Miami River Commission
Meeting Minutes
February 3, 2020

The Miami River Commission (MRC) public meeting convened at noon, February 3, 2020, 1407 NW 7 ST.

Miami River Commission (MRC) Policy Committee Members and/or Designees attending:
Horacio Stuart Aguirre, MRC Chairman, Appointed by Governor Scott
Frank Balzebre. Vice Chair, designee for Miami-Dade County Mayor Carlos Gimenez
Patty Harris, designee for Governor
John Michael Cornell, designee for Member at Large Appointed by the Governor
David Maer, designee for Miami-Dade ST Attorney Fernandez-Rundle
County Commissioner Eileen Higgins
Maggie Fernandez, designee for County Commissioner Higgins
Philip Everingham, designee for Miami Marine Council
Neal Schafers, Downtown Development Authority
Sallye Jude, Neighborhood Representative appointed by Miami-Dade County
Bruce Brown, Miami River Marine Group
Sandy O'Neil, designee for Greater Miami Chamber of Commerce
Roselvic Noguera, designee for Sara Babun
Tom Kimen, designee for Neighborhood Representative appointed by City of Miami
MRC Staff:
Brett Bibeau, Managing Director
Others attending interested in the River:
Please see attached sign in sheets.

I) Chair's Report – MRC Chairman Horacio Stuart Aguirre

The free 24th Annual Miami Riverday will be held April 4, 2020, featuring free Miami River boat rides, live music, environmental education, historic re-enactors, children activities, food, drinks, and more. Last call for sponsorships so we may enter final design and printing of marketing materials with all the sponsor logos.

In addition, last call for advertisements which are currently for sale in the 17th Annual Miami River Map and Guide, which is released at Miami Riverday.

We have distributed the upcoming U.S. Coast Guard approved temporary additional Brickell bridge opening restrictions necessary to conduct the needed maintenance of the Bridge. Please note these temporary additional restrictions are in addition to the Federal law's current Brickell bridge opening restrictions.

In addition, we have distributed the February 9 Miami Marathon Traffic Advisory, which creates temporary closures to both vessels and cars in portions of the Miami River District.

MRC Vice Chairman Frank Balzebre, MRC Director Bibeau provided the following update on the Miami River Voluntary Improvement Plan (VIP):

The Miami River Commission has been actively assisting the efforts of the City, County, State, and private sector to clean up the Miami River District.

The MRC thanks the 12 Hands on Miami Volunteers, whom on January 25 maintained the public Riverwalk's community vegetable and fruit garden, and picked up garbage along the Miami River's shoreline here at Robert King High.

I thank the 40 volunteers from Carrolton School whom on Thursday, January 30, picked up garbage on the shore along Curtis Park's public Riverwalk.

II. Miami Dade County Public Housing and Community Development Presentation Regarding "River Parc" Development at 1407 NW 7 ST

Miami-Dade County Public Housing and Community Development (PHCD) Director Michael Liu and Albert Milo Jr, Related Urban, distributed copies of the "River Parc Master Plan (1.06.2020)".

PHCD Director Liu stated the proposal will provide needed affordable housing, in partnership with the private sector development partner. Director Liu stated the 1st building is complete and the 2nd building is currently under construction. Mr. Milo stated numerous previous public meetings were held regarding the proposal, which per the distributed plans feature:

1) Public Riverwalk and waterfront building setbacks consistent with the City of Miami Zoning Code Section 3.11 and Appendix B, connecting to the east with NW 13 Ave and to the west under I-836, and featuring security as supported by the residents
2) Art in Public Places
3) Multi-Purpose Room
4) Gym
5) Courtyards
6) Paseos
7) River Plaza (x2)
8) "Triangle Park"
9) "Waterfront Park"
10) "Linear Park
11) Restaurant / Commercial Space (details TBD)

PHCD Director Liu stated PHCD will submit an application in the current grant cycle to the Florida Inland Navigation District for a 50% cost share for the proposed new needed and code required seawall and public Riverwalk.

Mr. Milo and Mr. Kirk Lofgren stated the proposal is consistent with the existing land use, T6-8 zoning and Sections 3.15, 3.11, and Appendix B, and will include art in public places. Mr. Milo stated the project will not include a night club or generate loud noise that would disturb this site's elderly residents. The applicants stated the site will include 2,500 units, including 900 replacement units, and in the future, they would benefit from the concepts of waterborne transportation and a trolly route at the site. The total estimated phased construction timeline will take 5-7 years.

Mark Bailey, Miami River Marine Group, noted the City of Miami's comprehensive plan requires new developments to include a "Working River Disclosure".

The following email was distributed at the MRC's Feb. 12 public subcommittee meeting:

"My compliments to the development team! I wanted to make a couple of points regarding the site plan. I make these points not to hinder the process, but to let stakeholders know that the City will ensure that the following items will be independently confirmed phase by phase:

1. Setbacks: all structures are subject to 50' waterfront setbacks, specifically, there is 50' open to the air from the mean high water line.
    a. Access: Within the setback, a publicly accessible Riverwalk will be included per City of Miami design guidelines.
    b. Waiver of setback requirements may be granted by the City Commission via a Planning Department application.
2. Special uses: Additional Special permits specific to individual phases and structure will be required as development progresses, i.e. outdoor dining and affordable housing special benefits.

Hopefully, this assurance and requirements will allow the overall masterplan to proceed and allow the River Commission to focus on the items in their purview without being distracted by details which will be under separate future applications.

Best regards,
Jeremy Calleros Gauger
Deputy Director, Planning Department
City of Miami"

The presenters indicated they would incorporate new native trees, and save several of the existing native trees.

Commissioner Higgins stated she supported the project.

The MRC passed a unanimous resolution supporting the ongoing project "River Parc" project, and continuing to coordinate with all the appropriate agencies.

III. Update Regarding Waterborne Transportation

Irene Hegedus, Miami Dade County and Andrew Schimmel, City of Miami Department of Real Estate and Asset Management, distributed and presented a "Waterborne Transportation - Overview" presentation, County Commission resolution adopted Sept 4, 2019, and draft / pending City Commission resolution to authorize an agreement allowing the Poseidon Vessel to load and unload passengers from the James L Knight Convention Center. Ms. Hegedus and Mr. Schimmel stated Miami-Dade County has spearheaded the effort by reaching out to the City of Miami and City of Miami Beach to create a 2 stop dedicated water transportation route between a location on Miami Beach (TBD) and the City of Miami's selected location, which is the City owned seawall along the public Riverwalk at the James L Knight Convention Center, which is adjacent to the "Riverwalk" Metro-Mover station and a large public parking lot. The vessel will not require openings of the Brickell Bridge. The County administrations proposed private sector vessel is climate controlled and holds 149 passengers. Mr. Schimmel and Ms. Hegedus stated the vessel will depart every 30 minutes, and will reduce vehicular traffic. Ms. Hegedus and Mr. Schimmel stated there is a potential for future expansions of waterborne transportation. Ms. Hegedus stated the County will market this waterborne transportation route, without using the "Poseidon" name of the private sector vessel. **The MRC adopted a unanimous resolution noting their various adopted strategic plans recommend increased waterborne transportation, therefore the MRC acknowledges and suggests approval of the City's pending draft resolution, which assists in providing waterborne transportation.**

IV. Discuss the DDA Letter to USACE Re Their Back Bay Study

The following documents were distributed:

- DDA 11/8/19 Letter to USACE re their Back Bay Study
- USACE Back Bay Study Summary Presentation
- MRC's 11/4/19 public meeting minutes featuring the USACE Back Bay Study

Commissioner Higgins stated the USACE will present their 1st draft Back Bay Study to Miami-Dade County in the near future, and she wanted to provide the MRC with the distributed DDA letter. Ms. O'Neil asked if there is anything the MRC should consider doing at this time, and Commissioner Higgins replied not at this juncture.

V. New Business

The meeting adjourned.

Miami River Commission
Public Meeting

Monday, February 3, 2020
Noon
1407 NW 7 ST
Miami, FL

NAME	ORGANIZATION	PHONE & E-MAIL
Stephen Dutton	Avenue3 Miami	(817) 584-4087 avenue3miami@gmail.com
Sandy O'Neil	GMCC	oneils@bellsouth.net
Alberto Milo, Jr	Related Urban	(305) 460-9900 amilo@relatedgroup.com
Andrew Velo	Related Urban	(305) 459-8176 avelo@relatedgroup.com
Johanna Escobar	MODIS Architects	(786) 6067457
KIRK LOFGREN	OCEAN CONSULTING	(305) 457 5573 KIRK@OCEANCONSULTINGFL.COM
ANA MEZA	PHCD	786 469-4113
Maggie Fernandez	MDC-DS	786-351-7380
MAXIM VLESSING	WATER TAXI MIAMI	305-600-2511 MAX@WATERTAXIMIAMI.COM
Catherine Lorieau	MIAMI TODAY	clorieau@gmail.com
Michael McElroy	Miami River Safe Harbor Boat Ramp	954-804-4666
Theodora Long	Gran. Park Homeowners	305-401-4595
A. SCHIMMEL	City of Miami	ASCHIMMEL@MIAMIGOV.COM
A Barriena	city of Miami	abarriena@miamigov.com
ROBERT DOBIECKI	POLISH CULTURE	M54X@ATT.NET
Robert Black	Poseidon Ferry	RBLACK@poseidonferry.com
Johnathan Silvia	Poseidon Ferry	JSILVIA@Poseidonferry.com
Mark Bailey	Miami River Marine Group	mbailey@miamirivermarinegroup.org

Miami River Commission
Public Meeting

Monday, February 3, 2020
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1407 NW 7 ST
Miami, FL

NAME	ORGANIZATION	PHONE & E-MAIL
Eileen Johnston	3630 Inv. Corp	7862551103
Roselvie Noguera	MRC-Atillean	3056336361
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Bruce Brown	Miami River Marine Group	305/788-6411
PATRICIA HARRIS	MRC	305-262-3763 PATTYKAHL@GMAIL.com
PHIL EVERINGHAM	MRC/MARINE COUNCIL	305951-9096 pbemskd@hotmail.com
[illegible]	MRC	3056673323
FRANK BALZEBRE	MRC/mayor Gimenez designee	3/986-1726 FRANKB@MD.GOV
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Neal Schafers	Miami DDA	schafers@miamidda.com
Eileen Higgins	BCC	ehiggins@miamidade.gov
DAVID MAER	SAO	davidmaer@miamisao.com

Proposed Seawall/Waterfront Ordinance Revision

Alan Dodd, PE
Director, Resilience and Public Works
February 12, 2020

Objectives

1. Explain Why Seawall Standards Must Change
2. Explanation of Recommended Seawall Elevation Requirement
3. Describe Scope of Issues Addressed in the Ordinance Modifications and Summary of Key Ordinance Modifications
4. Proposed Timeline of Public Meetings

Current Seawall Ordinance Language

Section 29, ARTICLE III. - BULKHEADS, SEAWALLS, PIERS, DOCKS, GROINS, MARINE RAILWAYS AND OTHER SIMILAR STRUCTURES

Sec. 29-89 (a)(4) For all waterfront properties east of US-1, except those fronting the Miami River, the top elevation of new seawalls shall be set at **+5.00 NGVD**, if located north of the Rickenbacker Causeway, and set at **+6.00 NGVD** if located south of the Rickenbacker Causeway. The top elevation of new seawalls for those waterfront properties fronting the Miami River shall be set in accordance with section 54-46 of the City Code.

Sec. 54-46 (2) The construction of permanent-type bulkheads along the shoreline or harbor line of any watercourse contiguous to the area platted, as follows:

a. Permanent-type bulkheads shall be constructed to a minimum elevation of **+5.00 feet**, **NGVD** along all rivers and canals and along the shoreline or harbor line of Biscayne Bay north of the Rickenbacker Causeway.
b. b. Permanent-type bulkheads shall be constructed to a minimum elevation of **+6.00 feet**, **NGVD**, along the shoreline or harbor line of Biscayne Bay south of the Rickenbacker Causeway, and around all new or future islands or enlarged existing islands in Biscayne Bay.
c. Permanent type bulkheads for those waterfront properties fronting the Miami River shall be constructed to an elevation of **+5.50 feet NGVD**.

Today's Water Challenge

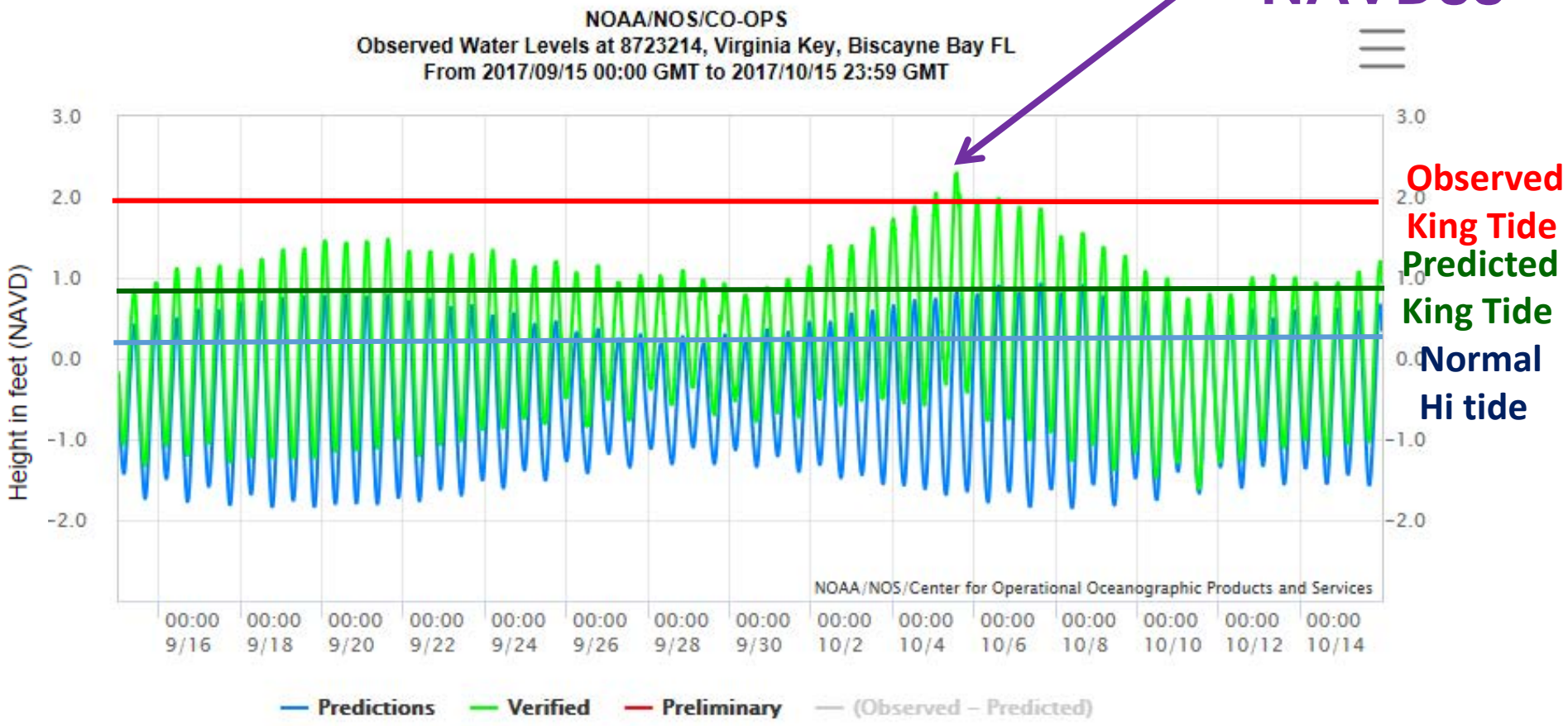
"Sunny day" flooding in Miami

Hurricane Irma 2017

King Tide Events

October 2017

2.28 ft NAVD88



Observed King Tide

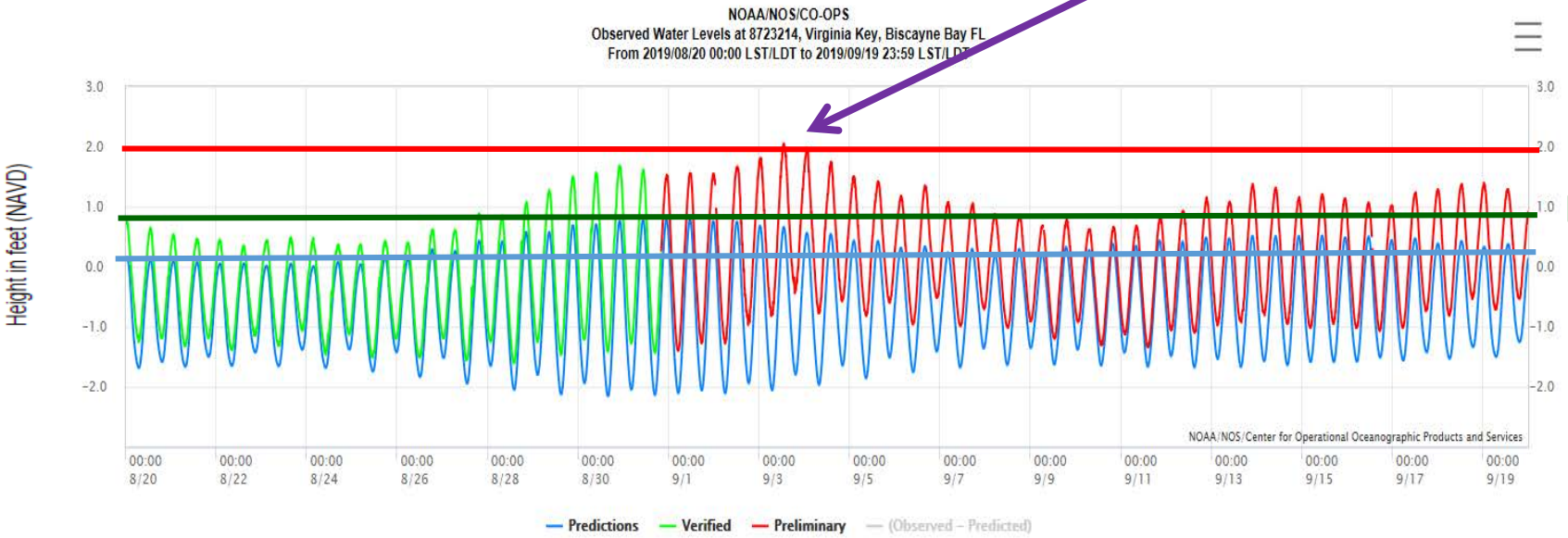
Predicted King Tide

Normal Hi tide

Extreme Tidal Events

September 1-7, 2019

2.03 ft NAVD88

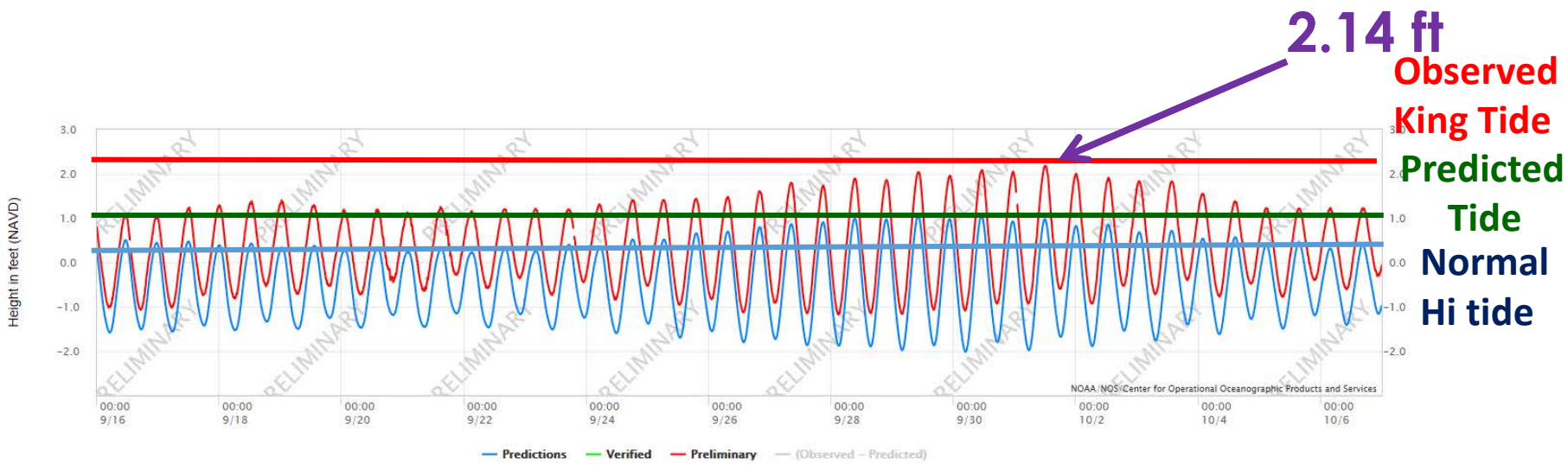


Observed King Tide

Predicted Tide

Normal Hi tide

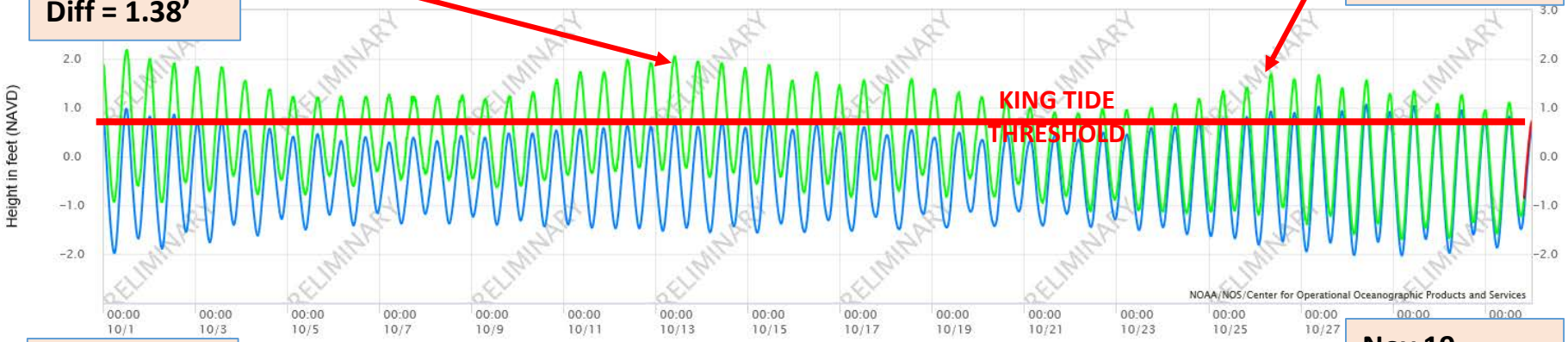
Sept 16 – Oct 5 King Tide



October & November 2019

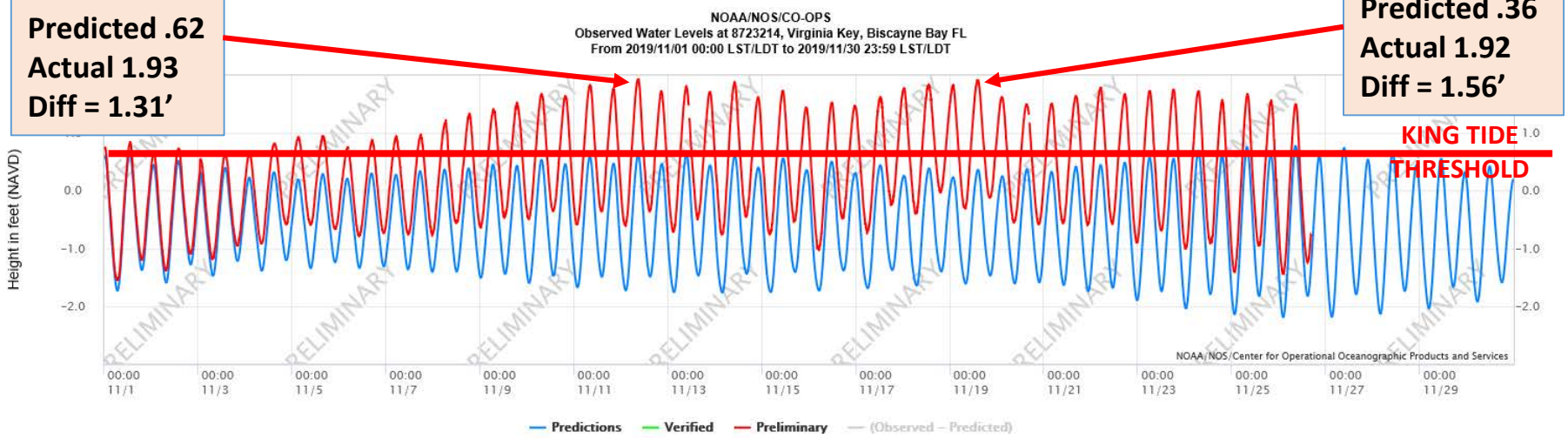
Oct 13
Predicted .67
Actual 2.05
Diff = 1.38’

Oct 25
Predicted .67
Actual 1.87
Diff = 1.20’



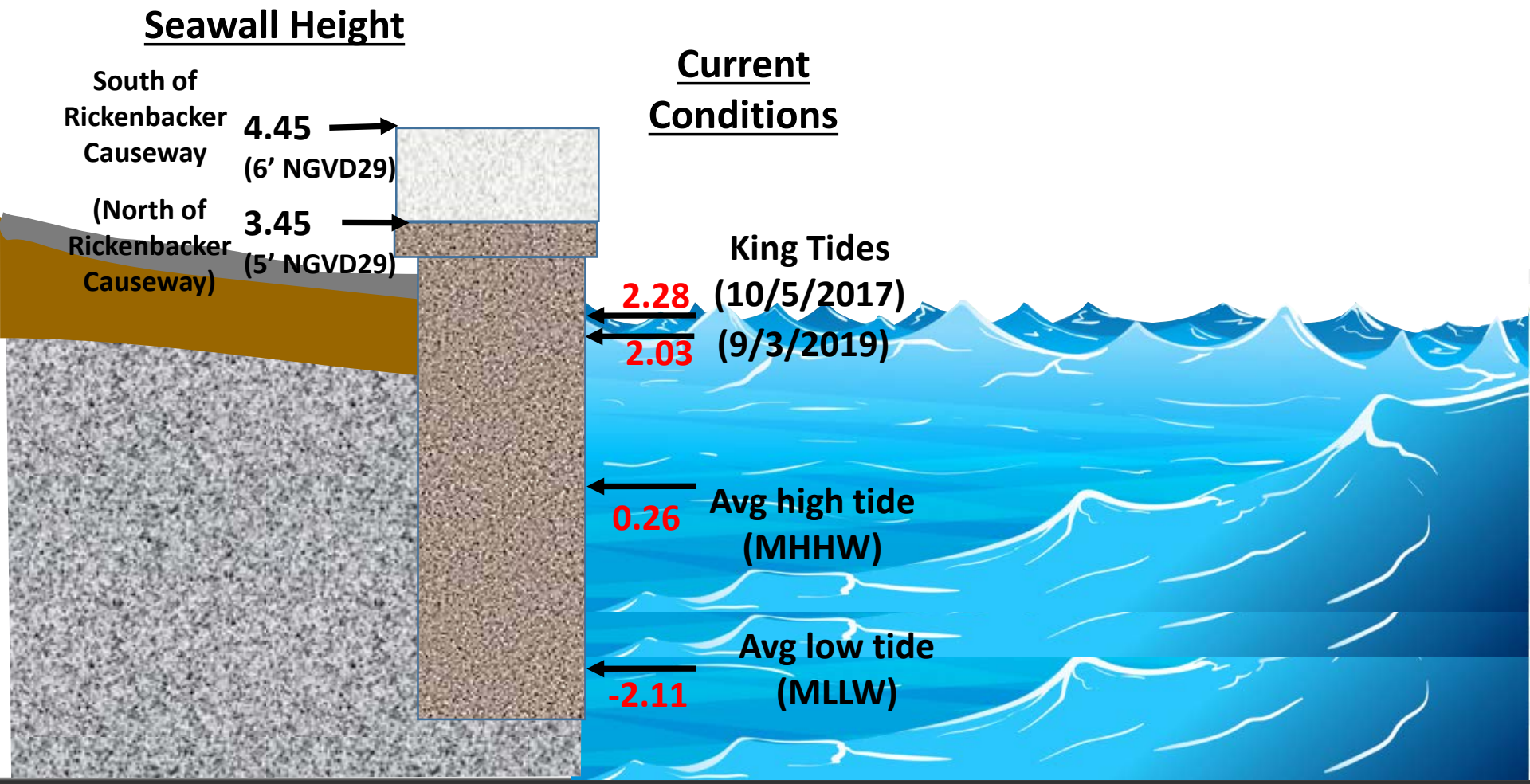
Nov 12
Predicted .62
Actual 1.93
Diff = 1.31’

Nov 19
Predicted .36
Actual 1.92
Diff = 1.56’

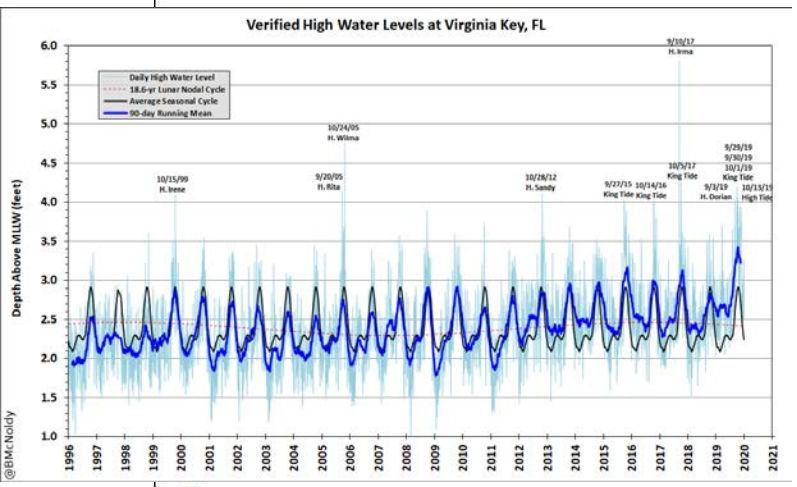


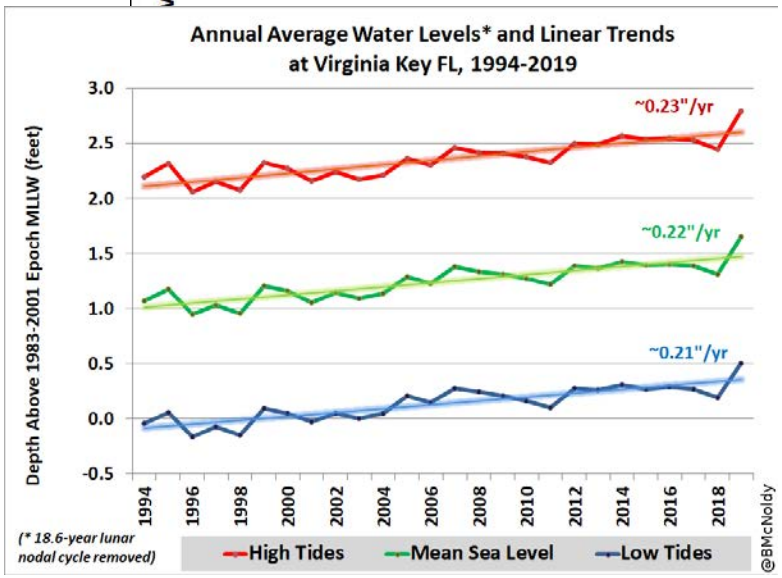
Seawall Elevations and King Tides – Current Conditions

DATA IN NAVD88

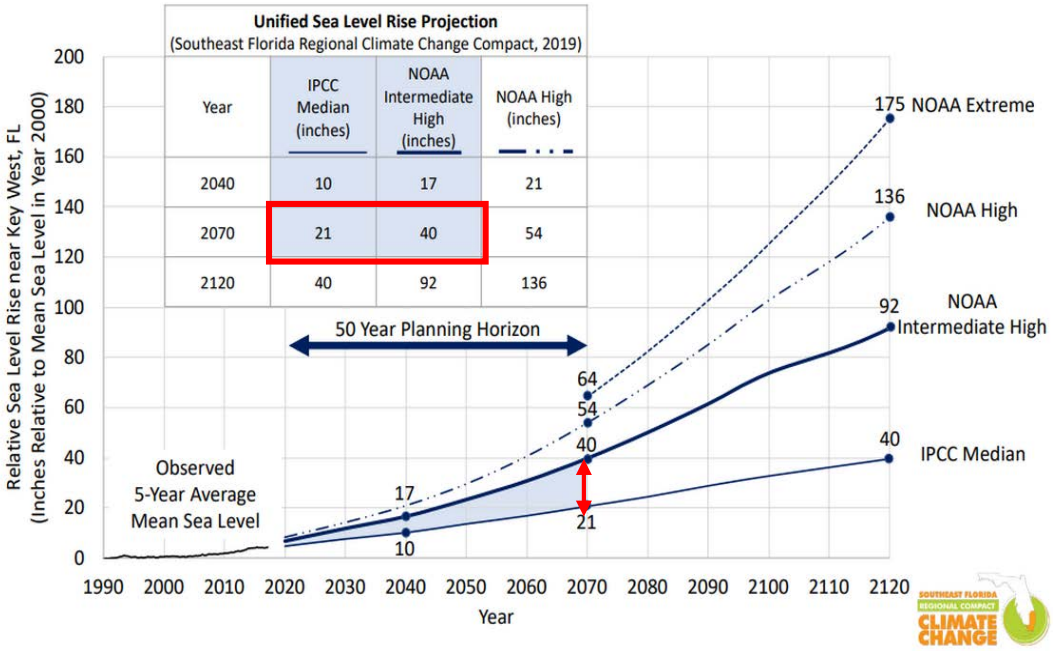


South Florida SLR projections





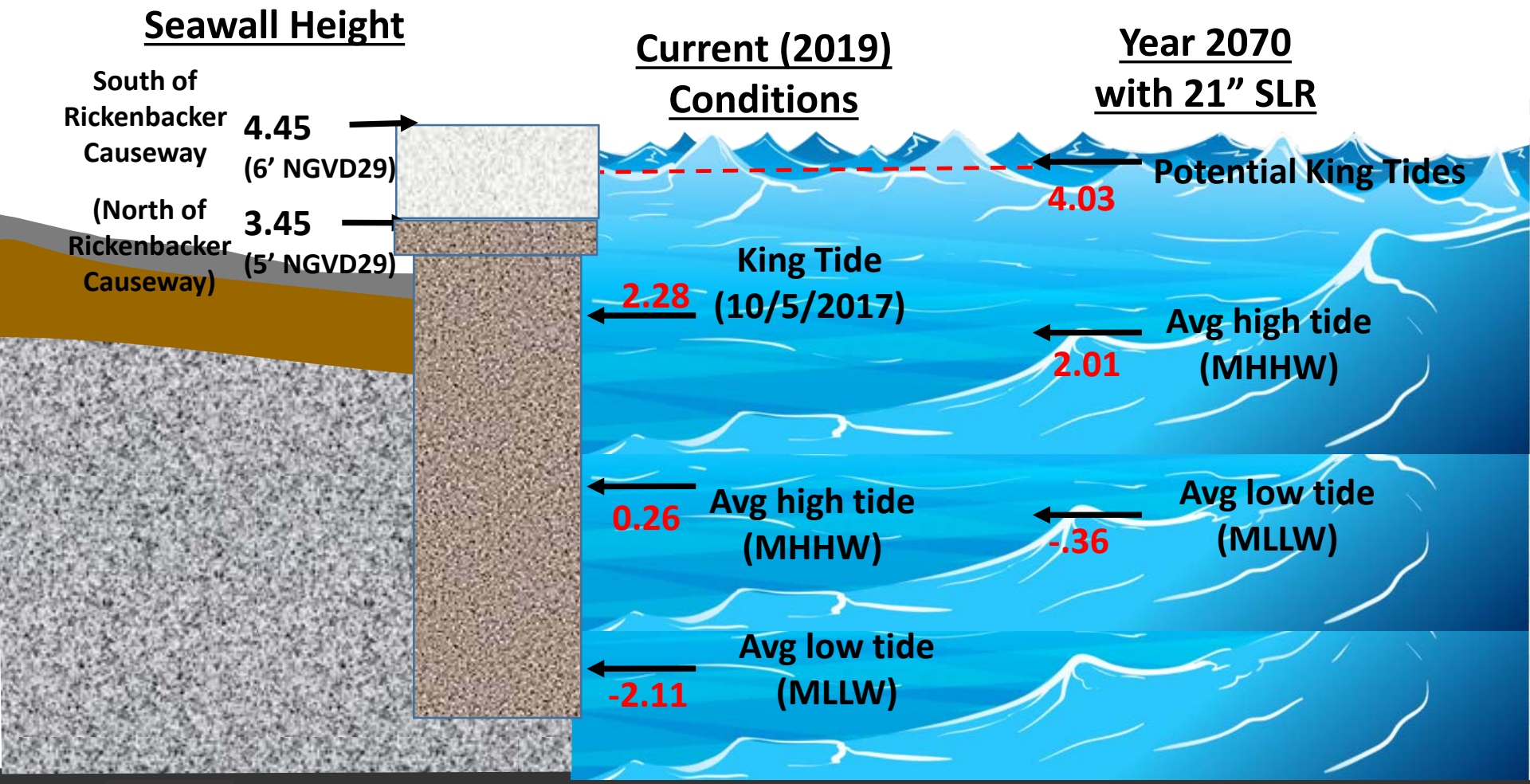
- 5.7 inches of Sea Level Rise measured at NOAA Virginia Key Tidal Gauge since 1994
- Average of 0.22 inches per year
- South Florida Climate Compact released updated SLR projections of 21” – 40” by 2070



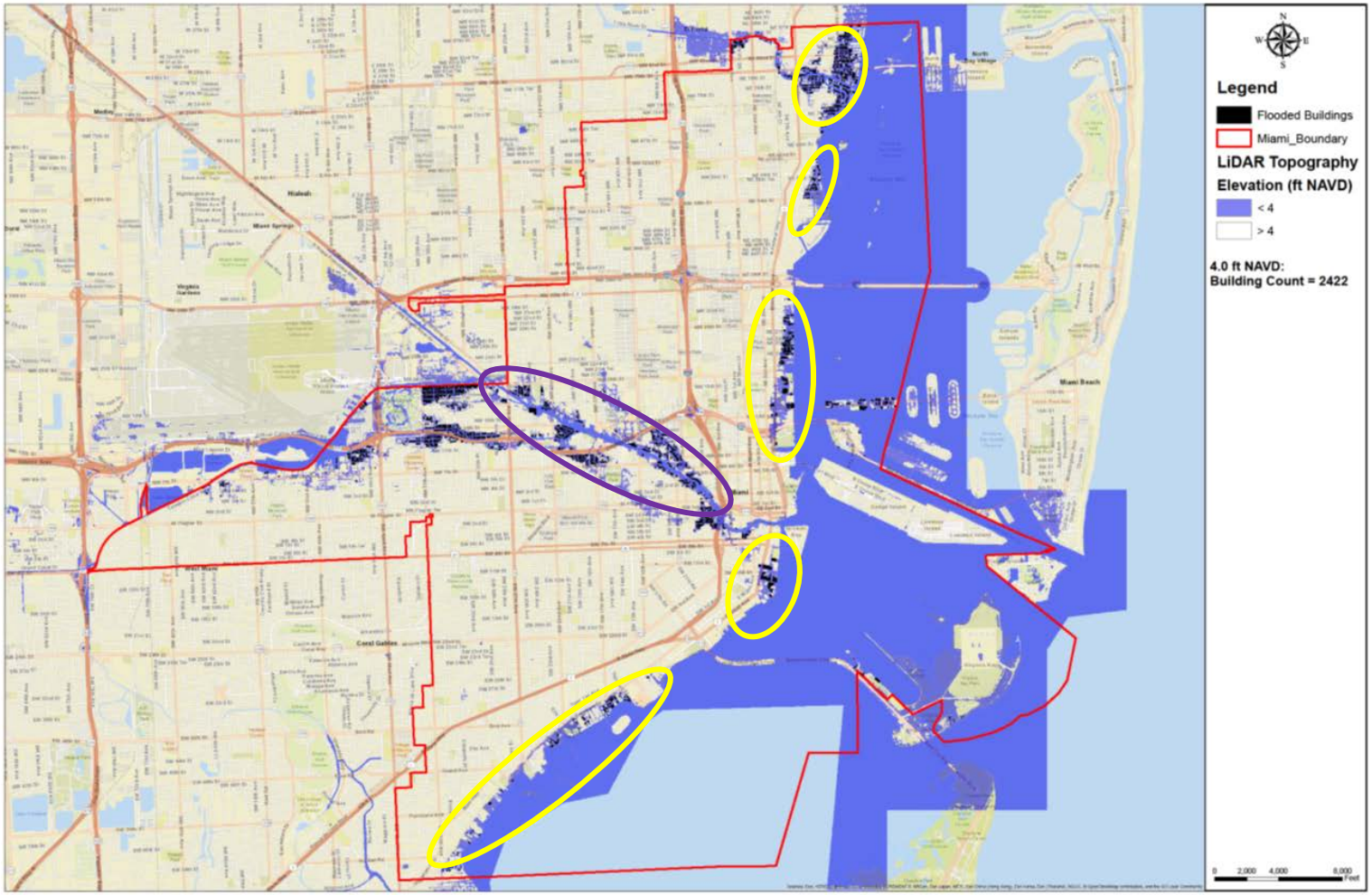
Seawall Elevations and King Tides – 2070 with 24” SLR

ALL DATA IN NAVD88

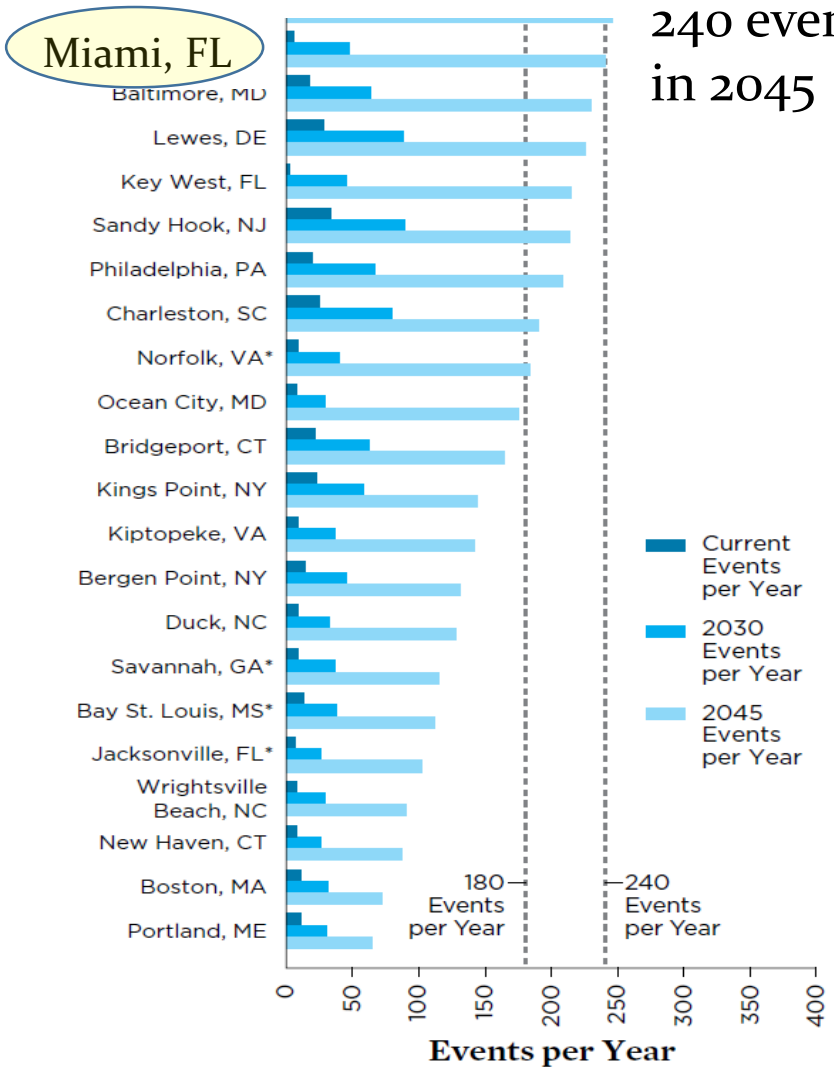
Planning Assumption: 21” – 40” of SLR by 2070



Impacted Areas 2060



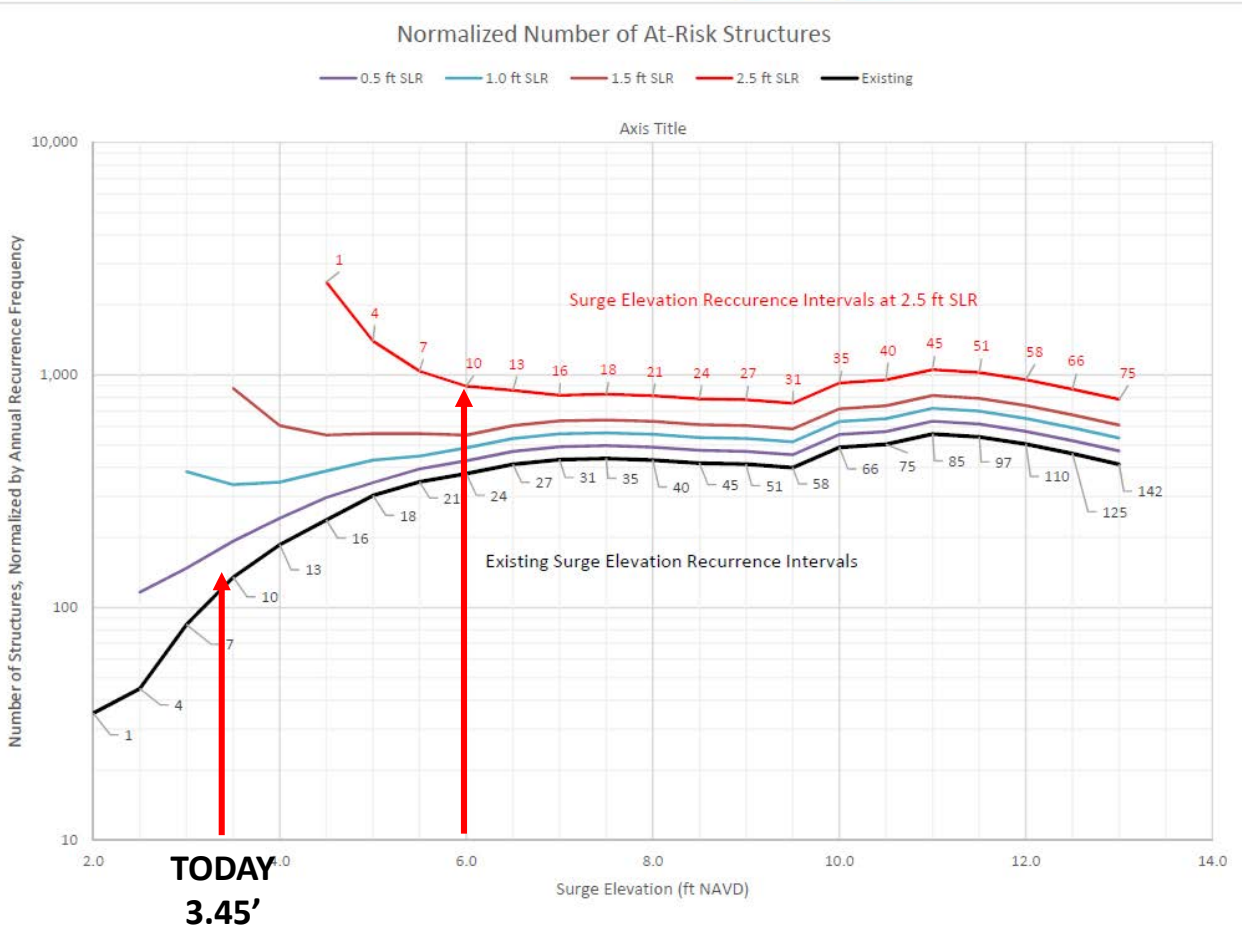
Frequency of King Tides



Tidal Flooding today, in 2030 and in 2045

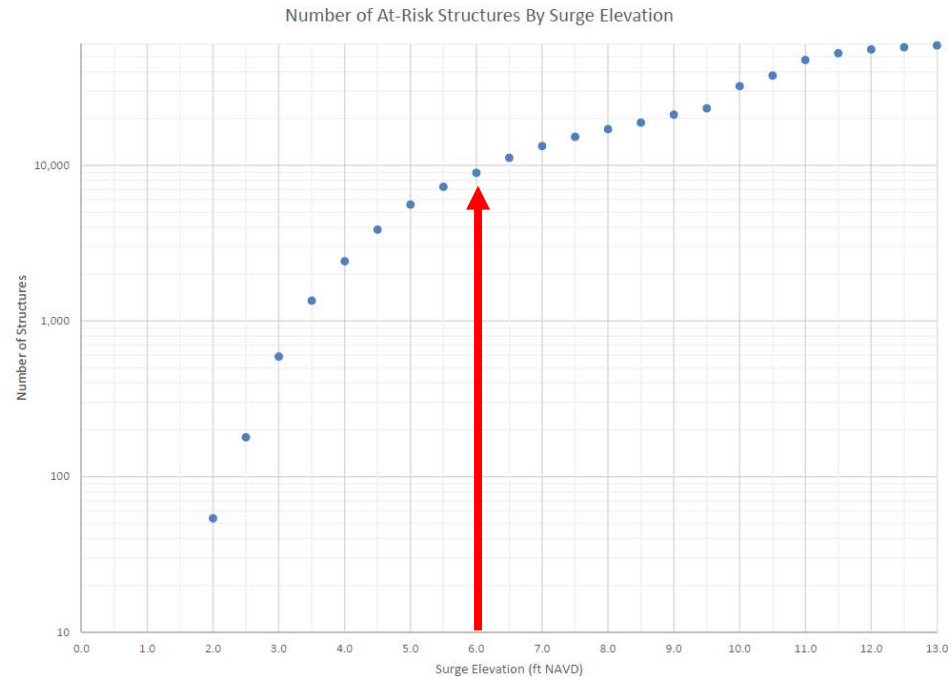
Southeast Florida will advance from
<10 events today
to
240 events in 2045

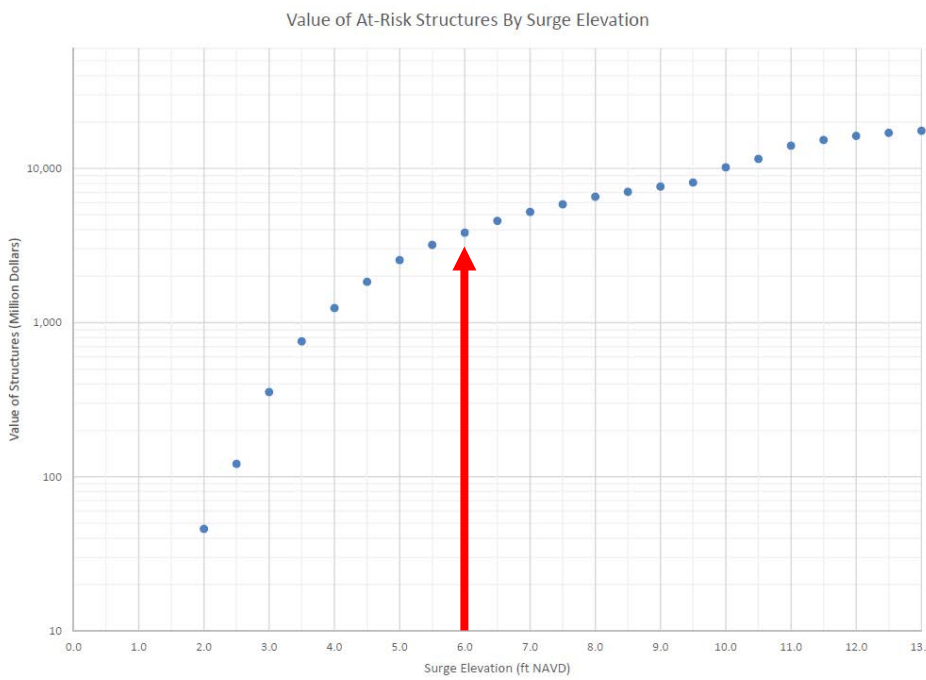
Number of Structures Protected with Projected SLR levels



With SLR more structures are at risk - Seawall elevation critical factor to provide protection
Beyond 6FT (NAVD) there are marginal benefits in number of structures protected
Remaining structures require other means to protect against flooding impacts

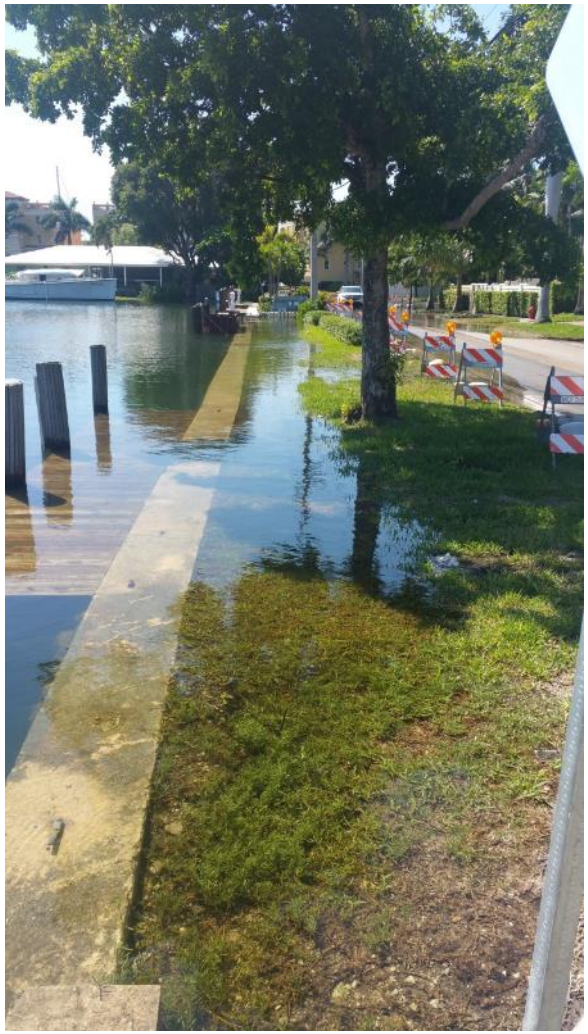
Value of Structures Protected by Seawall Elevations





With SLR more structures are at risk - Seawall elevation critical factor to provide protection
Beyond 6FT (NAVD) there are marginal benefits in value of structures protected
Remaining structures require other means to protect against flooding impacts

Other Considerations



Existing Seawall and dock inundated

←

Seawalls in significant disrepair

→

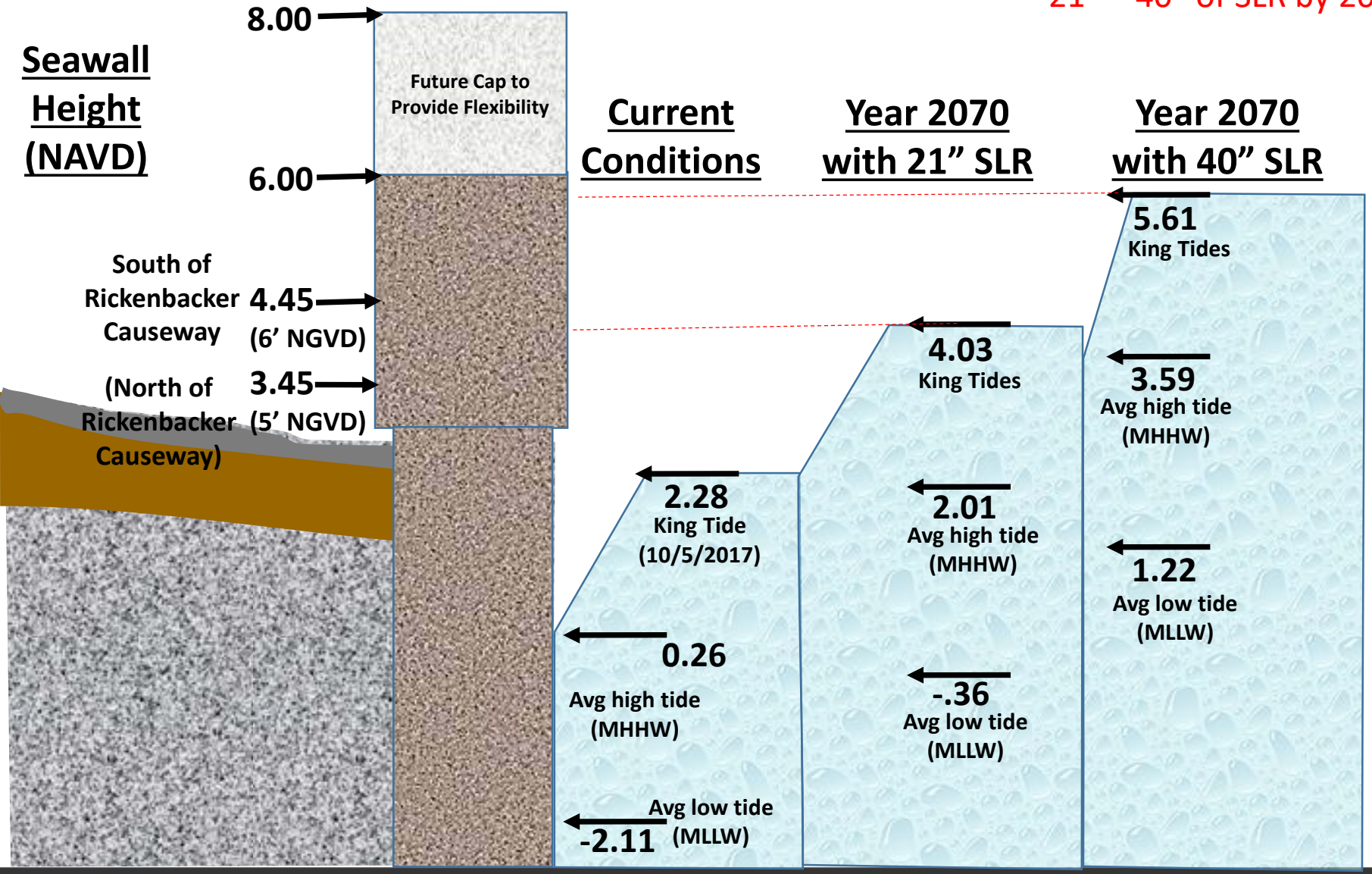
Other Considerations

Other Considerations

Recommended Elevations

ALL DATA IN NAVD88

Planning Assumption:
21” – 40” of SLR by 2070



Options for Implementation

1. **Establish mandatory date for all seawalls and natural shorelines to come into compliance with new standards**
   - **Pro: Ensures all waterfronts comply with new standards by established date**
   - **Con: Residents/City will incur cost for reconstruction/replacement of infrastructure that otherwise is in good condition and does not have negative impacts at this time**
2. **Phase in new standards by requiring seawalls and natural shorelines to come into compliance to new standards as they are repaired or replaced**
   - **Pro: Allows phasing in of new standards over time as seawalls and natural shorelines are replaced or repaired in due course; minimal additional cost impact to achieve**
   - **Con: Does not ensure all waterfronts comply with new standards as some owners may never initiate improvements to seawalls or natural shorelines; lack of harmonization between properties**
3. **Establish triggers to mandate seawalls and natural shorelines come into compliance with new standards when certain conditions are met**
   - **Pro: Phases in new standards over time as improvements are needed to seawalls and natural shorelines; reduces number of properties immediately impacted with costs**
   - **Con: Lack of harmonization between properties, improvements may not be initiated until after negative impacts are observed, resulting expedited work at a higher cost**

Recommended Ordinance Modifications

- Revise definitions for seawall and require North American Vertical Datum (NAVD88) as standard for all elevation data
- Establish standards for permeable erosion barriers such as rip rap, or a land/water interface of another nature
- Sets minimum seawall elevations at 6 FT (NAVD88) uniformly throughout Miami with ability to increase (cap) another 2 ft
- Requires seawall reconstruction to the minimum elevation if the substantial repair threshold is triggered
- Requires maintaining seawalls in good repair
- Address transitions with fixed and floating docks
- Requires improvements should a property allow tidal waters entering their property to impact adjacent properties or public Rights-of-Way to be initiated within 180 days, with repairs commencing within 365 days, and repairs being completed within 18 months of owner receiving citation

Timeline & Coordination

Stakeholders

Climate Resilience Committee, HOA/Assn reps, Developers, Seawall Contractors, Miami River Commission, DDA, Marine Advisory Board

Timeline

Oct 2019	Internal meetings
Dec 2019	Stakeholder Meetings
Feb 2020	Commission update
Mar 2020	Planning and Zoning
April 2020	First Reading
June 2020	Second Reading

Questions?

Chapter 29 – LANDFILLS AND WATERFRONT IMPROVEMENTS

ARTICLE III. - BULKHEADS, SEAWALLS, LIVING SHORELINES, PIERS, DOCKS, GROINS, MARINE RAILWAYS, AND OTHER SIMILAR STRUCTURES

Sec. 29-81. - Definitions.

For the purposes of this article, the following words and phrases ~~shall~~ must have the meanings respectively ascribed to them by this section. Definitions other than those given herein ~~shall~~ must be as set forth in the South Florida Building Code.

Building Code: The Florida Building Code (current adopted version at time of permit application).

Building Department: The Building Department of the city, or the Director of such department, used interchangeably.

Bulkhead: A vertical or near-vertical, substantially impermeable structure erected along water or a waterway, designed and constructed in such manner as to be substantially impermeable and safely sustain any loads, both vertical and lateral, that may come upon it, such as earth fill, water, moving traffic, storage of materials alongside, and the like. Coastal bulkheads are most often referred to as seawalls, however, by definition, they are intended to act as a shoreline stabilization structure that primarily retains soil and provides minimal protection from waves. The elevation of the top of a bulkhead must comply with the current minimum finished elevation requirements as set by the Department of Resilience and Public Works.

Bulkhead line: An official line established by a governmental agency along or near the shore for the purpose of controlling the waterfront alignment of structures.

Engineer: A professional engineer certified competent and licensed by the state of Florida.

Gravity-type wall: A structure whose resultant of acting forces falls within the middle third of the base. Rock-type or riprap walls shall be included in this category when the base width equals or exceeds the height of the wall.

Living Shoreline: A green infrastructure technique using native vegetation alone or in combination with low sills (aka. low elevation seawalls or bulkheads) to stabilize the shoreline. Living shorelines provide a natural alternative to 'hard' shoreline stabilization methods like riprap or bulkheads and, typically, living shorelines are more resilient than bulkheads in protecting against the effects of hurricanes. While the waterside face of a living shoreline may be made up of plants and other natural elements that improve water quality, provide additional fish habitat, and fosters increased biodiversity, the landside interface of living shorelines constructed in the City of Miami must be substantially impermeable and constructed to a finished elevation that meets the current requirements of any permitted seawall or bulkhead, to ensure protection of the surrounding properties and the public right-of-way from flooding associated with currently realized and expected, future sea level rise.

NAD 83 (2011): A geometric datum/coordinate system for collection of positions relative to an ellipsoid model of the Earth. The current horizontal datum for the United States and its territories is effectively part of a geometric datum, and it is called the North American Datum of 1983 (NAD 83). The current realizations of NAD 83 were adopted in 2012, following the completion of the National Adjustment of 2011 (i.e. "NAD 83 (2011)"). NAD 83 (2011) is the common standard for horizontal datums to be used for most projects requiring regulatory agency permitting, including the City of Miami's Department of Resilience and Public Works.

NAVD 88: The North American Vertical Datum of 1988 (NAVD 88) is the vertical control datum established in 1991 by the minimum-constraint adjustment of the Canadian-Mexican-United States leveling observations. In 1993 NAVD 88 was affirmed as the official vertical datum in the National Spatial Reference System (NSRS) for the Conterminous United States and Alaska (see Federal Register Notice (FRN)). NAVD 88 is the common standard for vertical datums to be used for most projects requiring regulatory agency permitting, including the City of Miami's Department of Resilience and Public Works.

Public Works: The city's Department of Resilience and Public Works, or the Director of such department, used interchangeably.

Riprap: A foundation of unconsolidated boulders, stone, concrete or similar materials placed on or near a shoreline to mitigate wave impacts and prevent erosion.

Seawall: ~~Essentially the same as a bulkhead.~~ The most common type of shoreline protection. A vertical or near-vertical, substantially impermeable structure that provides shoreline protection from waves while retaining upland soils. Seawalls are typically located on the coast fronting beaches or other tidally-influenced waterways and are subject to storm surges with pounding surf, eroding shorelines, and wave overtopping from coastal storm or extreme high tide events. The elevation of the top of a seawall must comply with the current minimum finished elevation requirements as set by the Department of Resilience and Public Works to ensure protection of the surrounding properties and the public right-of-way from flooding associated with currently realized and expected, future sea level rise.

Tidally-Influenced Areas: Any water-fronting land where water levels change in response to daily tides.

(Code 1967, § 27-21; Code 1980, § 29-41; Ord. No. 13315, § 2, 3-8-12)

• Sec. 29-82. - Purpose of article.

The purpose of this article is to protect the public's health, welfare and safety by setting minimum standards to be used in the design, construction and maintenance of waterfront structures; further, to accomplish this purpose by requiring such design, construction and maintenance to be acceptable in all respects and particulars to the Building and Public Works Departments; and lastly, to ascertain that all physical improvements included herein are subject to and admit of rational analysis in accordance with established principles of mechanics and accepted engineering practices. This article ~~shall~~ must be deemed to supplement the provisions of the ~~South~~ Florida Building Code.

(Code 1967, § 27-22; Code 1980, § 29-42; Ord. No. 13315, § 2, 3-8-12)

- ## Sec. 29-83. - Permits for waterfront improvements—Required.

No waterfront improvement/structure shall be constructed, reconstructed or repaired until a permit authorizing such construction, reconstruction or repair has been obtained from the Building Department. No such permit shall be issued for any new construction or improvement or repair to an existing improvement/structure which is deemed, ~~substandard~~ by the Director of the Building Department, to be substandard or not in compliance with the Department of Resilience and Public Works' design and construction standards.

(Code 1967, § 27-23; Ord. No. 10658, § 2, 10-12-89; Code 1980, § 29-43; Ord. No. 13315, § 2, 3-8-12)

Sec. 29-84. - Same—Application.

(a)

Generally. Permits required by this article ~~shall~~ must be applied for either by the owner-builder or by a licensed contractor certified in a proper category and having a bona fide contract with the owner to perform such work. ~~Application shall be made upon a suitable form provided by the Building Department.~~ Permits must be applied for utilizing the City's electronic plan review and permitting system (ePlan).

(b)

For improvements of $5,000.00 or more. For new construction or repairs amounting to $5,000.00 or more in value, ~~three copies of the~~ certified/signed & sealed plans ~~shall~~ must be submitted with the application, utilizing the City's electronic plan review and permitting system (ePlan). ~~which~~ Such plans ~~shall~~ must include the following information, at a minimum, and must comply with the city's electronic plan submission requirements, except as to any item which may be waived in writing by the Building Department:

(1)

A current (less than 1 year old) certified/signed & sealed survey ~~sketch~~ drawing of the property upon which the improvement is to be made, generated based on NAD 83 (2011) and NAVD 88 horizontal and vertical datums and showing sufficient topographic information to determine the impacts of the proposed improvements to the adjacent private and public lands.

(2)

A plot plan, showing the relation of the proposed improvement to the site and to adjoining land or areas.

(3)

Arrangement and structural details in the plan, section and elevation views sufficiently expanded to serve as construction drawings.

(4)

The type and character of the soil substrata which will bear the improvement or structure. When required by the Building Department, core borings shall be taken to a depth ten feet deeper than the proposed base of construction or to a depth below the deepest piling, and the findings of the same shall be made a part of the permit application.

(5)

Soundings and pertinent elevations and horizontal locations of the proposed structures ~~shall~~ must be shown and referred to using NAVD 88 for vertical and NAD 83 (2011) for the horizontal datums.

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~~mean low water, National Geodetic Vertical Datum, as defined in section 20-1 of the City Code ("NGVD").~~

(5a)
Seawalls, bulkheads, and living shorelines must be provided with specific purpose surveys certifying the alignment and elevation of the top of wall (or bulkhead line) with elevations spaced at a maximum of 10-ft intervals, showing the highest and lowest elevations of the barrier, and clearly identifying the location and elevation of the structure/barrier at each property corner. Elevations of adjacent properties and public rights-of-way must also be provided to ensure proper harmonization is provided between the proposed barrier with the surrounding lands.

(6)
The name and address of the owner and property folio(s) of the property(ies) upon which the improvement(s) is(are) to be made or constructed.

(7)
A construction cost estimate of the proposed improvement substantiated by a fully executed construction contract or validated and attested to by a licensed professional engineer.

(8)
The signature and seal of the engineer designing the improvements.

(9)
The engineer's design computations, when required by the Building Department.

(c)
For improvements less than $5,000.00. For construction or repairs less than $5,000.00 in value, ~~three copies of the~~ certified/signed & sealed plans ~~shall~~ must be submitted with the application, utilizing the City's electronic plan review and permitting system (ePlan). ~~which~~ Such plans ~~shall~~ must include the following information, at a minimum, and must comply with the city's electronic plan submission requirements, except as to any item which may be waived in writing by the Building Department:

(1)
A current (less than 1 year old) certified/signed & sealed survey ~~sketch~~ drawing of the property upon which the improvement is to be made, generated based on NAD 83 (2011) and NAVD 88 horizontal and vertical datums and showing sufficient topographic information to determine the impacts of the proposed improvements to the adjacent private and public lands.

(2)
A plot plan, showing the relation of the proposed improvement to the site and to adjoining land or areas.

(3)
The name and address of the owner of the property upon which the improvement is to be made.

(4)
Arrangement and structural details in the plan, section and elevation views sufficiently expanded to serve as construction drawings.

~~(4)~~(5)
A cost estimate of the proposed improvement substantiated by a fully executed construction contract or validated and attested to by a licensed professional engineer.

(~~5~~6)
The signature and seal of the engineer designing the improvements~~., when required by the Building Department.~~

(~~6~~7)
The engineer's design computations, when required by the Building Department.

(Code 1967, § 27-24; Ord. No. 10658, § 2, 10-12-89; Code 1980, § 29-44; Ord. No. 13315, § 2, 3-8-12)

Sec. 29-89. - Design.

(a)
Design analysis. Responsibility for proper design rests with the engineer who prepares the plans. Each improvement ~~shall~~ must be designed to support all loads that may come upon it, to withstand the forces of water, wind and usage; and to meet the specific requirements of the Building Department and/or Department of Resilience and Public Works for location, elevation, and construction.

(1)
General. Any improvement, bulkhead, seawall, pier, wharf, dock, groin, cut, marine, railway or other related structure included in this article shall admit of rational analysis in accordance with well-established principles of mechanics and sound engineering practices, and without exceeding the allowed stresses for the various materials as specified in the Florida Building Code.

(2)
Bulkheads and seawalls. Bulkheads and seawalls and all parts thereof ~~shall~~ must be designed to support the estimated or actual imposed load, either dead, live or any other, both during construction and after the completion of such bulkhead or seawall. Seawalls, bulkheads, and any other shoreline protection structures/elements must be designed and built in a substantially impermeable manner, per the current Department of Resilience and Public Works' design and construction standards, to prevent water from flowing through or over the seawall/shoreline protection while still allowing for the release of hydrostatic pressure from the upland direction.

(3)
Terrace-type wall. Subject to certain types of conditions of the site or location of the improvement, step-type bulkheads or terrace-type walls will be permitted.

(4)
Waterfront properties. For all tidally-influenced, waterfront properties, ~~east of US-1, except those fronting the Miami River,~~ the top elevation of ~~new~~ seawalls, bulkheads, living shorelines, or other shoreline protection structures/elements ~~shall~~ must be constructed to a minimum elevation of ~~set at +5.00 NGVD~~ **6.00 feet NAVD (88)**~~., if located north of the Rickenbacker Causeway, and set at +6.00 NGVD if located south of the Rickenbacker Causeway. The top elevation of new seawalls for those waterfront properties fronting the Miami River shall be set in accordance with section 54-46 of the City Code.~~ All such protective structures/elements must be designed and built in a substantially impermeable manner, certified/signed & sealed by a civil/structural engineer registered in the State of Florida, and provided with the appropriate modification details to be capable of being raised to a final elevation of **8.00 feet NAVD (88)** to mitigate high tide flooding associated with realized and additional sea level rise through the year 2070. All such structures/elements must be designed and constructed in accordance with the City of Miami's Department of Resilience and Public Works Design and Construction Standards. This criteria

applies ~~for~~ to new construction or when substantial improvements to a property are performed. This subsection is not to be interpreted to impair the obligation of contracts, including without limitation, restrictive covenants or deed restrictions, under the Constitution of the state.

(5)

Substantial repairs/improvements of seawalls and bulkheads. Seawall and bulkhead improvements constituting substantial repair at the time of permit application must meet the requirements of Section 29-89(4) and the Department of Resilience and Public Works' current design and construction standards and minimum finished elevation requirements for the length of the property. For the purposes of this section, substantial repair threshold shall be defined as any seawall or bulkhead repair consisting of 50% or more of the current length of the existing barrier, any improvement to the seawall or bulkhead which results in an elevation change along more than 50% of the length of the structure, and/or as defined in Section 29-84(b) or as otherwise interpreted by the Director of the Building Department.

(b)

Lateral support from fills. No fill deposited as a berm on the water side of the bulkhead shall be considered as offering any lateral support to the bulkhead, without approval by the Building Department.

- ## Sec. 29-91. - Construction.

(a)

General. Each waterfront improvement ~~shall~~ must be permanent in nature, and the character of its soil or fill ~~shall~~ must be accurately determined, as shall also its weight and angle of repose. Gravity structures may be constructed of a combination of rocks and concrete, and the minimum percentage of cross-sectional area of concrete to the total cross-sectional area of the structure ~~shall~~ must be 40 percent, excluding concrete used for copings or decorative purposes.

(b)

Alignment. The alignment of a bulkhead or seawall ~~shall~~ must be closely controlled. The bulkhead or seawall must ~~shall~~ be constructed entirely on privately owned property unless otherwise approved by the entity or agency controlling the property upon which the bulkhead or seawall is to be constructed, and the alignment ~~shall~~ must not deviate more than two inches from the designated alignment. The face of the bulkhead or seawall ~~shall~~ must not in any case protrude beyond the established bulkhead line or the line shown on the plan approved by the Building Department.

(c)

Supporting piling. Supporting piles on any improvement constructed shall be driven to a bearing capacity as shown on the plans. These bearing capacities shall be computed in accordance with the driving load formula given in the Florida Building Code.

(d)

Concrete anchors. Concrete anchors shall be used only where approved by the Building Department.

(e)

Precast concrete piles. Precast concrete piles shall conform to the requirements of the Florida Building Code.

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(f)
Steel sheet piles. Steel sheet piling shall be of the continuous-interlock type of approved form. All steel sheet piling and accessories shall conform to the requirements of the Specifications for Steel Sheet Piling of the American Society for Testing and Materials, ASTM A328. The minimum thickness of web and flange metal shall be three-eighths of an inch, unless effectively protected from corrosion in the area extending from one foot below mean low water to the top of the exposed steel.

(g)
Wood piles. Wood piles shall conform to the requirement of the Florida Building Code.

(h)
Caps. Bulkheads and seawalls must ~~shall~~ be capped. The cap must ~~shall~~ be reinforced concrete. The use of the cap as a street curb ~~shall~~ must be avoided, but if such function is permitted by the Building Department, the cap ~~shall~~ must be designed for a live load of 500 pounds per lineal foot of cap, applied laterally, in addition to any other loads, dead or live, that may come upon it, and ~~shall~~ must have a guardrail where required by the Building Department.

(i)
Special piles or special conditions. The use of types of piles or conditions not specifically covered herein may be permitted, subject to the approval of the Building Department, upon the submission by the engineer of acceptable test data, calculations or other information relating to the properties and load-carrying capacity of such piles.

(Code 1967, § 27-31; Code 1980, § 29-51; Ord. No. 13315, § 2, 3-8-12; Ord. No. 13676, § 2, 4-27-17)

• Sec. 29-92. - Materials.

Permanent materials shall include concrete, steel, stone masonry construction, fiber reinforced or high-performance plastics, or any combination of the same. Other materials not specifically covered herein may be permitted, subject to the approval of the Building Department. Reinforced concrete ~~shall~~ must be of the materials, proportions, strength and consistency set forth in the Florida Building Code, as also ~~shall~~ must the materials, design and fabrication in the erection of steel.

(Code 1967, § 27-32; Code 1980, § 29-52; Ord. No. 13315, § 2, 3-8-12)

• Sec. 29-93. - Review of plans; duty to inspect.

The Building Department ~~shall~~ must review all plans and inspect all construction to ensure that minimum standards set forth in this article are met and ~~shall~~ must require corrections in plans or construction when indicated.

(Code 1967, § 27-33; Code 1980, § 29-53; Ord. No. 13315, § 2, 3-8-12)

• Sec. 29-94. - Procedure for inspections.

(a)

Inspection of work in progress on waterfront improvements shall be carried out as set forth in the building code, according to the following sequence:

(1)
Layout inspection after survey for location and before excavation is begun.

(2)
Pile inspection during the driving of piles and after all piles are driven, but before placing of any concrete.

(3)
Foundation inspection after necessary excavations have been made, forms erected and reinforcing steel placed, but before concrete is placed.

(4)
Reinforcing inspection after any reinforcing steel is in place and tied, but before the placing of any concrete.

(5)
Electrical, mechanical or plumbing inspections after installation of such named equipment, but before any part of such installation is covered or concealed from view.

(6)
Sheet pile or pre-cast wall panel installation for bulkheads or seawalls after placement of sheet piling/wall panels, joint water proofing materials, and weep hole one-way valves (where applicable), but before the voids behind the wall are filled and concealed from view.

(b)
In the event the waterfront improvement includes any electrical, mechanical and plumbing work, a permit for such work shall be required in addition to the permit covered by this article, and the permit fee for such electrical, mechanical and plumbing work shall be as set forth in chapter 10 of the City Code.

(Code 1967, § 27-34; Code 1980, § 29-54; Ord. No. 13315, § 2, 3-8-12)

- ## Sec. 29-95. - Maintenance.

All property owners must maintain their seawalls, bulkheads, living shorelines, and/or other shoreline protection structures/elements in good repair. A shoreline protection structure is presumed to be in disrepair if it allows for upland erosion, transfer of material through the barrier/wall or allows tidal waters to flow unimpeded over or through the barrier/wall to adjacent properties or the public right-of-way. Property owners failing to maintain their seawalls, bulkheads, living shorelines, and/or other shoreline protection structures/elements may be cited for non-compliance with the city's Code of Ordinances. Once cited, the owner of the property on which the barrier/wall is constructed is required to initiate a process, including but not limited to hiring a contractor or submitting a building permit application, and be able to demonstrate progress toward repairing the cited defect within **one hundred eighty (180) days** of receiving notice from the City. Permitted construction on such repairs must commence within **three hundred sixty-five (365) days** and be complete within **eighteen (18) months** of receipt of a citation. Repairs/improvements must meet the requirements of Section 29-89(4) and the Department of Resilience and Public Works' current design and construction standards and minimum finished elevation requirements for the length of the property.

Property owners with seawalls, bulkheads, and/or living shorelines below the minimum required finished elevation, or permeable erosion barriers such as rip rap, or a land/water interface of another nature shall not allow tidal waters entering their property to impact adjacent properties or public rights-of-way. Property owners failing to prevent tidal waters from flowing overland and leaving their property may be cited for non-compliance with the city's Code of Ordinances. Once cited, the owner of the property on which the barrier/wall is constructed is required to initiate a process, including but not limited to hiring a contractor or submitting a building permit application, and be able to demonstrate progress toward repairing the cited defect within **one hundred eighty (180) days** of receiving notice from the City. Permitted construction on such repairs must commence within **three hundred sixty-five (365) days** and be complete within **eighteen (18) months** of receipt of a citation. Repairs/improvements must meet the requirements of Section 29-89(4) and the Department of Resilience and Public Works' current design and construction standards and minimum finished elevation requirements for the length of the property.

Privately owned waterfront improvements ~~shall~~ must be privately maintained, even though a portion of the improvement may extend into publicly owned land. Failure by the owner to keep improvements in a state of repair acceptable to the Building Department shall be subject to enforcement as set forth in chapter 2, article X of the City Code, entitled "Code enforcement," and may be brought for further proceedings before the code enforcement board. The foregoing shall not be an exclusive remedy and the city may at its option additionally institute a civil action to enforce the provisions in this chapter.

(Code 1967, § 27-35; Code 1980, § 29-55; Ord. No. 13315, § 2, 3-8-12)

Sec. 54-46. - Agreement and bond as to paving and other improvements by persons submitting plats, replats, etc., to commission.

All persons submitting any proposed plat, replat, revised plat, amended plat, or re-subdivision of any previous record plat or portion thereof of real estate in the city, to the city commission for its acceptance and conformation, are hereby required to accompany any such proposed plat with a suitable agreement entered into by such person with the Director of the Department of Resilience and Public Works on behalf of the city, providing for the construction of any or all of the following improvements, as shall be specified by the Department of Resilience and Public Works ~~department~~ in its engineering report on the proposed plat:

(1)
The construction within the platted area of permanent-type street pavement, including grading and fill as required, sidewalk, curb and gutter, parkways, storm drainage structures, sanitary sewers, water mains and services in connection therewith, and other improvements where the proposed use and location make such improvements necessary.

(2)
The construction of permanent-type bulkheads, seawalls, living shorelines, banks, berms or any other appurtenant coastal infrastructure being constructed to protect the upland areas from tidal waters, storm surges, or any other sort of "tidally influenced" water intrusion along the shoreline, canal or river embankment, or harbor line of any watercourse contiguous to the area platted, as follows:

a.

Permanent-type bulkheads, seawalls, living shorelines, or other shoreline protection structures/elements ~~shall~~ must be constructed to a minimum elevation of ~~+5.00 feet, NGVD~~ **6.00 feet NAVD (88)** along all tidally-influenced areas. ~~rivers and canals and along the shoreline or harbor line of Biscayne Bay.~~ All such protective structures/elements must be designed and built in a substantially impermeable manner, certified/signed & sealed by a civil/structural engineer registered in the State of Florida, and provided with the appropriate modification details to be capable of being raised to a final elevation of **8.00 feet NAVD (88)** to mitigate high tide flooding associated with realized and additional sea level rise through the year 2070. All such structures must be designed and constructed in accordance with the City of Miami's Department of Resilience and Public Works Design and Construction Standards. ~~north of the Rickenbacker Causeway. Permanent type bulkheads fronting the Miami River shall be governed by subsection 54-46(2)c.~~

b.

The filling of land within any platted area contiguous to Biscayne Bay and all new or future islands or enlarged existing islands in Biscayne Bay must be constructed to a minimum, settled elevation of **6.00 feet NAVD (88)**. ~~Permanent-type bulkheads shall be constructed to a minimum elevation of +6.00 feet, NGVD, along the shoreline or harbor line of Biscayne Bay south of the Rickenbacker Causeway, and around all new or future islands or enlarged existing islands in Biscayne Bay.~~

~~c.~~

~~Permanent type bulkheads for those waterfront properties fronting the Miami River shall be constructed to an elevation of +5.50 feet NGVD.~~

~~(3)~~

~~a.~~

~~The filling of land within any platted area contiguous to Biscayne Bay lying north of the Rickenbacker Causeway to a minimum settled elevation of +5.00 feet, NGVD.~~

~~b.~~

~~The filling of land within any platted area contiguous to Biscayne Bay lying south of the Rickenbacker Causeway, and all new or future islands or enlarged existing islands in Biscayne Bay, to a minimum settled of elevation of +6.00 feet, NGVD.~~

~~(3)~~(4)

Adequate drainage by grading or filling of the land within the platted area to the level of the street grades established by the Department of Resilience and Public Works ~~department~~ or the flood grade established and recorded on maps of Miami-Dade County, whichever is higher; provided that swale areas shall be used at the rear of lots when the nature of drainage conditions make them necessary for proper seepage of water in the substrata. Where fill is required, the fill material shall not contain any rubbish, tree stumps, debris, muck or other objectionable material. In development projects, where ~~septic tanks and~~ drainfields may be required, the fill material must also be sufficiently permeable to meet standard percolation test requirements.

Areas which will become public rights-of-way ~~shall~~ must contain fill material which conforms to the standard specifications of the city for the construction of streets.

Upon completion of the improvements, the performance bond, irrevocable letter of credit, or cashier's check hereinafter provided for shall not be released unless the permanent reference monuments indicated on the plat have been placed on the ground at the expense of the owner of the platted land and verified by the Department of Resilience and Public Works ~~department~~.

CODING: Words, symbols, and letters ~~stricken~~ are deletions; words, symbols, and letters underlined are additions or corrections.

Chapter 20 - FLOOD DAMAGE PREVENTION[1]

Sec. 20-1. - Definitions.

For the purpose of this chapter, the following words and phrases shall have the meanings respectively ascribed to them by this section:

Accessory use or structure. A use or structure customarily incidental and subordinate to the principal use or structure and, unless otherwise specifically provided, located on the same premises. "On the same premises" shall be construed as meaning on the same lot or on a contiguous lot in the same ownership. Where a building is attached to the principal building, it shall be considered part thereof, and not an accessory structure.

Addition (to an existing building). Any walled and roofed expansion to the perimeter of a building in which the addition is connected by a common loadbearing wall other than a firewall. Any walled and roofed addition which is connected by a firewall or is separated by independent perimeter loadbearing walls is new construction.

Area of shallow flooding. A designated AO, AH or VO zone on the flood insurance rate map (FIRM) for the City of Miami, Florida, with a one-percent or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

Area of special flood hazard. The land in the floodplain within the county subject to a one-percent or greater chance of flooding in any given year. The area may be designated as zone A on the flood hazard boundary map (FHBM).

Base flood. The flood having a one-percent chance of being equaled or exceeded in a given year.

Basement. That portion of a building having its floor subgrade (below ground level) on all sides.

Belowgrade facilities. Off-street parking facilities constructed underground and other similar types of belowgrade areas within a building which are not habitable areas and contain neither electrical nor mechanical equipment.

Breakaway wall. A wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces without causing damage to the elevated portion of the building or the supporting foundation system or any other building to which they might be carried by floodwaters.

Building. Any structure built for support, shelter, or enclosure for any occupancy or storage.

Building site. The ground area of a property occupied by buildings and other enclosed structures.

Coastal high hazard area. The area subject to high velocity waters caused by, but not limited to, hurricane wave wash. The area is designated on the City of Miami FIRM as zone V1—30, VE or V.

Crown of road (centerline). A line running parallel with the highway right-of-way which is half the distance between the extreme edges of the official right-of-way width as shown on a map approved by the Department of Resilience and Public Works.

Dade County flood criteria maps. The official maps of Dade County showing the required minimum finished grade elevation of the ground surface within a development site as adopted by the board of county commissioners and recorded in plat book 120 at pages 13-1, 13-2, 13-3, 13-4, and 13-5 of the public records of Dade County, as the same may be amended, from time to time.

Development. Any manmade change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavating, drilling operations, or permanent storage of materials or equipment.

Elevated building. A nonbasement building built to have the lowest floor elevated above the ground level by means of fill, solid foundation, perimeter walls, pilings, columns (posts and piers), shear walls, or breakaway walls.

Existing construction. Any structure for which the "start of construction" commenced before June 18, 1974.

Existing manufactured home park or subdivision. A manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) was completed before June 18, 1974, the effective date of the floodplain management regulations adopted by Dade County.

Expansion to an existing manufactured home park or subdivision. The preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

Finished grade as applied to development site. The established final elevation after filling or grading of the ground surface at a certain point within a development site.

Flood or flooding. A general and temporary condition of partial or complete inundation of normally dry land areas from:

(1)
Abnormally high tidal water or rising coastal waters resulting from severe storms, hurricanes.

(2)
The unusual and rapid accumulation or runoff of surface water from any source.

(3)
The overflow of streams, rivers, or other inland water.

Flood hazard boundary area. An area within an official map of the community, issued by the Federal Emergency Management Agency, where the boundaries of the areas of special flood hazard have been defined as zone A.

Flood insurance rate map (FIRM). An official map of a community on which the Federal Emergency Management Agency has delineated both the areas of special flood hazard and the risk premium zones applicable to the community.

Flood insurance study. An examination, evaluation and determination of flood hazards provided by the Federal Emergency Management Agency.

Floodproofing. Structural and nonstructural additions, changes, or adjustments (other than elevating) to nonresidential structures and utilities which reduce or eliminate flood damage to water supply and sanitary sewage facilities, structures and contents of buildings. Floodproofing may be permitted in large residential structures such as condominiums provided it is limited to electrical and utility rooms only. Floodproofing includes, by way of illustration, not limitation, the following measures:

(1)
Anchorage to resist flotation and lateral movement.

(2)
Installation of watertight doors, bulkheads, and shutters, or similar methods of construction to protect against winds, wave action, or floodwaters.

(3)
Reinforcement of walls to resist water pressures.

(4)
Use of paints, membranes, or mortars to reduce seepage of water through walls.

(5)
Addition of mass or weight to structures to resist flotation.

(6)
Installation of pumps to lower water levels in structures.

(7)
Construction of water supply and wastewater treatment and disposal systems to prevent the entrance or infiltration of floodwaters.

(8)
Pumping facilities or comparable practices for subsurface drainage systems for buildings to relieve external foundation wall and basement flood pressures.

(9)
Construction to resist rupture or collapse caused by water pressure or flooding debris.

(10)
Installation of valves or controls of sanitary and storm drains which will permit the drain to be closed to prevent backup of sewage and stormwaters into the buildings or structures. Gravity draining of basements may be eliminated by mechanical devices.

(11)
Location of all electrical equipment, circuits and installed electrical appliances in a manner which will assure they are not subject to flooding and to provide protection from inundation by the regulatory flood.

(12)
Location of any structure, storage facilities for chemicals, explosives, buoyant materials, flammable liquids or other toxic materials which could be hazardous to the public health, safety, and welfare in a manner which will assure that the facilities are situated at elevations above the height associated with the regulatory protection elevation or are adequately floodproofed to prevent flotation of storage containers, or damage to storage containers which could result in the escape of toxic materials into floodwaters.

Floodway. The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

Floor. The top surface of an enclosed area in a building (including basement), i.e., top of slab in concrete slab construction or top of wood flooring in wood frame construction. The term does not include the floor of a garage used solely for parking vehicles.

Functionally dependent facility. A facility which cannot be used for its intended purpose unless it is located or carried out in close proximity to water, such as a docking or port facility necessary for the loading and unloading of cargo or passengers, shipbuilding, ship repair, or seafood processing facilities. The term does not include long-term storage, manufacture, sales, or service facilities.

Highest adjacent grade. The highest finished grade elevation of the ground surface next to the proposed walls of a structure. For purposes of the National Flood Insurance Program (NFIP) this term shall mean the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

Historic structure. Any structure that is:

(1)
Listed individually in the National Register of Historic Places (a listing maintained by the Department of the Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register.

(2)
Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district.

(3)
Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior.

(4)
Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:

a.
By an approved state program as determined by the Secretary of the Interior; or

b.
Directly by the Secretary of the Interior in states without approved programs.

Lowest floor. The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor; provided that such enclosure is not built so as to render the structure in violation of the applicable nonelevation design requirements of 44 CFR 60.3.

Mangrove stand. An assemblage of mangrove trees which are mostly low trees noted for a copious development of interlacing adventitious roots above the ground and which contain one or more of the following species: black mangrove (Avicennia germinans); red mangrove (Rhizophora mangle); white mangrove (Laguncularia racemosa); and buttonwood (Conocarpus erectus).

Manufactured home. A structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term "manufactured home" does not include a "recreational vehicle." However, park trailers, travel trailers and similar transportable structures placed on a site for 180 consecutive days or longer shall be regulated as manufactured homes.

Manufactured home park or subdivision. A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

Mean sea level. The average height of the sea for all stages of the tide. It is used as a reference for establishing various elevations within the floodplain. For purposes of this chapter, the term is synonymous with National Geodetic Vertical Datum (NGVD).

Minimum finished grade. The elevations established in the Dade County flood criteria maps at a specific development site or the crown of an existing adjacent road, whichever is higher.

National Geodetic Vertical Datum (NGVD). (As corrected in 1929.) A vertical control used as a reference for establishing varying elevations within the floodplain.

NAVD 88: The North American Vertical Datum of 1988 (NAVD 88) is the vertical control datum established in 1991 by the minimum-constraint adjustment of the Canadian-Mexican-United States leveling observations. In 1993 NAVD 88 was affirmed as the official vertical datum in the National Spatial Reference System (NSRS) for the Conterminous United States and Alaska (see Federal Register Notice (FRN)). NAVD 88 is the common standard for vertical datums to be used for most projects requiring regulatory agency permitting.

New construction. Any structure for which the "start of new construction" commenced on or after June 18, 1974.

New manufactured home park or subdivision. A manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) was completed on or after June 18, 1974.

Physical start. The first placement of permanent construction of a structure (including a manufactured home) on a site, such as the pouring of slabs or footings, installation of piles, construction of columns, or any work beyond the stage of excavation or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation such as clearing, grading, and filling; nor does it include the installation on the property of accessory buildings such as garages or sheds not occupied as dwelling units or not part of the main structure.

Recreational vehicle. A vehicle which is:

(1)
Built on a single chassis;

(2)
Four hundred square feet or less when measured at the largest horizontal projection;

(3)
Designed to be self-propelled or permanently towable by a light-duty truck; and

(4)
Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

Residential or *residence.* Any lot, plot, parcel, tract, area, piece of land or building used exclusively for family dwelling purposes or intended to be so used.

Sand dunes. Naturally occurring accumulations of sand in rides or mounds landward of the beach.

Start of new construction. (For other than new construction or substantial improvements under the Coastal Barrier Resources Act (PL 97-348).) The date the building permit was issued provided that physical start of construction, repair, reconstruction, or improvement was within 180 days of the building permit date.

Structure. A walled and roofed building that is principally aboveground, a manufactured home, a gas or liquid storage tank, or other manmade facilities or infrastructures.

Substantial damage. Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

Substantial improvement. Any repair, reconstruction, rehabilitation, or improvement of a structure, the cost of which equals or exceeds, over a two-year period, a cumulative total of 50 percent of the market value of the structure. However, the accumulation period for a substantial improvement within any coastal building zone, as defined in F.S. § 161.54(12), shall be five years. The market value of the structure shall be (1) the assessed value of the structure prior to the start of the initial repair or improvement, or (2) in the case of damage, the value of the structure prior to the damage occurring. In cases where the assessed value of a structure is questioned by the permit applicant, an adjustment may be made; however, the burden of proof is upon the applicant who may submit an independent appraisal by a qualified appraiser in support thereof. For purposes of this definition, "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. This term includes structures which have incurred "substantial damage" regardless of the actual repair work performed. The term does not, however, include either:

(1)
Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or

(2)
Any alteration of a "historic structure," listed on the National Register of Historic Places or state inventory of historic places, provided that the alteration will not preclude the structure's continued designation as a "historic structure."

Substantially improved existing manufactured home parks or subdivisions. The repair, reconstruction, rehabilitation or improvement of the streets, utilities and pads equals or exceeds 50 percent of the value of the streets, utilities and pads before the repair, reconstruction or improvement commenced.

Variance. A grant of relief from the requirements of this chapter which permits construction in a manner otherwise prohibited by this chapter where specific enforcement would result in unnecessary hardship.

(Ord. No. 11029, § 1, 12-10-92; Code 1980, § 19.5-1; Ord. No. 13792, § 1, 10-11-18)

Sec. 20-2. - Intent of chapter.

The areas of the City of Miami, Florida, are subject to flooding resulting in danger to life, loss of property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare. Congress established the National Flood Insurance Program with the passage of the National Flood Insurance Act of 1968. The National Flood Insurance Program is a federal program enabling property owners to purchase insurance protection against losses from flooding. This chapter is adopted to ensure that the residents of the City of Miami qualify for the sale of federally assisted flood insurance under the National Flood Insurance Program and to comply with federally imposed requirements for participation in said program.

(Ord. No. 11029, § 2, 12-10-92; Code 1980, § 19.5-2)

Sec. 20-3. - Development in either special flood hazard areas, or nonspecial flood hazard areas.

For all development within special flood hazard areas and nonspecial flood hazard areas, the building official or his/her designee shall:

(1)
Require permits for all proposed construction, development or other improvements within said areas; and

(2)
Review permit applications for construction, development or other improvements within said areas to determine that the proposed activities use construction materials and utility equipment which are resistant to flood damage; and

(3)
Review permit applications for new construction or substantial improvements within said areas to assure that the proposed construction:

a.
Is protected against flood damage;

b.
Is designed (or modified) and anchored to prevent flotation, collapse or lateral movement of the structure;

c.
Uses construction materials and utility equipment which are resistant to flood damage, and also uses construction methods and practices which will minimize flood damage; and

d.
Provides in the plans part of the permit application the appropriate floodplain information including Dade County flood criteria, crown of road information, federal flood zone and base flood elevation.

e.
Electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities are designed and/or located to prevent water entry or accumulation.

(4)
Review subdivision proposals and other proposed new developments to assure that:

a.
All such proposals minimize flood damage;

b.
All public utilities and facilities, such as sewer, gas, electrical, and water systems are constructed to minimize or eliminate flood damage;

c.
Adequate drainage is provided so as to reduce the exposure to flood hazards; and

(5)
Require new and replacement water supply systems and treatment plants and sanitary sewage plants and systems to be designed to minimize or eliminate infiltration of floodwaters into the systems and plants into floodwaters, and require on-site wastewater disposal systems to be located so as to avoid impairment of them or contamination from them during flooding.

(6)
Require a lowest floor elevation certificate or floodproofing certification, after the lowest floor is completed or in instances where the structure is subject to the regulations applicable to coastal high hazard areas, after placement of the horizontal structural members of the lowest floor. Upon placement of the lowest floor, or floodproofing by whatever construction means, or upon placement of the horizontal structural members of the lowest floor, whichever is applicable, it shall be the duty of the permit holder to submit to the city a certification of the lowest floor, floodproofed elevation, or the elevation of the lowest portion of the horizontal structural members of the lowest floor, whichever is applicable, as built, in relation to mean sea level and as measured in reference to NAVD 88. Said certification shall be prepared by or under the direct supervision of a registered land surveyor or professional engineer and certified by same. When floodproofing is utilized for a particular building, said certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. Any work undertaken prior to submission of the certification shall be at the permit holder's risk. The city shall review the floor elevation survey data submitted. Deficiencies detected by such review shall be corrected by the permit

holder immediately and prior to further progressive work being permitted to proceed. Failure to submit the survey or failure to make said corrections required hereby, shall be cause to issue a stop work order for the project.

(7)
Require that all new subdivision proposals and other proposed developments include within such proposals base flood elevation data according to the City of Miami's flood insurance rate map (FIRM) information, and existing grade and crown of adjacent road elevation information according to Dade County flood criteria information.

(8)
Obtain, review and utilize any base flood elevation and floodway data available from federal, state, or other sources.

(9)
Review proposed development to assure that all necessary permits have been received from those governmental agencies from which approval is required by federal or state law, including section 404 of the Federal Water Pollution Control Act amendments of 1972, 404 USC 1334.

(10)
In coastal high hazard areas, review plans for adequacy of breakaway walls in accordance with section 20-5(e), (f) and (g) herein.

(11)
For the purpose of this section, "base elevation" shall be defined as the elevation established by the Miami-Dade County flood criteria map, or the elevation of the crown of road or street abutting such building site, whichever is higher. In cases where the base elevation fronting the land vary greater than one foot along the frontage of the lot(s), then an alternative engineered solution for flood protection may be presented to the Building Official or his/her designee in consultation with the Director of Resilience and Public Works.

Review proposed development to ensure that no use shall be made for other than crop, grove, nursery and grazing purposes, or similar uses, and no building of any type shall be constructed, erected or moved on any land below the base elevation. And before any such land shall be used, except as above authorized, it shall be filled as required by the Building Official or his/her designee in consultation with the Director of Resilience and Public Works.

a.
For uses other than residential requiring a floor, the floor elevation shall be a minimum of four inches above the base elevation. For all residential use, the floor elevation shall be a minimum of eight inches above the base elevation.

b.
In all cases and for all uses and whether the property is located in a special flood hazard area, or in a nonspecial flood hazard area, the floor elevation obtained as above described shall be compared against the base flood elevation shown in the city's FIRM and the higher of the two shall be used for design and construction.

c.
The provisions of this subsection shall not apply to off-street parking facilities constructed underground and other similar types of belowgrade areas within a building which are not lowest

floor and contain neither electrical nor mechanical equipment. All such facilities constructed belowgrade shall be designed and constructed and contain essential equipment, if necessary, to prevent infiltration and accumulation of water or to provide for immediate and continuous elimination of water. A Florida-registered engineer or architect shall submit data and a floodproofing certificate to assure that the design complies with all guidelines of section 20-5(b) herein.

d.

If in the review of a permit application it is determined that in the application of the provisions of subsection (11) of this section the building applicant would be required to provide flood protection in excess of the requirements of this chapter, then it shall be the responsibility and authority of the building official or his/her designee to review such plans and may grant a waiver of the requirements of subsection (11) of this section to provide flood protection which is no less than the flood protection required by this chapter based upon good engineering practice. Said decision shall be subject to appeal in accordance with section 20-12(j) of this chapter.

(12)

Maintain, for public inspection, in the planning, building and zoning office all records pertaining to the provisions of this chapter.

(13)

Notify adjacent communities and the department of community affairs prior to the alteration or relocation of a waterway.

(14)

Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished.

(Ord. No. 11029, § 3, 12-10-92; Code 1980, § 19.5-3; Ord. No. 12802, § 1, 5-11-06; Ord. No. 13676, § 2, 4-27-17; Ord. No. 13792, § 1, 10-11-18)

Sec. 20-4. - Development within special flood hazard areas.

(a)

No new construction or substantial improvement of any residential structure or manufactured home shall be permitted in special flood hazard areas, and no permit referred to in section 20-3 of this chapter shall be issued therefor, unless said new construction or substantial improvement has the lowest floor (including basement) elevated to or above the level of the base flood (100-year flood). Electrical, plumbing and other attendant utilities are prohibited below the base flood elevation.

(b)

No new construction or substantial improvement of any nonresidential structure shall be permitted in special flood hazard areas, and no building permit referred to in section 20-3 of this chapter shall be issued therefor, unless said new construction or substantial improvement has the lowest floor (including basement) elevated to or above the level of the base flood (100-year flood), or if the lowest permitted floor level of such nonresidential structure (including basement) is below the base flood level then such nonresidential structure together with attendant utility and sanitary facilities shall be floodproofed up to one foot above the level of the base flood; provided that the lowest flood level of such nonresidential structure (including basement) shall be not more than ten feet below the base flood level. Where floodproofing is utilized for a particular structure, a registered professional engineer or architect shall certify that the floodproofing methods are

adequate to withstand the flood depth, pressures, velocities, impact and uplift forces associated with the base flood, and a record of such certificates indicating the specific elevation (in relation to mean sea level and as measured in reference to NAVD 88) to which such structure is floodproofed shall be maintained with the building official or his/her designee.

(c)
All manufactured homes placed, or substantially improved, on individual lots or parcels, in expansions to existing manufactured home parks or subdivisions, shall meet all the requirements for new construction, including elevation and anchoring.

(d)
All manufactured homes placed or substantially improved in an existing manufactured home park or subdivision shall be elevated so that:

(1)
The lowest floor of the manufactured home is elevated no lower than the level of the base flood elevation; or

(2)
The manufactured home chassis is supported by reinforced piers or other foundation elements of at least an equivalent strength, of no less than 36 inches in height abovegrade; and

(3)
The manufactured home shall be securely anchored to the adequately anchored foundation system to resist flotation, collapse and lateral movement; and

(4)
In an existing manufactured home park or subdivision in which a manufactured home has incurred "substantial damage" as the result of a flood, any manufactured home placed or substantially improved shall meet the standards of subsections (d)(1) and (3) herein.

(e)
All recreational vehicles placed on sites shall meet the requirements of section 20-5(k) herein.

(f)
Elevated buildings. New construction or substantial improvements of elevated buildings that include fully enclosed areas formed by foundations and other exterior walls below the base flood elevation shall be designed to preclude finished living space except allowable uses, i.e., parking, limited storage and building access and shall be designed to allow for the entry and exit of floodwaters to automatically equalize hydrostatic flood forces in exterior walls. Designs for complying with *this requirement must either be certified by a professional engineer or architect or meet the following minimum criteria:

(1)
Provide a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;

(2)
The bottom of all openings shall be no higher than one foot abovegrade;

(3)
Openings may be equipped with screens, louvers, valves or other coverings or devices provided they permit the automatic flow of floodwaters in both directions;

(4)
Electrical, plumbing, and other utility connections are prohibited below the base flood elevation;

(5)
Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment used in connection with the premises (standard exterior door) or entry to the living area (stairway or elevator); and

(6)
The interior portion of such enclosed area shall not be partitioned or finished into separate rooms or air conditioned.

(g)
Floodways. Located within areas of special flood hazard are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles and has erosion potential, the following provisions shall apply:

(1)
Prohibit encroachment, including fill, new construction, substantial improvements and other developments unless certification (with supporting technical data) by a registered professional engineer is provided demonstrating that encroachments shall not result in any increase in flood levels during occurrence of the base flood discharge.

(2)
If subsection (f)(1) of this section is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of this section of this chapter.

(3)
Prohibit the placement of manufactured homes (mobile homes), except in an existing manufactured home (mobile home) park or subdivision. A replacement manufactured home may be placed on a lot in an existing manufactured home park or subdivision provided the anchoring standards of subsections (c) and (d) and the elevation standards of subsection (a) of this section are met.

(Ord. No. 11029, § 4, 12-10-92; Code 1980, § 19.5-4; Ord. No. 13676, § 2, 4-27-17)

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AMENDMENTS TO MIAMI 21			
ORDINANCE	DATE APPROVED	DESCRIPTION	LEGISLATIVE ID
13235	11-18-2010	Minor and non-substantial modifications throughout the Code	10-00956zt

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General Principles

Public access waterfront walkways shall:

1. Feel public. No one should feel as if he or she is intruding on private property. The public should feel welcome and at ease to move along the entire length of the waterfront. Signage should clearly establish the public's right to use the walkway.

2. Be usable. Young and old, handicapped and joggers, lovers, fishermen, business and men and women, everyone should find the waterfront usable. Potential conflicts between active and passive users should be prevented through segregation of waterfront walk use zones. (See Design Standards below).

3. Provide visual access. The attraction is the water. All landscaping, furniture, lighting, guard rails and planters should be subordinated to enhance maximum visibility to the water. Simplicity of design is preferred. The views of adjacent private development should not be obstructed.

4. Enhance visual quality. Parking and service areas must be completely screened from the walkway. Materials, color and forms should complement the natural shoreline environment.

5. Connect to other public areas. Public parks, transit stops, thoroughfares, midblock walkways, shopping areas, and publicly accessible plazas should connect to the waterfront.

6. Take advantage of waterfront setting. Where practical, boating and fishing activities should be incorporated into waterfront designs. Elevated viewing areas, historically interpretive markers and signs are desirable. Boat access from the water to the land is encouraged.

Bulkheads or Seawalls

1. Permanent-type bulkheads, seawalls, living shorelines, or other shoreline protection structures/elements must be constructed to a minimum elevation of **6.00 feet NAVD (88)** along all tidally-influenced areas. All such protective structures/elements must be designed and built in a substantially impermeable manner, certified/signed & sealed by a civil/structural engineer registered in the State of Florida, and provided with the appropriate modification details to be capable of being raised to a final elevation of **8.00 feet NAVD (88)** to mitigate high tide flooding associated with realized and additional sea level rise through the year 2070. All such structures must be designed and constructed in accordance with the City of Miami's Department of Resilience and Public Works Design and Construction Standards.

2. Bulkheads or seawalls must be constructed eighteen (18) to twenty-four (24) inches in width (min.) at the top and meet all City of Miami departments' requirements. The top of the bulkhead or seawall must be at a constant elevation for the length of the bay / river walk.

3. Deviations to the requirements may be granted by the Director of the Department of Resilience and Public Works to construct bulkheads or seawalls at a height other than the standard NAVD 88 set by the City due to a justifiable request. Any deviations from the City standard bulkhead elevation where a waterfront walkway is being proposed would require the property owner to construct, on the applicant's property, a connecting transition at a consistent A.D.A. compliant width and grade to the waterfront walkway on adjacent

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properties. All requests for a deviation to the mandated seawall/bulkhead elevation must be made in writing to the Director of the Department of Resilience and Public Works and

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must include all appropriate architectural and engineering or other documentation needed to make a determination.

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Natural Shorelines

1. Walkways along a natural shoreline or rip rap shoreline may be set back from the edge of the shoreline and meander within the waterfront setback area.

2. Areas with natural shorelines must transition to adjacent properties in elevation and alignment to create a cohesive baywalk or riverwalk circulation.

Design Standards for Bulkheads or Seawalls

1. The top of the bulkhead or seawall must be at a constant elevation for the length of the waterfront. It must be a minimum of eighteen (18) to twenty-four (24) inches wide at the top.

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2. Safety ladders of stainless steel or aluminum must be placed a maximum of 100 feet apart along the face of the seawall or bulkhead, to allow for climbing out of the water at low tide.

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3. The top of the seawall/bulkhead must be six (6) to eight (8) inches higher than the surface of the adjacent baywalk or riverwalk safety zone.

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4. The inside edge of the seawall/bulkhead shall be beveled.

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Design Standards for Waterfront Walkways

Waterfront walkway landscaped areas should be landscaped with native plant materials. Shade trees are required within the Passive/Transition Zones and may also be planted along the Safety Buffer Zone, in lieu of palms, to create an allee of trees. Shrubs, low shrubs, and groundcovers (low level plantings) should be planted at the base of trees and palms to enhance waterfront walkway aesthetics and to help buffer the walkway perimeters.

The following walkway zones are listed in order from the landward edge of the seawall/bulkhead cap and progressing landward towards the private property. NOTE: the top of the bulkhead cap must be six (6”) to eight (8”) inches above the waterfront walkway elevation.

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Safety Buffer Zone

Safety Buffer Zone - A minimum three (3) to four (4) foot wide area adjacent to the seawall/bulkhead. (See Plan Detail- 3’ minimum where there is no planting, 4’ minimum where planting beds are provided.)

1. Since railings, walls and/or other barriers are not desirable along the water’s edge, waterfront users need to be warned when coming close to the water with a minimum three (3) foot wide safety buffer zone consisting of a rough textured surface that discourages walking.

2. Paving within the safety buffer zone shall be a type of cobble stone with "river rock," approximately ¾ to 1 ½ inches in diameter, set in concrete leaving a relief of ¼ to ½ inches or similar aggregate pavers with ADA domes.

3. Planting beds shall be a minimum four (4) feet wide with trees or palms planted at grade providing shade to pedestrians and low level plantings provided at the base of the trees or palms. Landscape lighting may be provided to accentuate trees or palms in this area.

4. In areas between the planting beds, a minimum three (3) foot wide uniform exposed aggregate finish such as a river rock textured surface shall be provided to warn pedestrians of the water's edge meeting Americans with Disabilities Standards.

5. Bollard lighting within the textured surface adjacent to the Circulation Zone shall be installed to provide pedestrian / pathway lighting.

Circulation Zone

Circulation Zone – A minimum fifteen (15) to sixteen (16) foot wide unobstructed linear pedestrian walkway. (See Plan Detail- 15' minimum where adjacent plantings are provided in the Safety Zone, 16' minimum where there are no plantings in the Safety Zone.)

1. The waterfront circulation zone shall consist of a linear pedestrian walkway or promenade and shall be a minimum fifteen (15) feet wide.

2. The walkway may meander along the shoreline; however all offsets in the alignment of the walkway shall not exceed six (6) feet and be spaced not less than fifty (50) feet apart.

3. Obstructions to movement (trees, bollards, lighting, etc.) within the circulation zone shall not reduce the clear width of the walkway to less than fifteen (15) feet at any point.

4. The Circulation Zone shall be constructed of non-slip paving materials with high aesthetic appearance and structural qualities to support emergency vehicle access.

5. Variable textures and materials may be used to surface the promenade.

6. The promenade surface shall be at a constant elevation, and shall be accessible to handicapped persons throughout the entire length of the waterfront.

Passive Zone

Passive Zone – A minimum three (3) foot wide area interspersed with shade trees, low level plantings, site furniture, lighting and accessories.

1. The area for sitting, accent landscaping and concessions shall be located along the inland side of the waterfront, and shall be not less than three (3) feet wide.

2. Short lengths of the passive zone may be elevated eighteen (18) to twenty-four (24) inches above the level of the promenade for enhanced bay and river views.

3. All benches shall have back rests, and their placement shall emphasize direct views of the water.

4. Site furniture may include overhead canopies, concessions, etc. and shall be confined to this zone. All furniture shall be permanently installed preferably by direct burial in concrete.

6. Accessories include benches, trash receptacles, drinking fountains, pedestrian scale light poles and landscape lighting. Appropriate additional furniture including overhead canopies or shelters, drinking fountains, etc., shall be confined to the passive zone.

7. The passive zone may be paved in plain concrete or the paver on the main circulation zone.

Transition and Security Zone

Transition Zone – A minimum three (3) foot wide area, immediately adjacent to the Passive Zone to buffer private development from the waterfront walkway and collect stormwater.

1. To buffer private development from the adjacent waterfront a minimum three (3) foot wide transition zone shall border the waterfront facility.

2. This visual and functional transition from public to private space shall generally be marked by low level shrubbery and overhead shade or ornamental trees.

3. Security to limit public access to private property may be provided by fences, grade changes or retaining walls. All screens and walls shall be landscaped to reduce their visual impact on the walkway.

4. For adjacent developments that serve the public (i.e., restaurants, shops, hotels, entertainment, etc.) provision of wide, visible and easy pedestrian access to the waterfront shall be assured.

5. In general, landscaping and security barriers shall not visually screen the waterfront from adjacent active uses, such as retail restaurants, or entertainment.

Standards and Guidelines for Design Elements

Landscaping

1. Palms may be used along either edge of the waterfront, but Coconut Palms or Sabal Palms are particularly appropriate for the water's edge.

2. Raised planters, if used, shall be confined to the passive zone, and all planter walls shall double as sitting walls, fifteen (15) to thirty (30) inches in height.

3. Plant material shall be primarily native salt-tolerant species.

Lighting

1. Lighting at the water's edge shall be confined to eight (8) inch diameter bollards, which shall be twenty-four (24) to thirty (30) inches high and spaced approximately twenty (20) feet on center.

2. Bollards shall be one hundred (100) watt MV with down illumination not extending beyond the bulkhead line.

3. Overhead lighting shall be confined to the passive zone and consists of down lighting with lamps not over fourteen (14) feet high, 175 watt MV, and spaced approximately fifty (50) feet on center.

4. Up lighting of landscaping is encouraged.

5. Mercury vapor, metal halide lamps or similar "white" light luminaires shall be used.

6. Colored lighting, except for private signs, shall not be used.

7. Simple contemporary fixture design shall be used as opposed to highly stylized, vintage or period designs.

Signage

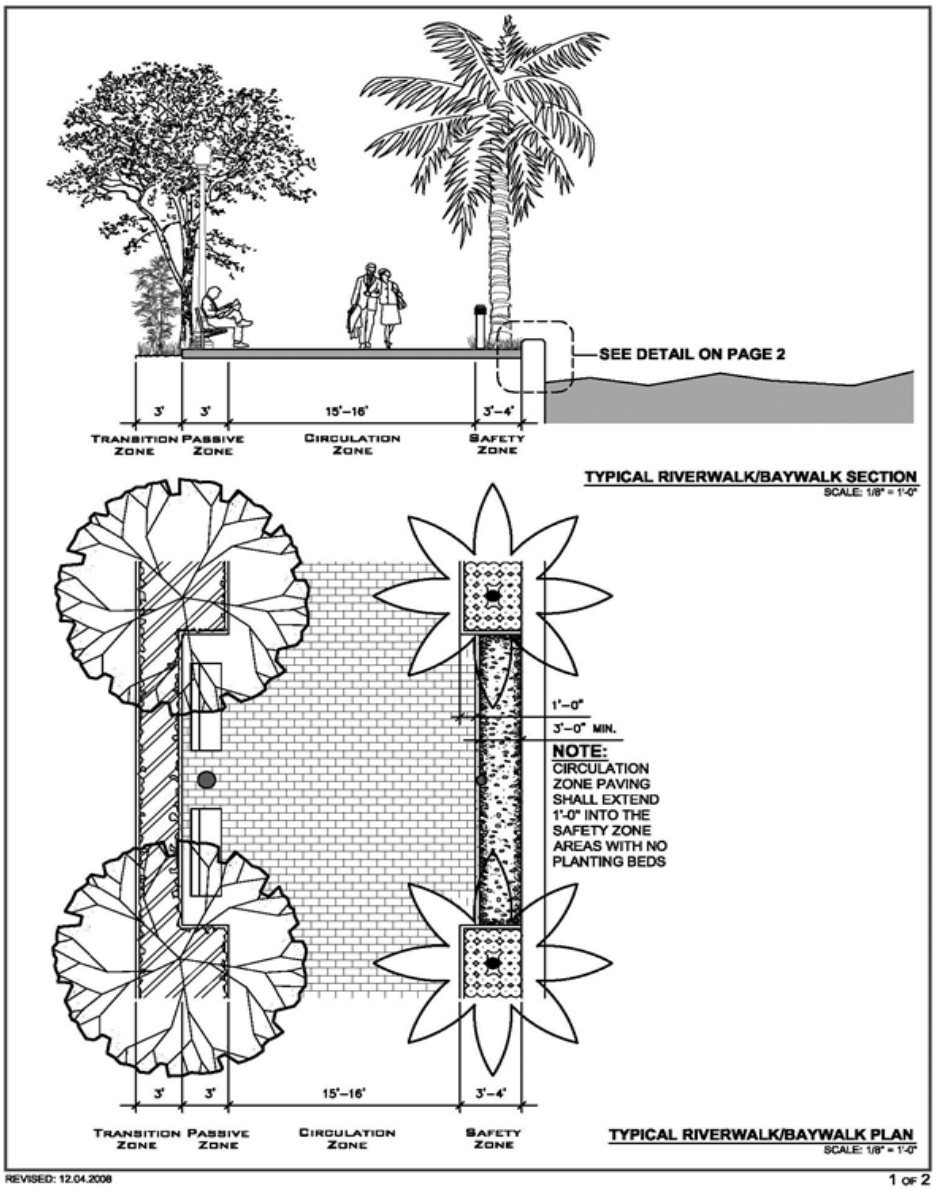
1. All public access waterfront walks shall be marked with the standard "Public Shore" sign.

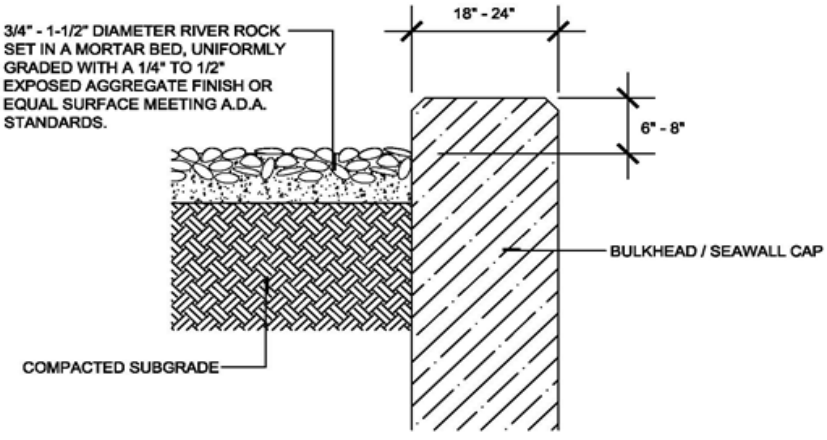
2. All major public access points, including park walkways, roadways, dedicated midblock walks and public plazas, shall be marked with "Public Shore" signs.

3. Adjacent accessible publicly oriented private development, such as cafes or shops, shall identify the use with signage in the transition zone.

4. Uniformly designed historic or environmental markers and descriptive plaques shall be placed in the passive zone.

5. Signage shall identify access points and adjacent activities (cafes, shops, etc.) for boaters.


SEE DETAIL ON PAGE 2
3'
3'
15'–16'
3'–4'
TRANSITION ZONE
PASSIVE ZONE
CIRCULATION ZONE
SAFETY ZONE
TYPICAL RIVERWALK/BAYWALK SECTION
SCALE: 1/8" = 1'-0"
1'–0"
3'–0" MIN.
NOTE:
CIRCULATION ZONE PAVING SHALL EXTEND 1'-0" INTO THE SAFETY ZONE AREAS WITH NO PLANTING BEDS
3'
3'
15'–16'
3'–4'
TRANSITION ZONE
PASSIVE ZONE
CIRCULATION ZONE
SAFETY ZONE
TYPICAL RIVERWALK/BAYWALK PLAN
SCALE: 1/8" = 1'-0"
REVISED: 12.04.2008
1 OF 2



DETAIL - SAFETY BUFFER ZONE
NOT TO SCALE

REVISED: 12.04.2008 2 OF 2

Miami River Commission's
Urban Infill and Greenways Subcommittee
February 12, 2020 Minutes

The Miami River Commission's (MRC) Urban Infill and Greenways subcommittees conducted a public meeting on February 12, 2020, 3 PM, 1407 NW 7 ST. The attendance sign in sheets are enclosed. MRC Urban Infill Subcommittee Chairman Jim Murley conducted the public meeting.

I. City of Miami Administration's Proposed Draft Amendments to City Code CH. 29, Article III "Landfills and Waterfront Improvements" and Appendix B

City of Miami Public Works Director Dodd distributed and presented a presentation and the draft ordinance revisions to elevate seawalls in response to sea level rise. Director Dodd noted the administrations proposed ordinance is based on an ordinance recently adopted in Fort Lauderdale. Director Dodd stated he estimates the City Commission will consider this item in spring or summer. MRC Director Bibeau suggested having maintenance requirements for living shorelines which trap plastics and Styrofoam along the shorelines with every passing tide, and increased vacuuming out of the storm water drainage system by the City, County and FDOT. Director Dodd stated the City recently increased their vacuuming of their storm water system to once every 2 years, and next year it will be more often. Director Dodd stated City is installing screens in front of storm water drains to keep items out of the system, which then require more frequent street cleaning to unclog the screens and allow the water to pass through them. Attendees discussed means of paying for seawall replacements, such as F.E.M.A, creating a Special Taxing District, creating a C.R.A., P.A.C.E. which is like a 2nd loan and would require an amendment by the FL Legislature, etc. Compliance with the new code would be triggered by flooding or disrepair.

MRC Urban Infill Subcommittee Chairman Murley suggested the full MRC recommend approval of the City's proposed ordinance amendments to increase sea level elevations in response to sea level rise, with the following conditions:

1) **Work on addressing the required financing**
2) **Include both private and public sector seawalls**
3) **Consider any differences which may be needed in D1 and D3 zoning, in order to avoid any unintentional impacts.**

II. Miami Dade County Public Works Presentation of Plans to Reconstruct County Owned NW South River Drive from the Tamiami Swing bridge to NW 36 ST

Mr. Leandro Ona distributed and presented Miami-Dade County's almost 30% complete plans to reconstruct NW South River Drive from the Tamiami Swing Bridge to NW 36 ST. Attendees noted the current street is in disrepair, and does not have sidewalks. Mr. Ona stated all area properties will always have vehicular access to their sites for the duration of the construction project, with the exception of a portion of the 1 particular day when their individual driveway is replaced. Attendees noted the need to be aware and sensitive to the needs of the existing area businesses in the design of the project. MRC Director Bibeau reminded Miami-Dade County that consistent with the 6.5 miles of existing Miami River Greenway the proposed new section should feature:

- mesa beige sidewalk color
- signage per the provided and adopted Miami River Greenway Signage Design Specifications and Guidelines
- decorative lights
- decorative garbage cans should have tops to keep rain water out of the cans (which otherwise would create contaminating leachate)
- the County's existing contract for the non-profit 501c3 MRC to provide landscaping and garbage removal at County owned sections of the Miami River Greenway may be amended to include this new additional section of County owned Miami River Greenway

Miami-Dade County will host a public meeting regarding this project on 2/27, 6 PM, Lummus Park. In addition, Miami-Dade County will provide an additional public meeting with the MRC when the plans are 90% complete.

MRC Urban Infill subcommittee Chairman Murley suggested the MRC recommend Miami-Dade County continue working on the plans with input from the area's property owners, and seek consistency with this area's Palmer Lake District Zoning.

III. New Business

The meeting adjourned.

Miami River Commission's
Urban Infill and Greenways Subcommittees
Public Meeting

Wednesday, February 12, 2020
3 PM
1407 NW 7 ST
Miami, FL

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Urban Infill and Greenways Subcommittees
Public Meeting

Wednesday, February 12, 2020
3 PM
1407 NW 7 ST
Miami, FL

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MATCHLINE (SEE LEFT BELOW)
MATCHLINE (SEE RIGHT ABOVE)
LEGEND :
EXISTING R/W LINE
PROPERTY LINE
CURB & GUTTER
RIGHT OF WAY AQUISITION
HARMONIZATION
DRIVEWAY
PROPOSED BRIDGE
SIDEWALK / SHARED USE PATH
PAVEMENT ASPHALT
SOD
MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION
AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128
NW SOUTH RIVER DRIVE
FROM NW 38 AVE. TO NW 32 AVE.
PROJECT NO. 20150007
EAC
EAC Consulting, Inc.
EAC CONSULTING, INC.
5959 BLUE LAGOON DRIVE
SUITE 410, MIAMI, FL 33126