

PROPOSED:

ARTICLE XXV. - RESILIENCY STANDARDS FOR TIDAL FLOOD PROTECTION

Sec. 39-404 – Purpose and intent.

The purpose of this article is to establish a consistent minimum elevation for tidal flood barriers that will:

- (a) Provide a standard for flood mitigation infrastructure that serves as a barrier to tidal flooding, not seepage, by accounting for water levels predicted under combined conditions of sea level rise, high tides and high frequency storm surge through the year 2070; and,
- (b) Ensure new shoreline structures and major shoreline improvements are designed for use as tidal flood barriers with application of consistent standards that account for future tidal flood conditions and coastal water levels predicted with sea level rise in accordance with current regional sea level rise projections, as updated and adopted by the Broward County Board of County Commissioners.

Section 39-405 – Applicability. This article applies to all new tidal flood barriers, substantial improvements to shorelines and shoreline structures and the installation of any fixed infrastructure attached to tidal flood barriers (such as mooring structures).

Sec. 39-406 - Definitions. For the purposes of this article, the following terms, phrases, words, and their derivation shall have the meanings given herein, except when the context clearly indicates a different meaning. In the interpretation and application of this article, the definitions provided for herein shall control over definitions which that may be included in other documents or manuals, including, but not limited to, the Florida Building Code. Words used in the present tense include the future tense, words in the plural number include the singular number, and words in the singular number include the plural number. The word "shall" is mandatory and the word "may" is permissive.

Berm means an earthen mound designed with impermeability to resist the flow of tidal waters through to an adjacent property or public rights-of-way.

Canal bank or berm is the level space separating a waterway from an inland area, often elevated and constructed of compacted soil.

Tidal flood barrier means any structure or shoreline feature, including but not limited to, berms, canal banks, green-grey infrastructure, seawalls, seawall caps, upland stem walls, or other infrastructure that impedes tidal waters from flowing onto adjacent property or public rights- of-way, located within or along a tidally-influenced area. This definition is not meant to include rip rap, derelict erosion control structures or permeable earthen mounds that do not provide an impermeable water barrier to tidal flooding.

Green-grey infrastructure or materials is a combination of engineered and natural features that provide environmental qualities and ecosystem value.

Broward County- Proposed

Mooring structure means a boat dock, slip, boat davit, hoist, boat lift, floating vessel platform, personal water craft / jet ski platform, mooring pile or a similar structure attached to land or a seawall, to which a vessel can be moored.

North American Vertical Datum (*NAVD88* or *NAVD*) means the vertical control for datum of orthometric height established for vertical control surveying in the United States of America based upon the General Adjustment of the North American Datum of 1988. *NAVD88* replaced the previously used datum, National Geodetic Vertical Datum (*NGVD29*).

Public nuisance means injurious to the safety or health of the entire community or neighborhood, or any considerable number of persons, or unlawfully obstructs the free passage or use, in the customary manner, of any public right-of-way.

Rip-rap means a foundation of unconsolidated boulders, stone, rubble, concrete without protruding rebar or similar materials placed on or near a shoreline to mitigate wave impacts and prevent erosion.

Seawall means the vertical or near vertical (often interlocking) structures placed between an upland area and a waterway or waterbody for erosion control.

Seawall cap means the concrete box structure (usually reinforced) which connects seawall panels, piles and anchoring system (if present) together at the top.

Shoreline means the tidally influenced area where land meets water.

Substantial repair or rehabilitation means:

- a. Any modification to shoreline or shoreline structures along more than fifty percent (50%) of the length of the property's shoreline;
- b. Any modifications, alterations or installation of appurtenant structures (such as mooring structures) which exceed 50% of the cost of a tidal flood barrier along the property's shoreline.

Tidally-influenced areas means a waterway with water level changes in response to the daily tide.

Sec. 39-407 - Minimum Elevations for Coastal Infrastructure within Tidally-Influence Areas.

- (a) All new or substantially rehabilitated seawalls, seawall caps, canal banks or berms shall perform as tidal flood barriers. Tidal flood barriers shall have a minimum elevation of 5.0 feet *NAVD88*. Applications for new or substantially rehabilitated tidal flood barriers submitted prior to January 1st 2035 may be permitted a minimum elevation of 4.0 feet *NAVD88* if designed and constructed to accommodate a minimum elevation of 5.0 feet *NAVD88* by January 1, 2050.
- (b) All property owners must maintain a tidal flood barrier in good repair. A tidal flood barrier is presumed to be in disrepair if it allows tidal waters to flow unimpeded through or over the barrier and on to adjacent property or public rights-of-way. Failure to maintain flood mitigation infrastructure shall be a citable offense. The owner of the tidal flood barrier shall demonstrate progress towards repairing the cited defect within sixty (60) days of receiving notification and complete repairs within three hundred sixty-five days (365) of receipt of the citation. If the required repair meets the substantial repair threshold, the property owner shall design, obtain permits, and cause to be constructed seawall improvements that meet

- the minimum elevation and design requirements within three hundred sixty-five (365) days of receipt of the citation.
- (c) Tidal flood barriers below a minimum 5 feet NAVD88 elevation shall be improved, designed and constructed so as to prevent tidal waters from impacting adjacent properties or public rights-of-way. Causing, suffering or allowing the trespass of tidal waters onto adjacent property (public or private) shall be declared a public nuisance, a citable offense, and require abatement. The owner shall demonstrate progress toward addressing the cited concern within sixty (60) days of receipt of notification and complete the construction of an approved remedy within three hundred sixty-five (365) days of citation.
 - (d) Tidal flood barriers shall be designed and constructed to prevent tidal waters from flowing through the barrier while still allowing for the release of upland hydrostatic pressure.
 - (e) To the extent practicable, tidal flood barriers shall be designed and constructed to adjoin immediately proximate tidal flood barriers to close gaps and prevent trespass of tidal water.
 - (f) A tidal flood barrier along the property's entire shoreline shall be constructed as part of substantial repairs or rehabilitation.
 - (g) All tidal flood barriers shall be constructed with natural limerock rip-rap, or other approved habitat enhancement, at the waterward face of the structure.
 - (h) Property owners are encouraged to consider approaches and materials that enhance the biological value of traditional (flat surface) seawalls and flood barriers with the incorporation of living shoreline features and the use of hybrid green-grey materials, and the use of biological forms, where practicable.
 - (i) This section shall not be construed to require the installation of a seawall where other flood protection measures serve as an equally effective tidal flood barrier.
 - (j) Tidal flood barriers capable of automatically being elevated in advance of high tides to prevent tidal flooding are permissible. Automation cannot require daily human intervention.