City of Fort Lauderdale
Frequently Asked Questions
Isle of Palm Drive Seawall Construction

The City of Fort Lauderdale will be replacing the 900 feet of publicly-owned portion of the Isle of Palm seawall adjacent to Las Olas Boulevard. The existing structure is in disrepair and has a top elevation lower than the current high tide events, allowing seasonal King Tides to cause flooding on Isle of Palm Drive. This document is intended to address Frequently Asked Questions as the City advances this Community Investment Project to reduce the frequency, intensity and duration of flooding at the entryway of the Isle of Palm neighborhood, and to improve coastal resilience to tidal flooding and sea level rise.

1. Why is the Isle of Palm Drive seawall being elevated?

Over the last 5 years, king tides occurring in the fall have been breaching local seawalls flooding the entryway to Isle of Palm. With sea level projected to rise by as much as an additional 21 inches by 2060, elevation of the seawall will be critical to protect the roadway from frequent tidal flooding and allowing access to the remainder of the properties on the Isle. The Isle of Palm seawall lacks tie-backs and currently does not meet the new minimal elevation in the seawall ordinance adopted June 2016. In addition, the City completed a Seawall Master Plan that prioritized the Isle of Palm Seawall for replacement.

2. What are the benefits of a new seawall to homeowners on Isle of Palm?

This project has many benefits for local property owners. The new seawall will reduce the frequency, intensity, and duration of tidal flooding on Isle of Palm Drive. Inundation-related traffic impediments will be reduced, providing more consistent and safer access to the Isle of Palm neighborhood. The new seawall will not only protect the road but provide enhanced wave and storm surge protection to adjacent properties. The project will replace the current deteriorated seawall with a new and uniform seawall. The swale width will increase by 1.5 feet and will be re-profiled to improve roadway drainage. New sod will be installed in areas impacted by the construction. Planned drainage improvements will also reduce rain-related flooding concerns and result in milling and resurfacing of the roadway. Overall, the project will help maintain property values, improve the level of service for both traffic and drainage, and result in a more resilient coastal roadway built to address sea level rise through 2060.

3. Is this project funded and how much will it cost?

The seawall and stormwater improvements construction are estimated at a cost of $2,400,000.00.

4. Why is the seawall project so expensive?

In the past, the Isle of Palm Drive seawall's primary function was to protect the roadway from erosion and the impacts of wave action. Moving forward, the seawall must also mitigate the impacts of King Tides and rising sea level. The new seawall must be extended toward las Olas Boulevard and built substantially water tight to prevent tidal waters from coming over, through, or under the seawall. This is why the City will be installing a sheet pile seawall that will penetrate down 20 feet into the waterway floor. Unlike most private seawall in someone's backyard, City-owned seawalls have outfalls that drain the adjacent roadways. The drainage infrastructure must be addressed at the same time as the seawall construction.

5. What are the basic construction specifications (seawall type, height, materials)?

The Isle of Palm Drive seawall is designed as a cantilever sheet pile seawall to ensure the stability of Isle of Palm Drive well into the future. It will have a concrete cap. The wall will be built to 5 feet NAVD* (approximately 5 feet above the current average high tide) which should provide Isle of Palm Drive substantial protection from sea level rise and coastal erosion through 2060. The new seawall will be elevated 3.5 feet above the current seawall. From Isle of Palm Drive, it will look like a concrete retaining wall.

*NAVD88 or the North American Vertical Datum is a reference point used to determine topographic elevations (the height of the land). FEMA Flood maps and modern land surveys express elevations in feet NAVD88.

6. Why has the City decided to proceed with a sheet pile seawall instead of other types of seawall?

Cantilevered steel sheet pile with zinc primer and coal tar epoxy coating is regularly used for critical infrastructure in marine environments where durability and economy are of concern. This wall type was chosen as appropriate and favorable due to the wall design parameters (e.g. height requirements and soil pressures) and site limitations (e.g. limited landside space to otherwise install tie-backs). Other seawall options presented challenges including, but not limited to, increased landside disturbance (more disturbance of existing wall and roadway causing cost increase, schedule delay and inconvenience).

7. Why is the seawall being built to 5 feet NAVD?

The principal purpose of the seawall is to protect the roadway (public right-of-way) against tidal flooding, storm surge, future sea level rise, and preserve ingress/egress access to all residences within the Isle of Palms. All proposed City seawall replacements, a total of 13, have been designed and permitted have a top elevation of 5' NAVD. This top elevation was not picked arbitrarily. It is based stormwater modeling results, the City's seawall ordinance and resiliency best management practices. These ensure all new City assets provide substantial protection from sea-level rise and coastal erosion though 2060 and beyond, which actually less than the predicted lifetime of the new seawall. Lastly, Broward County is in process of revising their seawall ordinance to mandate a minimum top of 5' NAVD for the same reasons stated above. These much needed seawall replacements are designed with resiliency in mind, order to endure the sea-level rise projections, without having to comeback to

do costly retrofits because of initial poor planning.

8. What is the timeline for construction?

The new seawall and associated drainage infrastructure have been permitted and successfully bid out for construction. The procurement of a contractor is currently underway and a construction contract is expected to be fully executed by mid December 2019. Construction is expected to take 10 months from mobilization targeted for early to mid January 2020.

9. How will the new seawall impact our views of the waterway?

The top of the current seawall is at approximately 1.5 feet NAVD. The new seawall will be built to an elevation of 5 feet NAVD. The new seawall will extend 3.5 feet above the existing seawall.

10. What drainage improvements are included?

Consistent with the 2017 Stormwater Master Plan, drainage improvements along Isle of Palm Drive will be installed concurrent with the seawall construction. This includes adding drainage pipes, installing catch basins with tidal valves, and regrading the swale.

11. How will construction of the seawall and drainage improvements impact traffic on Isle of Palm?

Commuters should expect the west (southbound) lane to be closed throughout the project. The contractor will have flaggers on site to direct traffic through the construction area. When the project is complete, the entire width of the roadway adjacent to the new seawall will be resurfaced. Contractor will provide continuous access to properties during construction.

12. What conditions can we expect during construction (Noise, access, staging of materials)?

The new seawall will require the installation of sheet piles into the bed rock approximately 20 feet using vibration technology. Neighbors should expect some noise and vibration especially early in the project when the sheet piles are being installed. Generally speaking, construction hours are 8:00 a.m.-5:00 p.m. Monday through Friday for the 10 month period. Once the sheet pile is installed, the contractor will be working on installing the seawall cap which will require trucks delivering concrete to the work site. The project will also include drainage improvements which may require shutting down travel lanes in segments to replace drain pipes. Different parts of the swale on the west side of the road will be used to provide parking for construction crews, stage equipment and store materials as needed.

13. How are homeowners along the Isle of Palm seawall protected from potential damage to their property from the vibration of driving the sheet piles?

Vibratory sheet pile driving is a tested methodology and we do not anticipate any

damage to the surrounding structures. In addition, the contractor will be required to implement a noise and vibration monitoring and mitigation plan to ensure that is does not happen. In addition, the City will retain a third party consultant to monitor vibration. The consultant will install sensing vibration detectors, which will be monitored live during construction to ensure that the vibrations remain within acceptable limits, in order to prevent damage to the existing structures along Isle of Palms Drive. In the highly unlikely event that any vibration that exceeds the contract specifications is detected, construction will cease immediately before any damage can occur. The contractor is required to be licensed and insured for general liability in amounts determined by the City's Risk Management and Procurement Services programs. In the highly unlikely event that damage is caused by the vibratory sheet pile driving activities, the homeowner will coordinate with the City's Risk Management department for appropriate reimbursement. All residents are encouraged to take before and after pictures in order to substantiate all claims. In addition city staff will be requesting access to your properties in order to document the existing conditions, prior to start of construction. If access is not granted, claims may be denied.

14. Will raising the seawall cause MORE flooding from rainfall events?

No, drainage improvements are being installed concurrent with the raising of the seawall. The swale will be regraded and widened to receive roadway runoff. The use of larger outfall pipes and additional drainage structures will reduce the duration, frequency and intensity of flooding on Isle of Palm Drive. As part of the project, the City will pave the full width of Isle of Palm Drive and address select areas where stormwater is known to pond after rain events.

15. What site restoration will be performed as part of the project?

Site restoration will include sodding and re-profiling the swale area between Isle of Palm Drive and new seawall. The City will make every attempt to preserve as many of the existing palm trees as possible, and any trees that are removed will be replaced in-kind. As part of the project, the City will pave the full width of Isle of Palm Drive adjacent to the seawall.