

TO: Public Safety and Neighborhood Quality of Life Committee Members

FROM: Eric Carpenter, City Manager

DATE: December 2, 2024

TITLE: DISCUSSION REGARDING POSSIBLE AMENDMENTS TO CHAPTER 54, ENTITLED "FLOODS," ARTICLE III, ENTITLED "RESILIENCE STANDARDS FOR TIDAL FLOOD PROTECTION" TO ENHANCE ENFORCEMENT MECHANISMS FOR PUBLIC SAFETY AND QUALITY OF LIFE

RECOMMENDATION

The Administration recommends discussion of the options to enhance the Ordinance to address short and long-term enforcement mechanisms.

BACKGROUND/HISTORY

On January 13, 2021, the Mayor and City Commission adopted Chapter 54, entitled "Floods," Article III, entitled "Resilience Standards for Tidal Flood Protection," commonly referred to as the "Seawall Ordinance" to codify minimum elevations for new seawalls and require seawalls that are in disrepair and are causing flooding on adjacent properties be maintained.

On October 30, 2024, the Mayor and Commission referred a discussion item (C4 G) to the Land Use and Sustainability Committee to explore amendments to Chapter 54, entitled "Floods," Article III, entitled "Resilience Standards for Tidal Flood Protection" that would enhance short-term and long-term enforcement mechanisms to address public safety and quality of life concerns related to tidal flooding. This item is co-sponsored by Commissioners Alex Fernandez and Laura Dominguez.

ANALYSIS

1. Enhanced Short-Term Enforcement Mechanisms:

Referral request: Evaluate the current tools available for immediate enforcement of resilience standards during and after tidal flooding events

The existing Seawall Ordinance provides the City the enforcement ability to address overtopping and the City's seawall elevation requirements in Chapter 54 Floods. The ordinance established overtopping as a trigger for seawall elevation and seawall maintenance requirements. It requires that seawalls be maintained in good repair as to not allow soil to erode into the bay or waterway or to allow tidal waters to flow through the seawall and impact adjacent private property(s). In addition, the ordinance requires that seawalls must be maintained to prevent tidal waters from flowing overland and leaving their property.

The Code Compliance Department currently enforces the requirements of the Ordinance. Enforcement of the maintenance requirements set forth in the proposed ordinance can be enforced by either the floodplain administrator, a code compliance officer, or a police officer. The enforcement of seawall regulations is primarily driven by complaints. When a violation is identified, a property is issued a Written Warning. This warning requires the property owner to obtain or apply for permits for repairs or improvements to the seawall and show progress within 60 days of

notification from the City. The property owner must then complete the necessary remedy within 730 days of the violation. Failure to demonstrate any progress, such as initiating the permit process, will result in a first offense with a \$250.00 fine being issued in accordance with the ordinance. Subsequent offenses, which carry a fine of \$500.00, will be issued if progress is not made within the following 60 days, continuing until action is taken. Officers are scheduled to follow up on these violations within 60 days after the property owner receives the violation to assess the progress made by the property owner. A violator that has been served a notice can request an administrative hearing within ten days to appeal the decision of the enforcement officer. During the 2024 King Tide season, Code Compliance issued forty-five (45) warning notices to properties with seawalls that were overtopped during that time.

Referral request: Explore the possibility of requiring property owners to implement temporary measures, such as the installation of flood barriers. Example of temporary barriers: <https://usfloodcontrol.com/flood-barriers>.

Temporary flood barriers are removable, and often portable, devices that can be deployed on or behind seawalls prior to high water events to reduce flood damage. They are typically characterized by modular rigid walls or water/sand-filled structures. To increase resiliency, temporary barriers are often adaptable in design and their barrier height can be raised to provide increased flood protection for the site. They can be used to provide short-term flood protection and may be used while longer-term solutions are being designed or constructed.

To be effective, the ground surface behind the seawall or existing seawall structure must be able to support the weight of the barrier, stable enough to prevent it from shifting or collapsing under pressure, and be void of cracks or holes that may allow water to infiltrate under the barrier. A site-specific suitability assessment may need to be performed to select the appropriate barrier type. Best practices for deployment should tie the elevation of the temporary barrier into elevated land or seawall elevations to prevent water from overtopping a neighboring low-lying shoreline and flooding the property from behind.

The effectiveness of temporary flood barriers requires an understanding of deployment needs (e.g., site preparation time, number of people required, correct tools, retraction needs), maintenance, and storage requirements.

Referral request: Discuss options for improving the coordination of City departments responsible for monitoring and enforcing these standards.

Multiple departments work together to monitor and enforce the City's seawall ordinance: Code Compliance, Environment and Sustainability, Planning and Public Works. Environment and Sustainability led the development of the Ordinance in 2020. Code Compliance leads the enforcement of the Ordinance through field complaints and conducting inspections and issuing notices for properties that do not meet the requirements. The Public Works Department enforces the standards for construction through the Building Plan Review process.

The City has innovative tools to facilitate the monitoring and enforcement of the seawall ordinance. For example, the Public Works Department created a geospatial information system (GIS) platform that documents the elevation of seawalls around the City that can be accessed by the community and all departments. In addition, the City also provides information regarding the Seawall Ordinance through the MB Rising Above webpage: Seawalls | Miami Beach - Rising Above to assist the public in understanding the requirements of the ordinance and allows them to access the GIS seawall elevation tool. In addition, the Environment and Sustainability Department mailed about 1,900 letters directly to seawall owners with seawall elevations less than 4.0' NAVD to advise of the Ordinance, the tools available, and the Private Property Adaptation grant program.

Options to improve coordination and the ordinance include:

1) Creating a one-page document for Compliance Officers to distribute to property owners listing

the requirements of the Ordinance and the common next steps required. Any department can access and share this one-pager, and it can be located online.

2) Currently, the Ordinance requires property owners to initiate seawall repair or improvement and be able to demonstrate progress toward addressing the sited concern within 60 days of receiving notice from the City. However, demonstrating progress toward addressing the concerns can leave room for interpretation and can be unclear for property owners. Demonstrating progress within 60-days can include obtaining proposals from seawall contractors, securing financing, and/or applying for permits.

- In addition to the 60 day requirement, the Administration recommends amending the language to require six (6) months for property owners to submit a permit application to the City of Miami Beach Building Department and Miami-Dade County RER (DERM) Coastal Resources Section as an additional demonstration of progress would clarify the next steps upon receiving a violation.

3) Currently, the Ordinance states that all seawall construction or repairs that are \$300 or more per linear feet are considered substantial repairs and requires the seawall to be raised to a minimum elevation (5.7' NAVD/7.26' NGVD) to pass the review. Repairs that cost less than \$300 a linear foot are considered less than substantial and only require the seawall to have a minimum elevation of 4.0' NAVD/5.56' NGVD as long as it is constructed to accommodate the minimum elevation of 5.7' NAVD. However, staff has encountered projects where the existing seawall does not meet the minimum elevation of 4.0' NAVD when the applicant is doing less than substantial seawall work. At that point, the ordinance forces property owners to potentially conduct substantial repairs to increase the elevation of their seawalls to meet the minimum requirements or request a variance to the ordinance. To avoid this, the Ordinance could be amended to include some exemptions seawall work that wouldn't require the property owners to meet the specific elevations set forth in the ordinance provided an engineering report is submitted that proves that the seawall is structurally sound. Some exemptions would include: 1) maintenance work, such as spall and crack repairs, 2) installation of a footer, and 3) Riprap placement, etc. These exemptions would only be considered for the issuance of a building permit. If during site inspections the seawall is documented to not be meeting some of the standards of the Ordinance (i.e. overtopping) the property owner is still subject to receiving a violation.

4) Require applicants to submit an itemized cost of construction specific to the seawall work if not provided with the Building Department construction cost affidavit. This would assist with evaluating the substantial construction provision and ultimately enforcement during the plan review process.

Referral Request: Discuss potential policy that would enable the City to repair private seawalls that are causing public flooding nuisances within the right of way, particularly after the property owner has failed to conduct the necessary repairs. This policy would include provisions for billing the private property owner for the costs incurred by the City in carrying out these necessary repairs.

Additional research would need to be conducted to properly determine the feasibility of such a policy that would enable the City to repair private seawalls that are causing public flooding nuisances. The City may consider, in the public interest, complete the work when the property owner does not comply with the order. In those cases, the property owner could be "liened" for those costs and the costs may be placed as a non-ad valorem assessment in the property tax roll. The City may not see the funds return for many years. The Administration would need to work with the City Attorney's Office on how to implement this procedurally and evaluate impacts.

2. Long-Term Enforcement Strategies:

Referral Request: Review the effectiveness of existing regulations in promoting long-term resilience and preventing chronic issues associated with tidal flooding and sea level rise to maintain and improve a level of flood protection for private and public property through

time.

The existing seawall ordinance codifies minimum elevations for new seawalls and requires seawalls that are in disrepair and are causing flooding on adjacent properties be maintained. It established that all new seawalls must be constructed to an elevation of 5.7 ft NAVD, or 4 ft NAVD if designed to support a future elevation of 5.7 NAVD. The elevation requirements are already in effect. On May 11, 2016, the city passed a resolution to require that new seawalls, and those meeting the substantial reconstruction requirements, have higher elevation standards (R2016-4009). The ordinance further codifies this requirement and includes that seawalls must be upgraded if the property has new construction or substantial improvements.

The future height of seawall requirements should be based on sea level rise projections and the rate of sea level rise. There are different projections from agencies, and the existing seawall ordinance of 5.7 feet NAVD was designed at the time to provide flood protection during average king tide event through the year 2060 (based on the United States Army Corps "USACE" Intermediate curve) with an additional 3 feet of freeboard to account for wind and wave action that could further elevate local water levels. Miami Dade County requires an elevation of 6.0 feet for seawalls. As sea levels rise, the City will need to consider a higher seawall elevation to provide the same level of protection. Additional consideration should be made for the elevation of the land behind the seawall to take into account rising groundwater levels associated with sea level rise.

Referral Request: Consider requiring regular inspections and maintenance of private properties and public infrastructure to ensure continued compliance with resilience standards.

The City could contract with an inspection entity to perform routine inspections of sea walls. An additional option could be a property owner affidavit requirement at a certain frequency, such as every five-years. The City could also require at all seawalls be elevated at a certain point in time, for example by 2040, when one foot of sea level rise is anticipated (compared to 2020 water levels) according to the 2017 NOAA Intermediate High Projections.

Referral Request: Explore incentives or other mechanisms to encourage property owners to invest in long-term flood mitigation measures.

Federal and State grant programs for seawalls are not commonly available for private property owners. The City's Private Property Adaptation (PPA) program is well underway after comprehensive program development, a procurement process, and competitive grant process. This program is an innovative approach to incentivize resilience action and minimize flood risk for private buildings in the City of Miami Beach by providing information and funding for resilient flood mitigation improvements. This competitive, reimbursement-based grant funds the construction of green infrastructure and flood-management retrofits on existing properties. Up to \$20,000 may be granted for the full scope of work, inclusive of the \$2500 on-site assessment, with \$17,500 remaining for improvements. Projects are intended to help property owners adapt to the effects of climate change and sea level rise, such as flooding caused by increased stormwater, rising groundwater levels, tidal levels, and/or storm surge levels. This innovative program is one of the first of its kind and draws from best practice research nationally.

The PPA program applications first opened in 2022. The program is split into two phases: Phase I is the assessment phase which culminates with participants receiving their assessment report; Phase II is the design & construction phase in which participants carry out their approved scope of work. Phase I is undertaken in collaboration with the prime consultant, Brizaga.

The program is administered through a "cohort" approach, which allows staff to coordinate the volume of applications. There are currently 60 properties participating in the program across two cohorts: 22 properties from cohort 1 are in Phase II Design & Construction and 38 properties from cohort 2 are finalizing Phase I Assessments. Applications for cohort 3 are expected to open in early 2025.

Grants may be awarded for seawalls within the program, if that is a feasible option. Currently, four participants from cohort 1 are in the design and construction phase for seawall projects.

3. Public Safety and Quality of Life Considerations:

Referral Request: Assess how enforcement deficiencies contribute to public safety hazards, such as vehicular accidents, property damage, and pedestrian risks during flood events.

The Business Case Analysis of the Stormwater Program, completed in 2020 highlights the importance of investments in the stormwater program and private property adaptation to reduce damage from flooding and future sea level rise. The Administration does not have specific data pertaining to seawalls at this time.

Referral Request: Evaluate the impact of tidal flooding on the quality of life in vulnerable neighborhoods, including the effects on property values, mobility, and environmental conditions.

The City's setting on a low barrier island with porous limestone bedrock makes the area vulnerable to flooding during heavy rainfall events, annual king tides, waver overtopping during windy days, and periods of high groundwater conditions. As sea level rises, flooding due to these factors will extend further inland, increasingly affecting city infrastructure and facilities. To better understand this risk, the City completed a Sea Level Rise Vulnerability Assessment (2024) through the Resilient Florida grant program to identify and prioritize over 67,000 City-owned assets vulnerable to flooding and the impacts to the community. The assessment highlights key vulnerabilities that will inform the City's adaptation planning efforts. The assessment was conducted by the consultant AECOM, that also recently completed the Stormwater Modeling and Master Plan (2024).

While developing the assessment, the project team incorporated input from over 150 City residents using focus group meetings and pop-up workshops at City events to prioritize highly valued community assets. Most residents of Miami Beach have encountered some level of disruption due to flooding, however, not all residents experience flood impacts in the same way. Socioeconomic factors can create disproportionate impacts, which is why the project team also identified assets in socially disadvantaged communities to allow for equity considerations in the prioritization process. During the community engagement, residents noted several ways that socially vulnerable populations are particularly affected by flood hazards, including an increased risk of falls for elderly residents, loss of after school social programs due to closed community centers and parks, and a loss of transit opportunities for car-free residents due to flooded sidewalks and bus stops. It was also noted that while many residents can avoid flooding by staying indoors or working from home, the City is largely dependent on tourism and the service industry, which requires many working-class residents to commute across the City regardless of flood conditions.

One of the key vulnerabilities identified in the assessment is that the west (Bay) side is at the greatest risk of flooding due to the low elevation of its seawalls. Currently, the City experiences king tide flooding in low areas adjacent to the Bay shoreline and low inland areas. However, with one foot of sea level rise, nearly half the City's assets could be affected. With three feet of sea level rise, king tide flooding could expand to expose nearly all City assets. Even without the effects of sea level rise, storm surge flooding remains the City's greatest flooding threat.

FISCAL IMPACT STATEMENT

N/A

Does this Ordinance require a Business Impact Estimate?
(FOR ORDINANCES ONLY)

The Business Impact Estimate (BIE) was published on .

See BIE at: <https://www.miamibeachfl.gov/city-hall/city-clerk/meeting-notice/>

FINANCIAL INFORMATION

CONCLUSION

The options are presented for the Committee's review, consideration, and discussion.

Applicable Area

Citywide

Is this a "Residents Right to Know" item, pursuant to City Code Section 2-17?

Yes

Is this item related to a G.O. Bond Project?

No

Was this Agenda Item initially requested by a lobbyist which, as defined in Code Sec. 2-481, includes a principal engaged in lobbying? No

If so, specify the name of lobbyist(s) and principal(s):

Department

Environment and Sustainability

Sponsor(s)

Commissioner Alex Fernandez
Commissioner Laura Dominguez

Co-sponsor(s)

Condensed Title

Enhance Enforcement Mechanisms Related to Tidal Flooding. (Fernandez/Dominguez) CA/EN