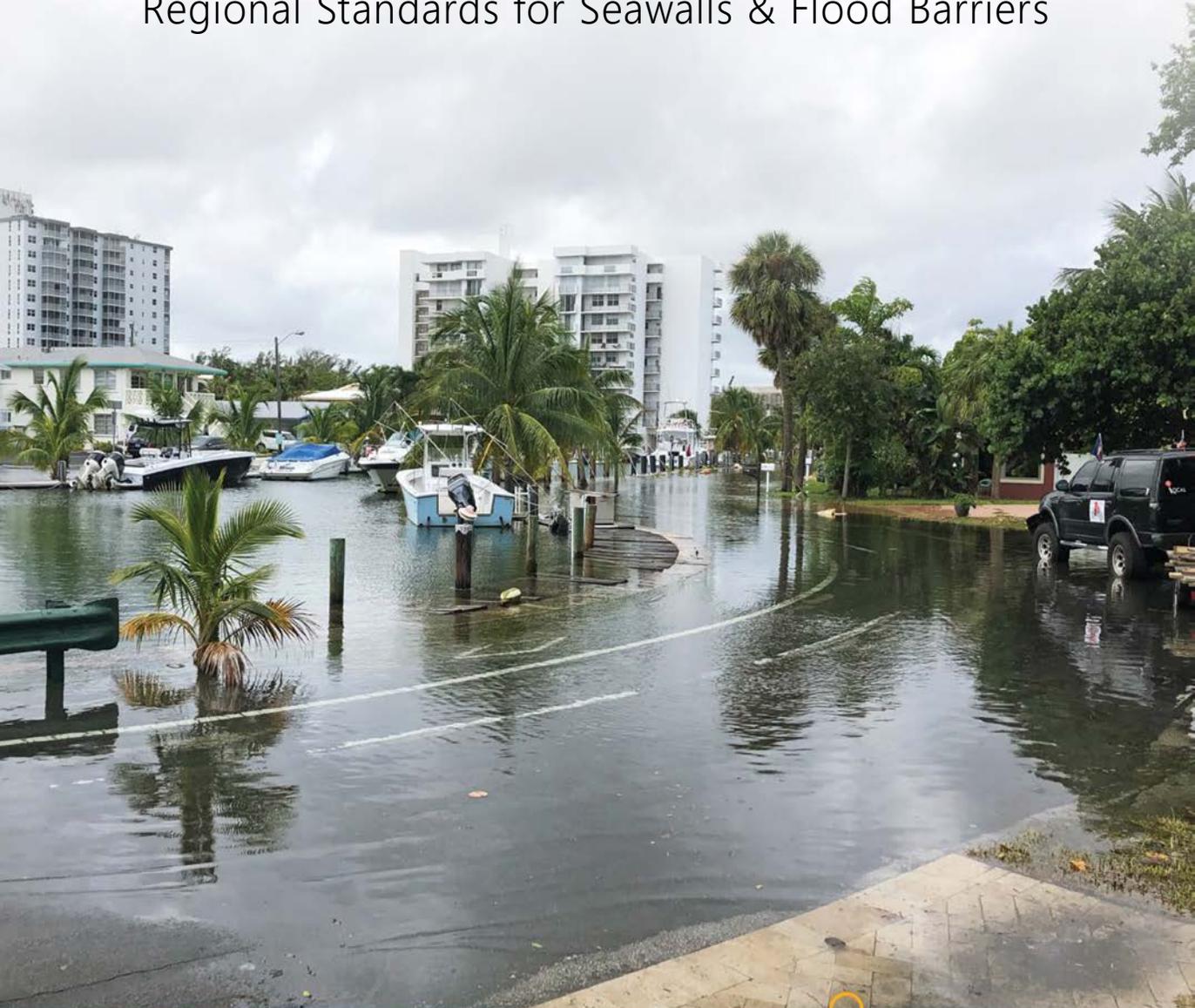




Build It High, Keep It Dry

Regional Standards for Seawalls & Flood Barriers



Sea level rise is increasing the frequency and severity of tidal flooding across Broward communities.

Recently, increased flooding has prompted both public and private investment in seawall improvements. Yet individual investments have not fully delivered expected flood protection benefits when adjacent and nearby seawalls continue to allow the trespass of water. Effective community flood protection requires a holistic approach.

Consistent seawall heights are necessary to protect the community from escalating impacts. Broward County has created regional guidance so that coastal flood barriers will continue to provide protection, even under future sea level rise conditions.

What is the new Regional Standard?

**For all new tidal flood barriers and substantial improvements to shorelines and shoreline structures:
Minimum seawall and top-of-bank elevation = 5 feet by 2050**

An allowance of 4 feet NAVD 88 until 2035 may be granted by the municipality if the project is designed and constructed to accommodate a minimum elevation of 5.0 feet NAVD 88 by January 1, 2050.

This rule is not applicable to oceanfront beaches or shorelines seaward of the Coastal Construction Control Line. The rule deems tidal flooding a public nuisance and will be implemented via County land use plan and code of ordinances. Local governments are required to adopt a local ordinance implementing the regional standard by February 13, 2022.

The regional standard was informed by technical work undertaken with support from the U.S. Army Corps of Engineers (USACE) as part of the joint Broward County/USACE Flood Risk Management Study for Tidally Influenced Coastal Areas authorized under the Planning Assistance for States Program.

For complete details on the regional standard and associated policies, please go to Broward Land Use Plan Policy 2.21.7 at bit.ly/2T6pUng and Broward County Code of Ordinances Sec. 39-404 bit.ly/37K9hmF.

Elevation is measured using North American Vertical Datum of 1988 (NAVD 88). Land elevations along tidal waterways vary from 6 to 8 feet NAVD 88 in northern parts of the County to 1 to 4 feet NAVD 88 in southern parts of County with property specific variability throughout the County. The elevation of individual areas can be found using the Sea Level Scenario Sketch Planning Tool <https://sls.geoplan.ufl.edu/beta/viewer/>. Users do not need to make a "Show Scenario" selection. In the left navigation pane, under "Layers", uncheck "Current Flood Risk" and check "Florida Base Layers". Click the + sign to expand this field. Select "FL DEM feet". Next find the magnify glass symbol in the top navigation and type in a property address. Click on the blue location pointer and note the number of feet listed in the data table. To determine the visible height of the tidal flood barrier necessary, the land elevation should be subtracted from 5 feet NAVD 88. For example, if the land elevation is 4 feet NAVD, the visible barrier will be 1 foot above the ground surface (5 feet NAVD 88 - 4 feet NAVD = 1 foot). If the shoreline land elevation is 5 feet NAVD 88 or higher, an additional tidal flood barrier would not be required per the resiliency policy.

How to Adapt

Property owners can collectively reduce the risk of flooding. Higher seawalls are just one of many floodproofing options. Berms and other coastal flood barriers can be equally effective and provide important benefits to estuarine shorelines. Even seawalls can be designed to include Living Shoreline features, thus serving an ecological function while continuing to be protective barriers with watercraft accessibility.

For more information, see [Broward.org/Climate](https://www.broward.org/Climate)



Are you ready to upgrade your seawall/flood barrier?

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. If a property is reported and documented to cause flooding of adjacent roads or neighboring properties it will be cited and required to prevent flood trespass within one year.

Planning now for future water levels benefits property owners in multiple ways. First, it is prudent to budget for the necessary adaptation before impacts to property values or infrastructure occur. Also, coastal flood protection measures that do not consider sea-level rise will likely require premature reinvestment to replace failed infrastructure at a significant expense to the property owner and the community at large. Property owners who ensure their coastal flood protection project is designed to meet the resiliency standard will be better positioned to protect their property and investment. Floodproofing may also reduce the level of required investment in surface water management infrastructure (pumps) for areas that will be below sea level in the future.

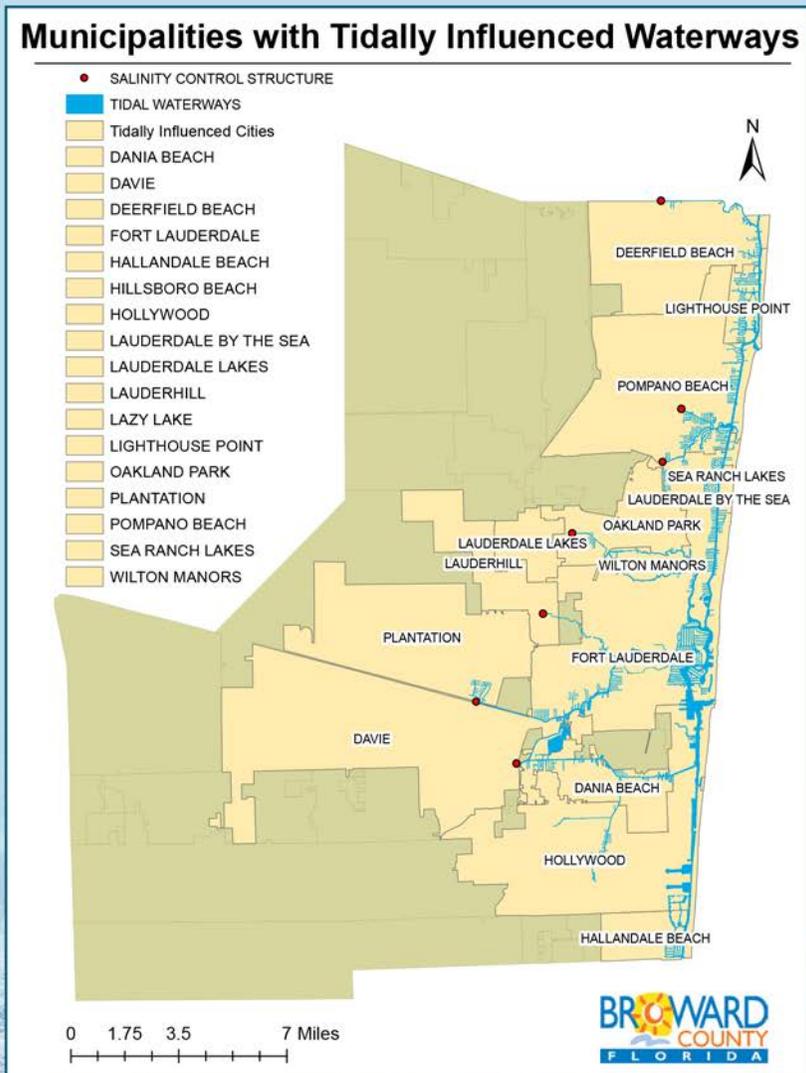
Action Steps:

1. **Determine your elevation** (Contact your city's Floodplain Manager to obtain an elevation certificate, <https://www.fema.gov/elevation-certificate>)
2. **Get construction quotes** by calling a few licensed general contractors or coastal engineers. Check references, consider living shoreline options, and compare costs and contract terms.
3. **Consider financing options.** Check out rates for a home equity or construction loan, if needed.
4. **Hire a qualified and knowledgeable contractor.** Permitting is typically handled by the contractor. Permits are required by the city, the County, the State, and the US Army Corps of Engineers.
5. **Construct your new seawall or flood barrier.** After all inspections, close out your permits. The typical lifespan of a seawall is 30 to 50 years, depending upon materials used.



Who should follow the new resiliency standard?

All Broward County cities with tidally-influenced areas must follow the regional standard for minimum tidal flood barrier and seawall heights. Tidally-influenced areas are waterways where the water level changes in response to the daily tide. Below is a map of the 17 municipalities who will implement the RESILIENCY STANDARDS FOR TIDAL FLOOD PROTECTION, adopted into the Article XXV of the Broward County Code of Ordinances and posted at Broward.org/climate/pages/USACE.aspx. County facilities and the Broward Municipal Services District are also included. The Broward Municipal Services District and other municipalities may require sellers to disclose that the property is located in a tidally-influenced area and subject to the resiliency standards for tidal flood protection.



Ensuring Community Resilience, Together

Broward County has provided regionally consistent standards for seawalls, banks and berms, and other appurtenant infrastructure (e.g., boat ramps) to ensure maximum effectiveness of coastal improvements necessary to mitigate high tide flooding associated with realized and additional sea level rise through the year 2070.

Participation by the marine industry, real estate community, engineers and planners from both the private and public sector, and other stakeholders in extensive public meetings and surveys was integral to the adoption of a regional standard that could be utilized by and serve to benefit the entire community.



Environmental Planning and
Community Resilience Division
Broward.org/Climate
[#ResilientBroward](https://twitter.com/ResilientBroward)