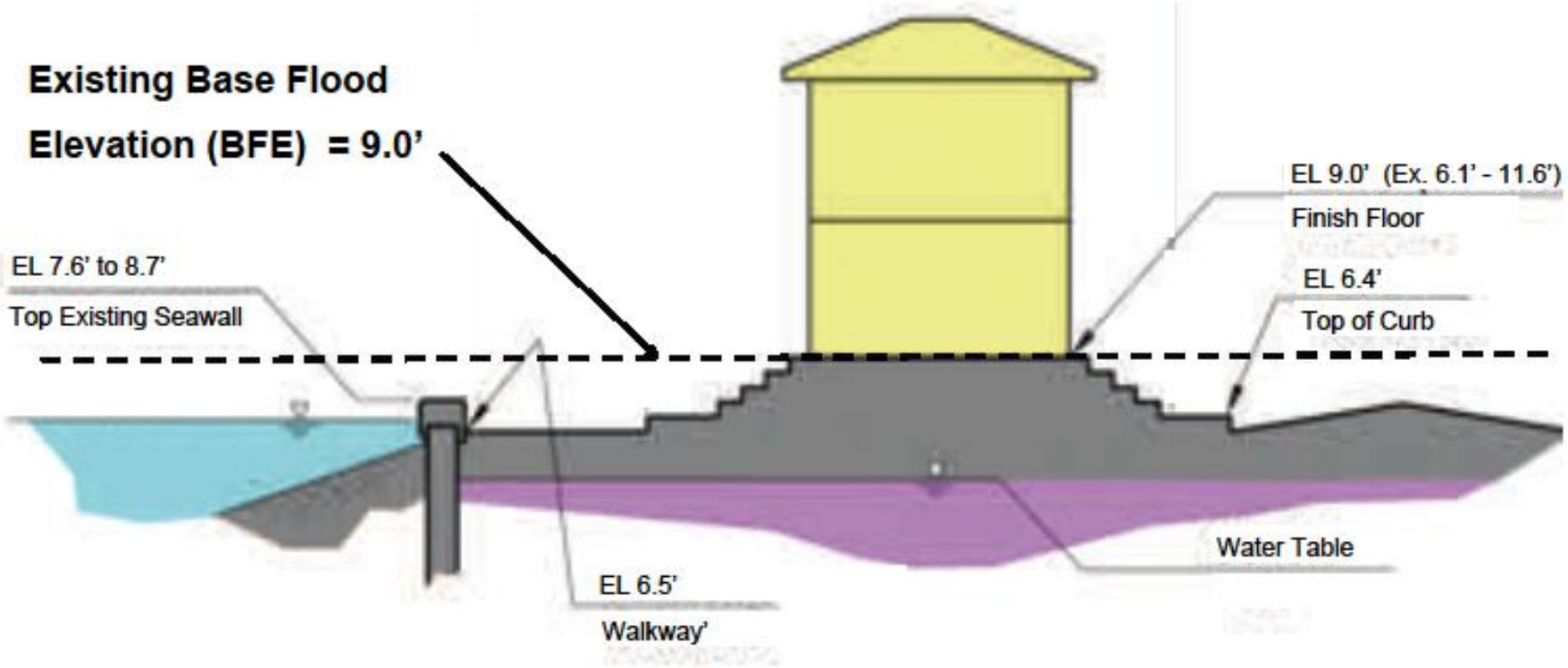
Full Flow Open

Closed Against Tide

New Rubber Tide Valve (Check Valve)

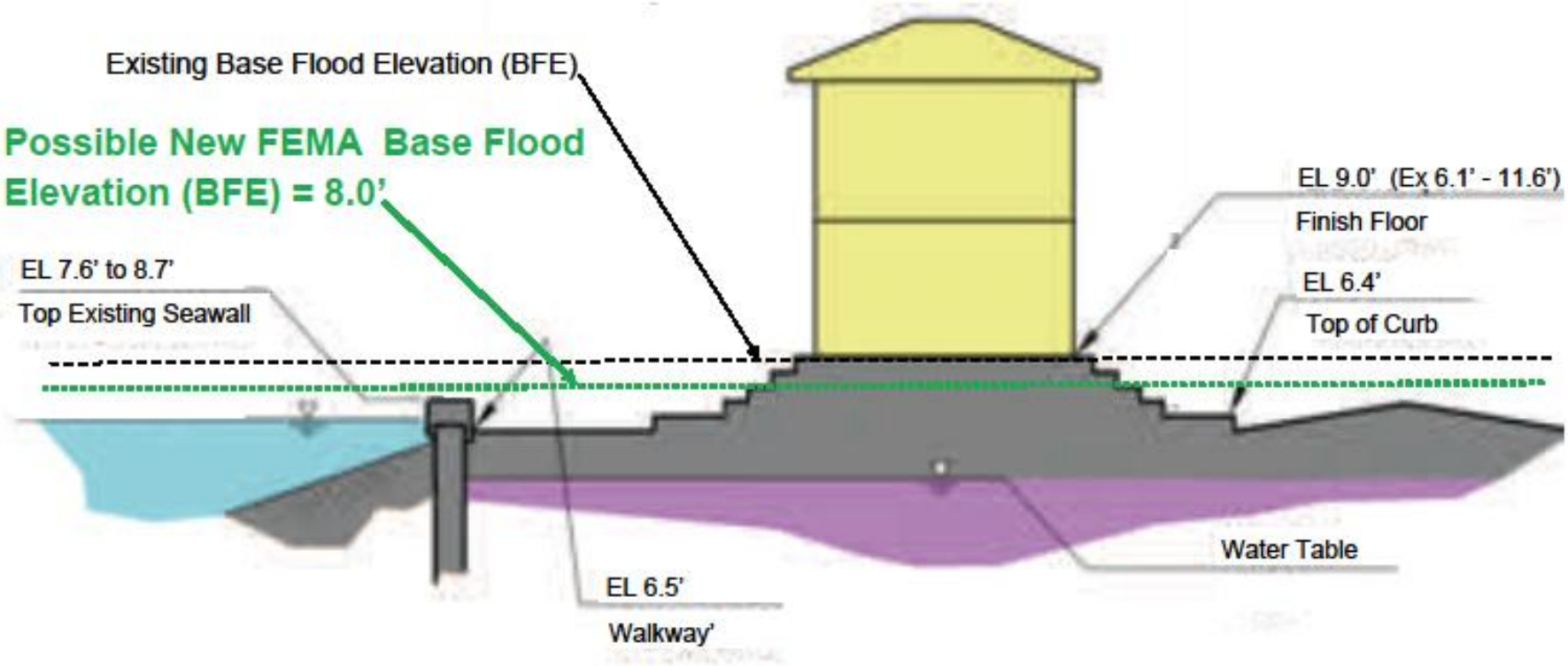
Existing Island Seawall and Flood Protection Conditions

- 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..



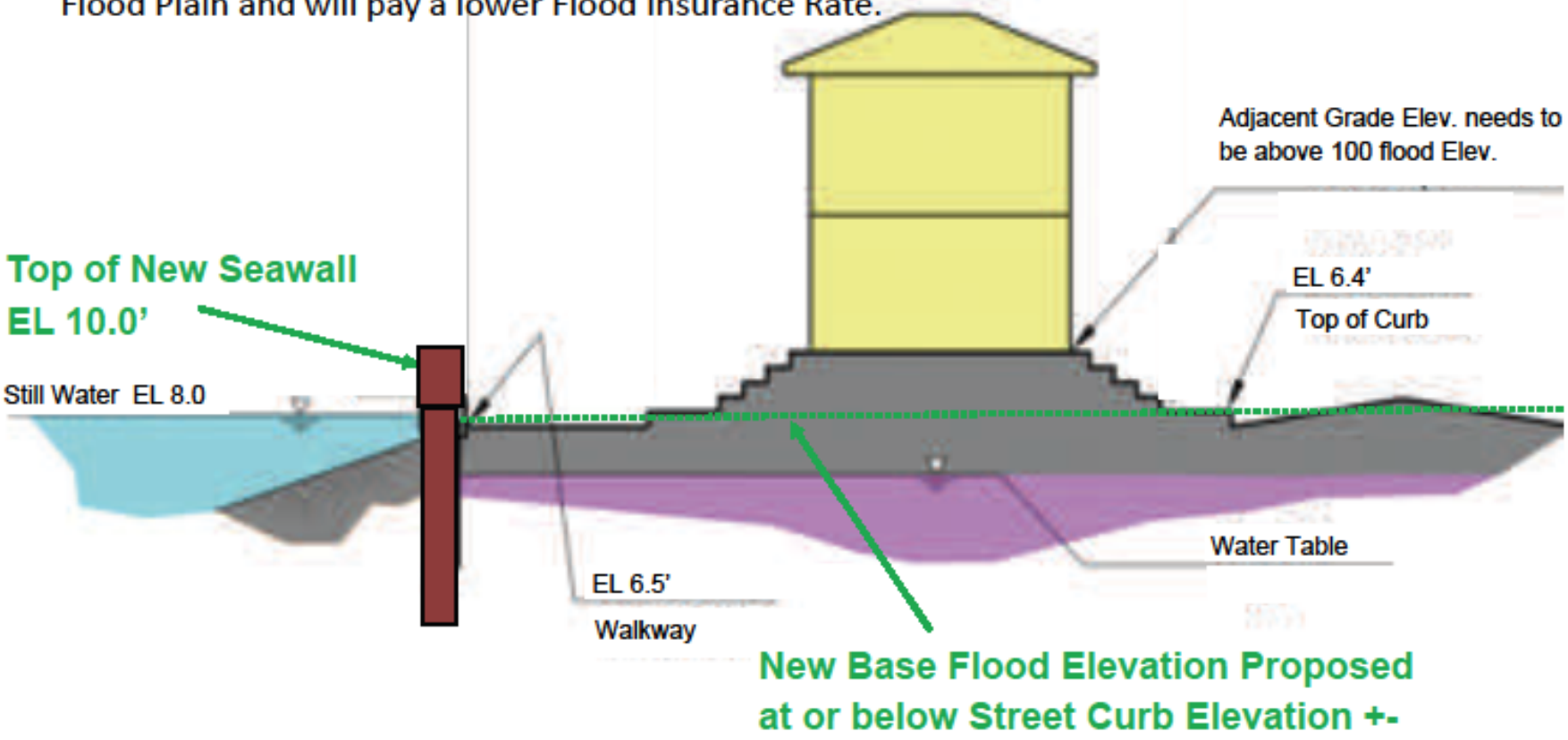
Existing Island Seawall and New FEMA Base Flood Elevation

- 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.

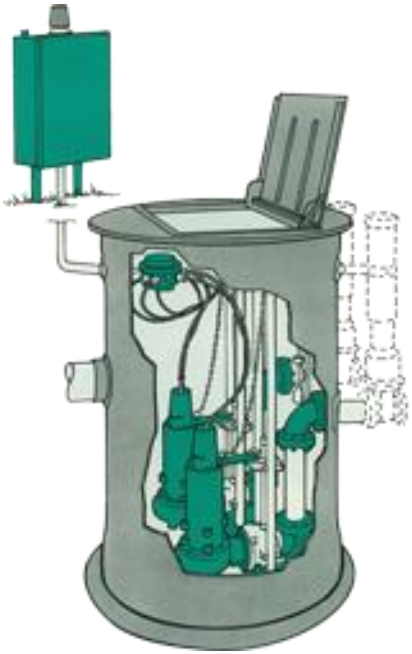


Proposed New FEMA Certified Island Seawall with Drainage System That would provide 100 Year Storm Protection

- 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 DRAINGE SYSTEM CONCEPT



Sub-Terrain Storm Water Pump Station

- 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