



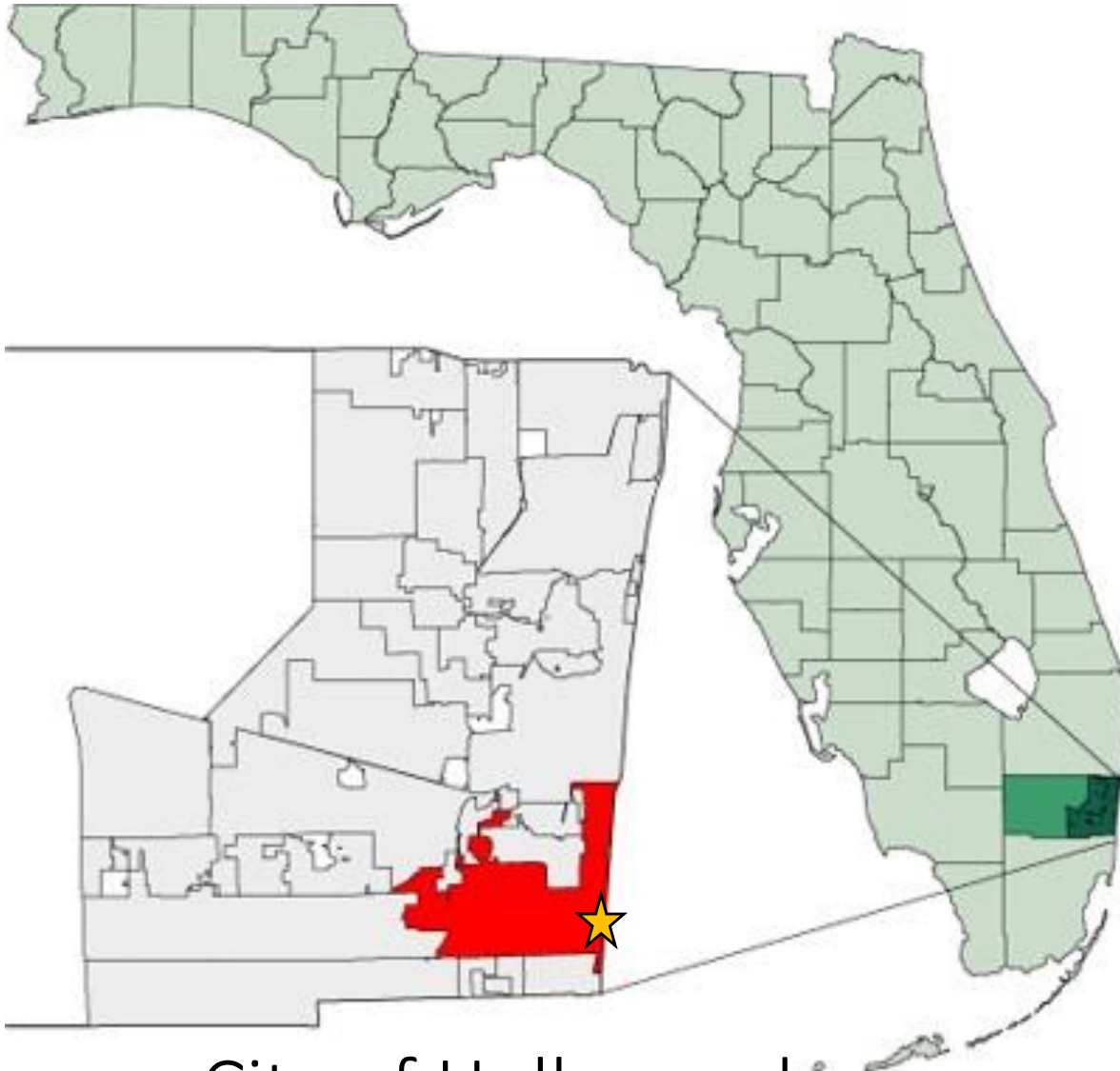
RESILIENT FLORIDA

Planning, Policy and Practice

City of Hollywood Marina Improvements



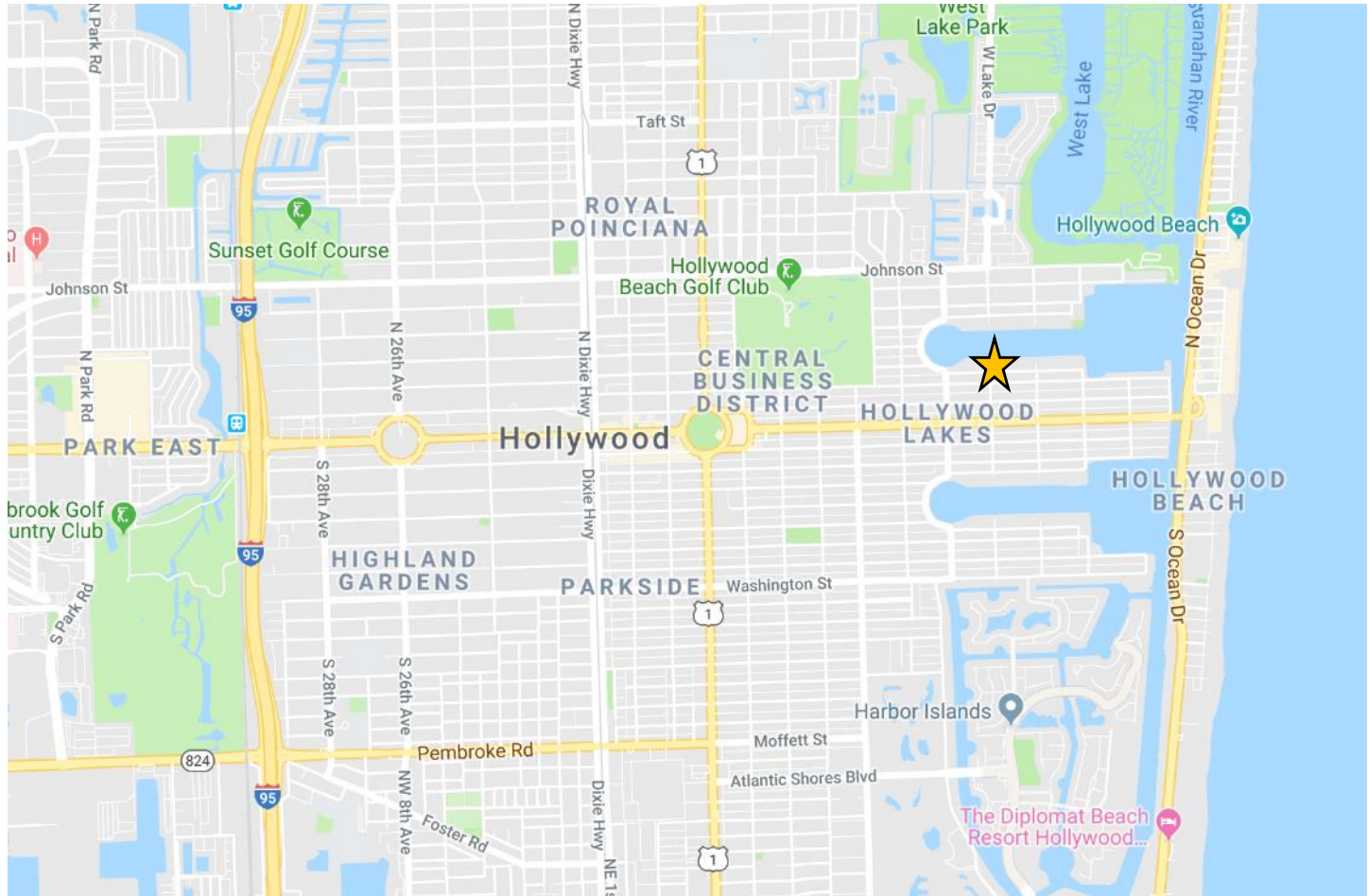
700 Polk Street City of Hollywood, FL

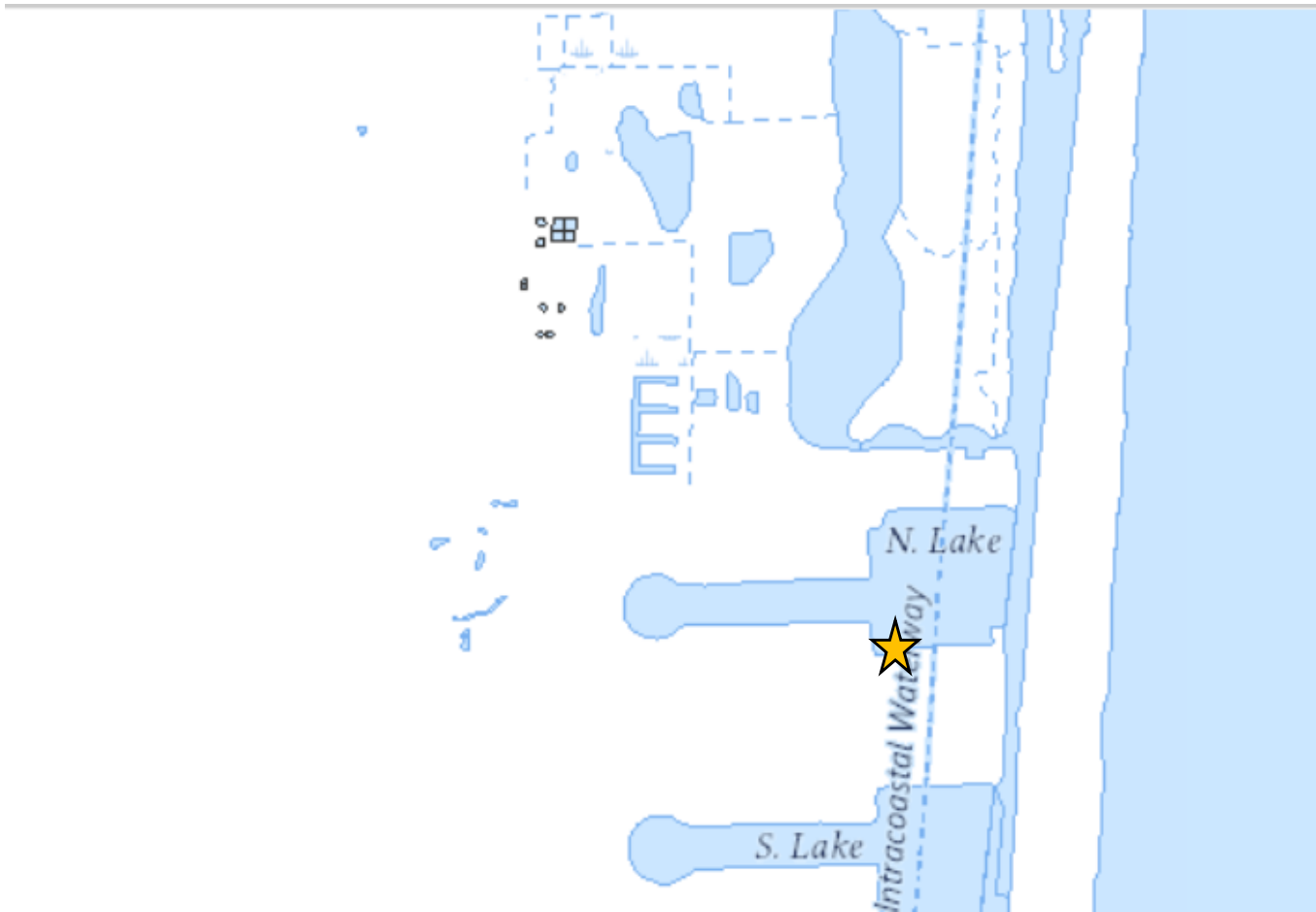


Florida

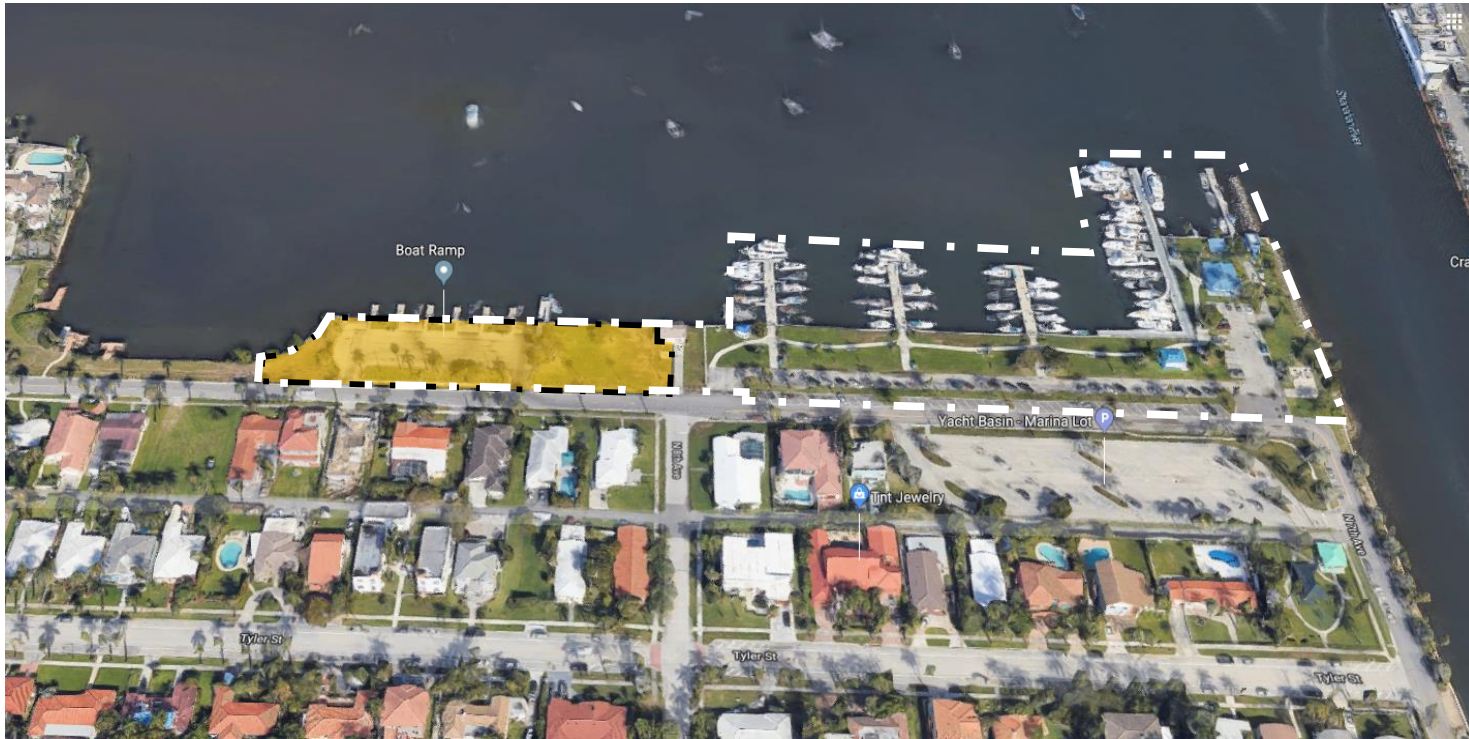
Broward
County

City of Hollywood





The Marina Today



Full service marina
Three launch ramps

55 dock rental slips
Fuel service

Pump-out service
Other amenities





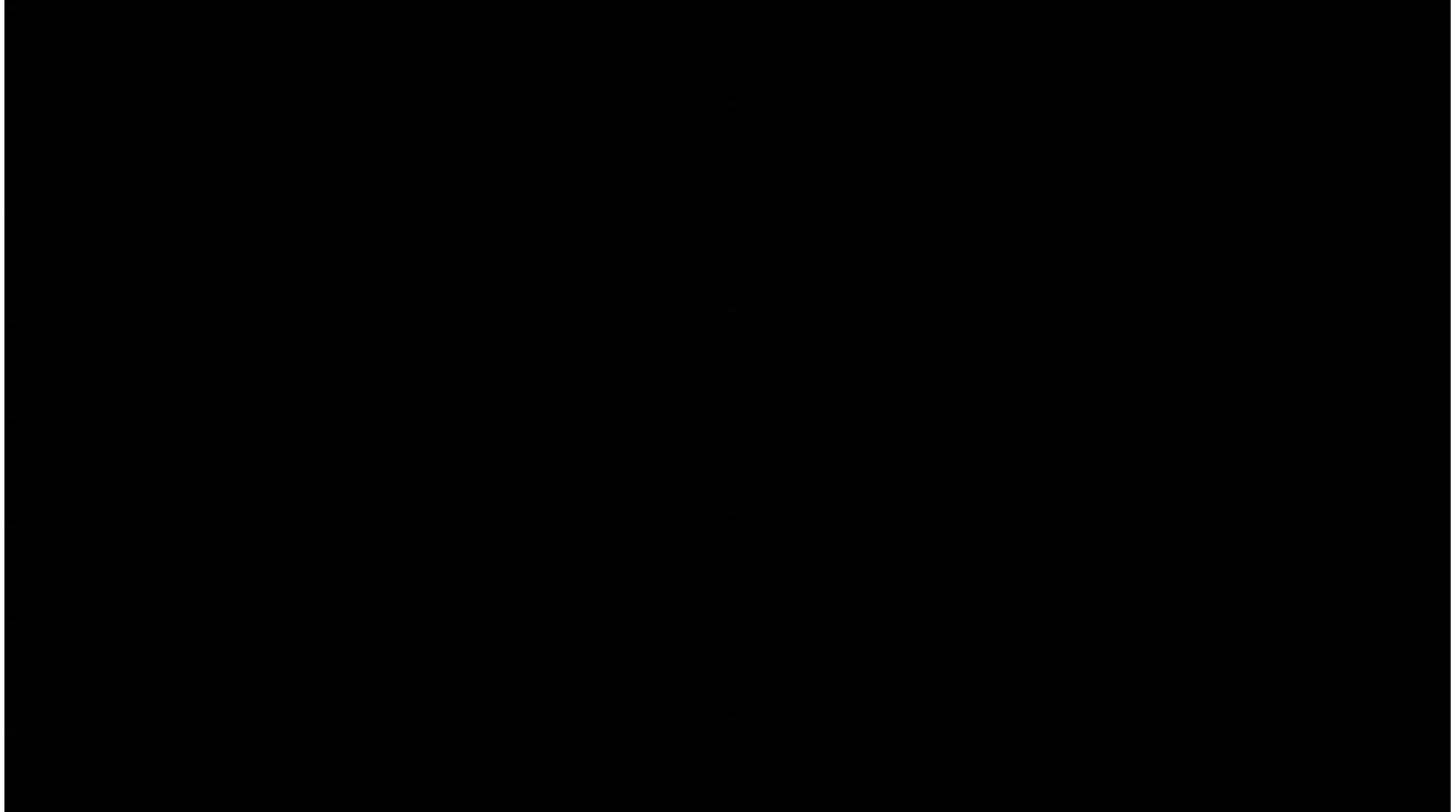






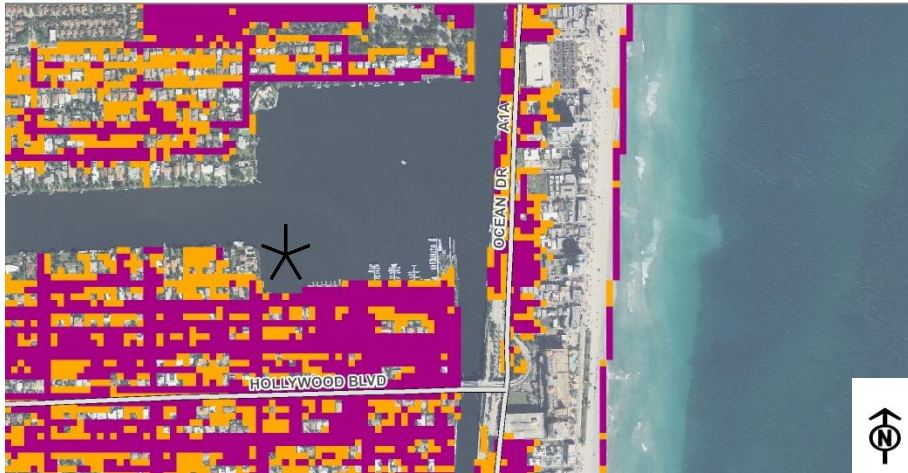


Statement of Problem

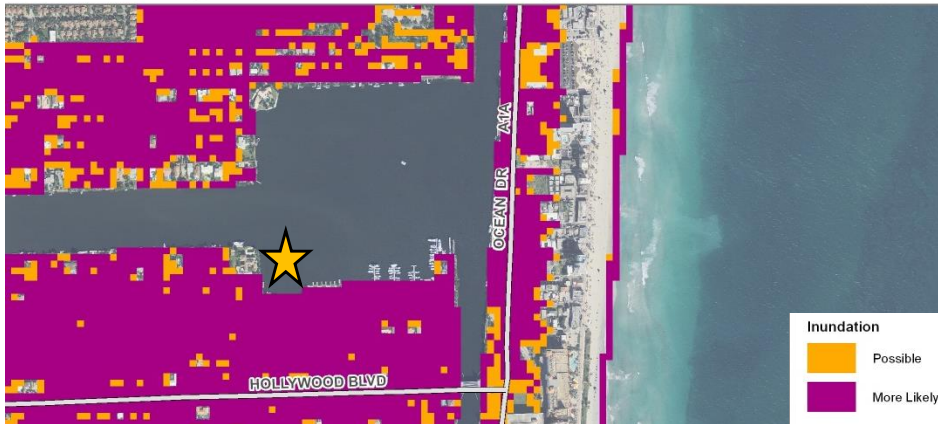


Sea Level Rise

Hollywood Beach Vulnerability: 2 Foot Sea Level Rise



Hollywood Beach Vulnerability: 3 Foot Sea Level Rise



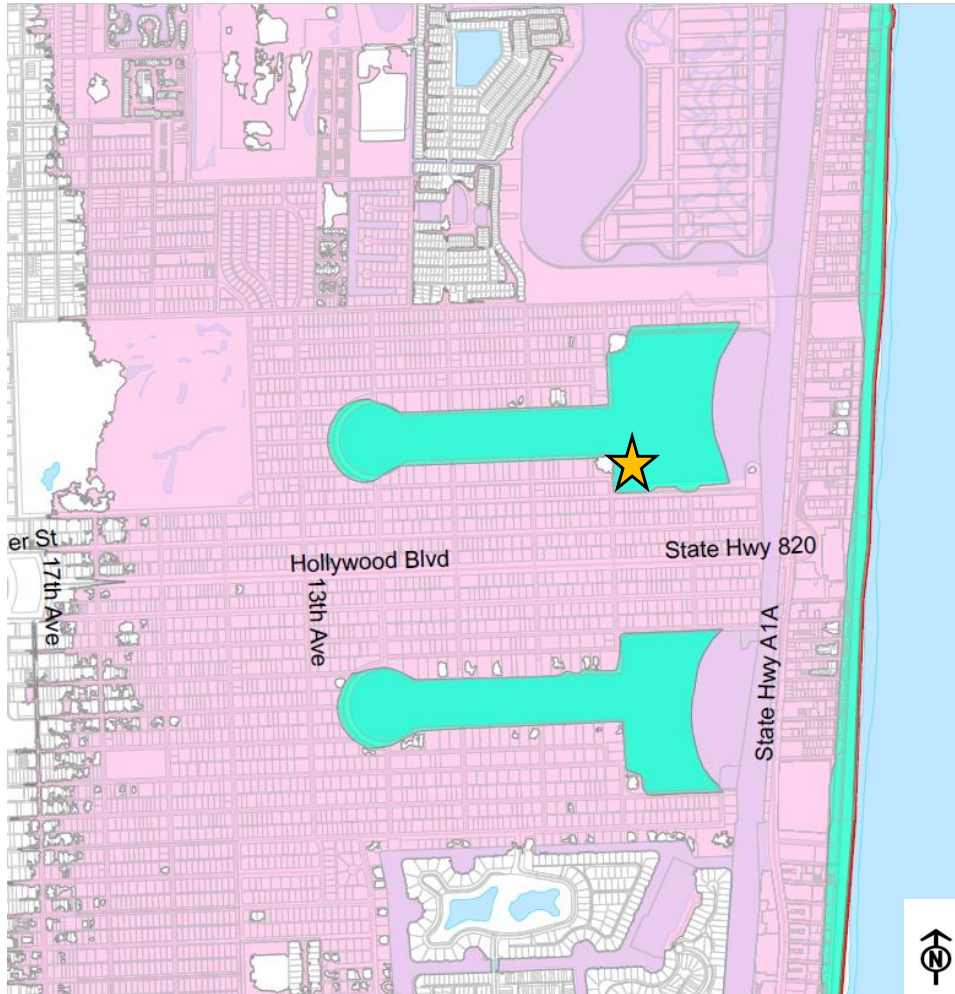
Broward County Inundation Mapping and Vulnerability Analysis

Major Impacts

- Roadway inundation increases
- Evacuation routes impacted'
- Impacts to low lying communities near Intracoastal Waterway

- Significant property impacts
- Loss of road access
- Beach impacts

Flood Hazard Area Map



Major Impacts

- AE Flood Zone
- Low flood elevations



Flood Zone	Area (Acres)
AE	5062.84
AH	3314.8
AO	0.23
VE	480.57

816 Polk St, Hollywood, FL 33019, USA

FREQUENT TIDAL FLOODS

5 YEARS

WHAT CAN I DO?

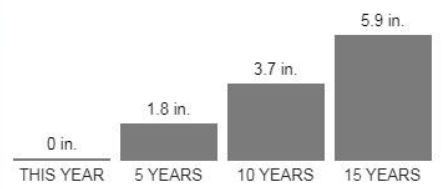
This property is at risk

816 Polk St, Hollywood, FL 33019 is already at risk from frequent tidal flooding, occurring at least 10 days a year. As sea levels rise, this risk increases.

Note: Our projections do not include rain, which can make floods even worse.

Sea level rise increases flood risks

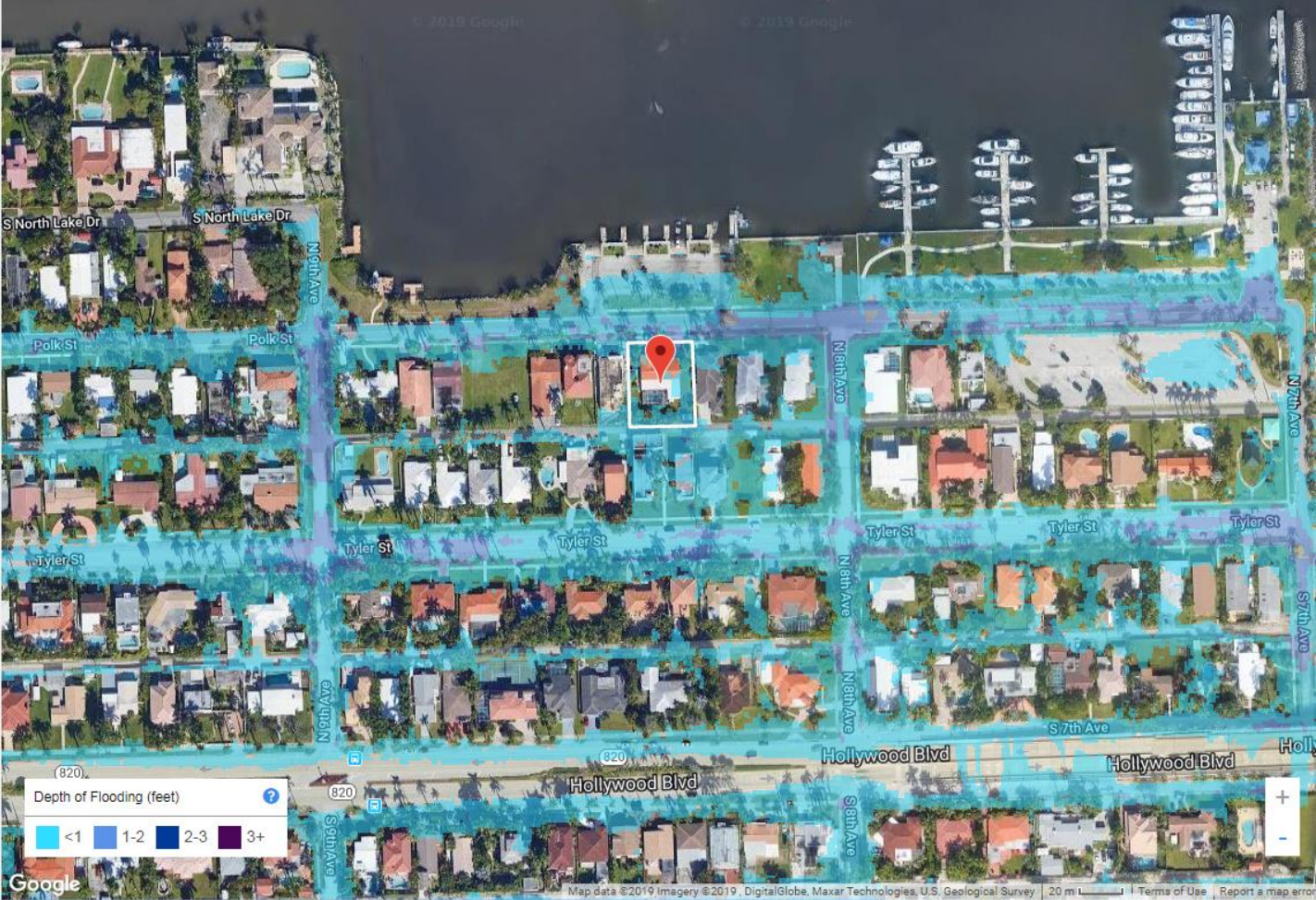
Sea levels in the Hollywood area will increase by 5.88 (in) in the next 15 years, according to the US Army Corps of Engineers



LEARN MORE ABOUT SEA LEVEL RISE

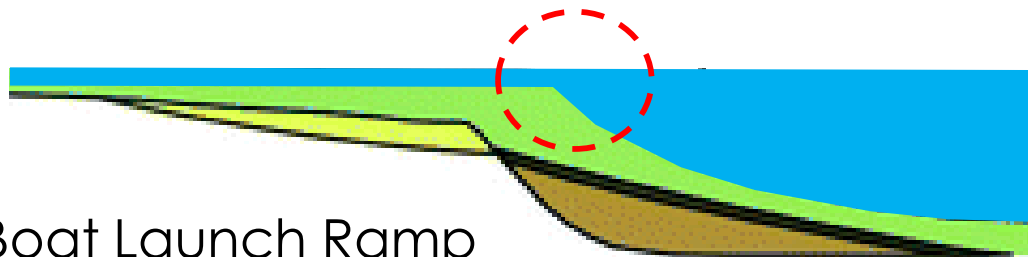
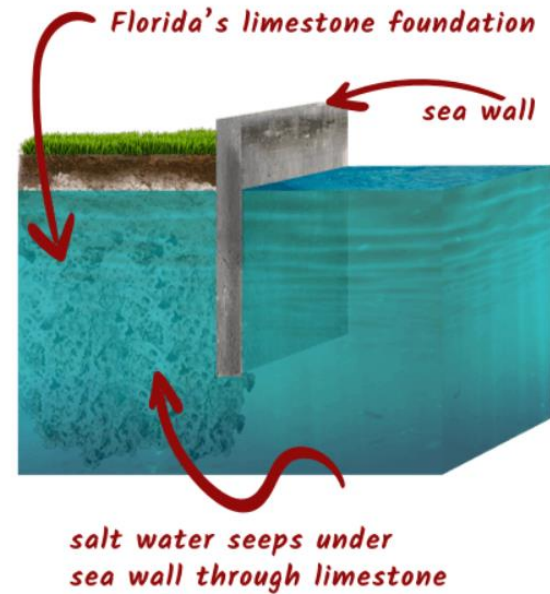
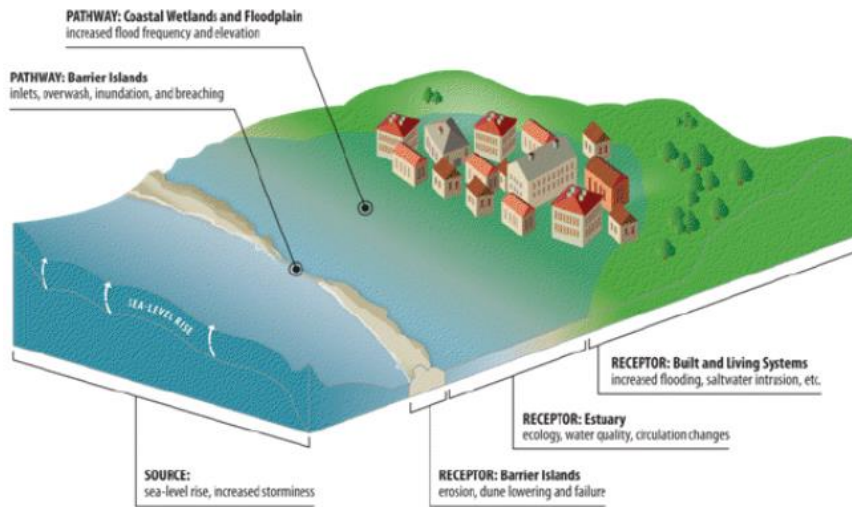
DOWNLOAD FULL FLOOD IQ PDF REPORT

What does 1-2 ft of flooding look like?



www.floodiq.com

Sea Level Rise, King Tide, Low Elevations Storm Surge...



Marina Boat Launch Ramp



Source: Broward County's Document the Floods Crowdsourcing Tool

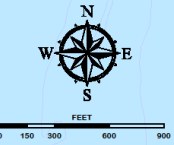
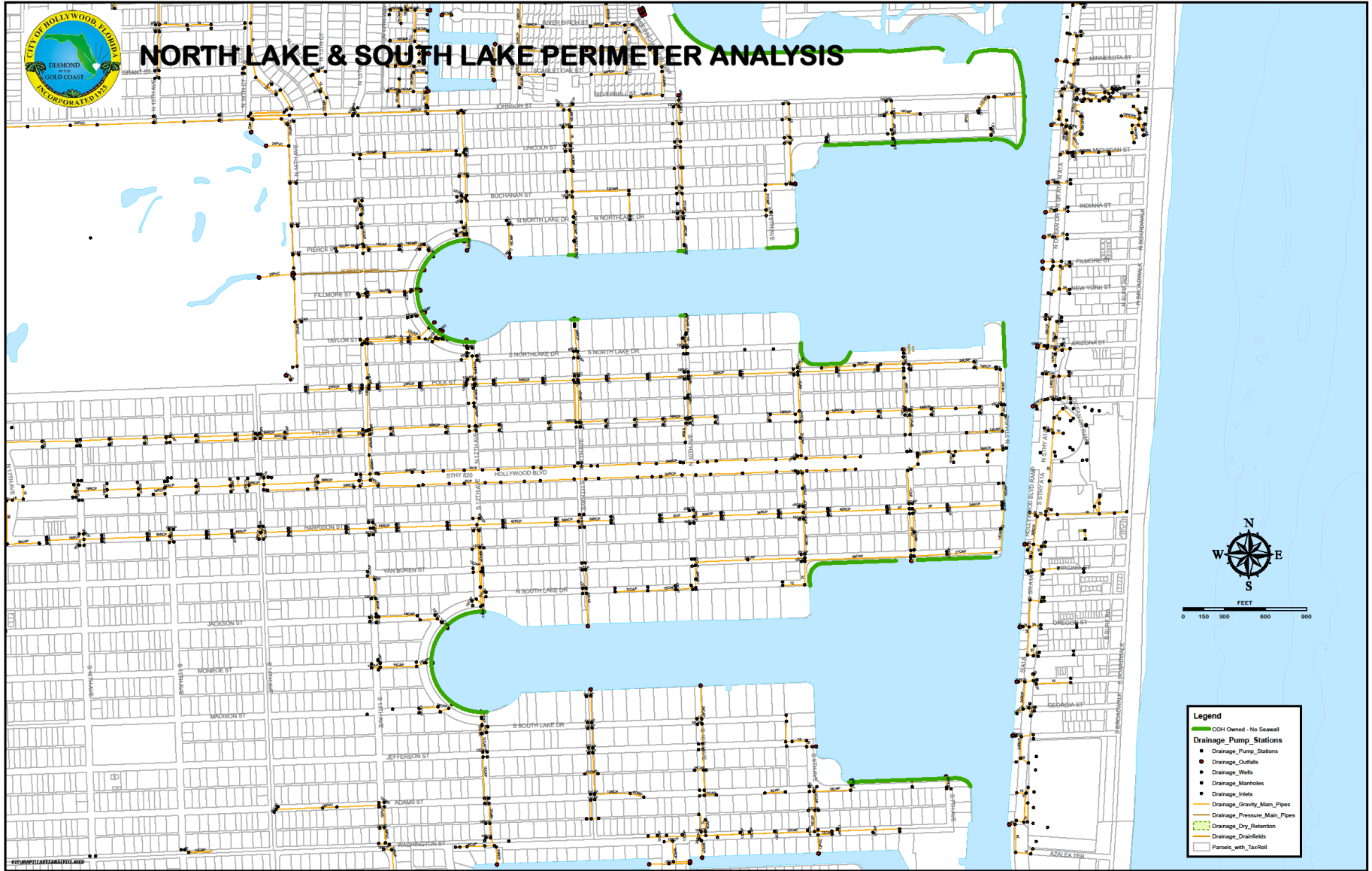




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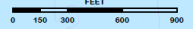
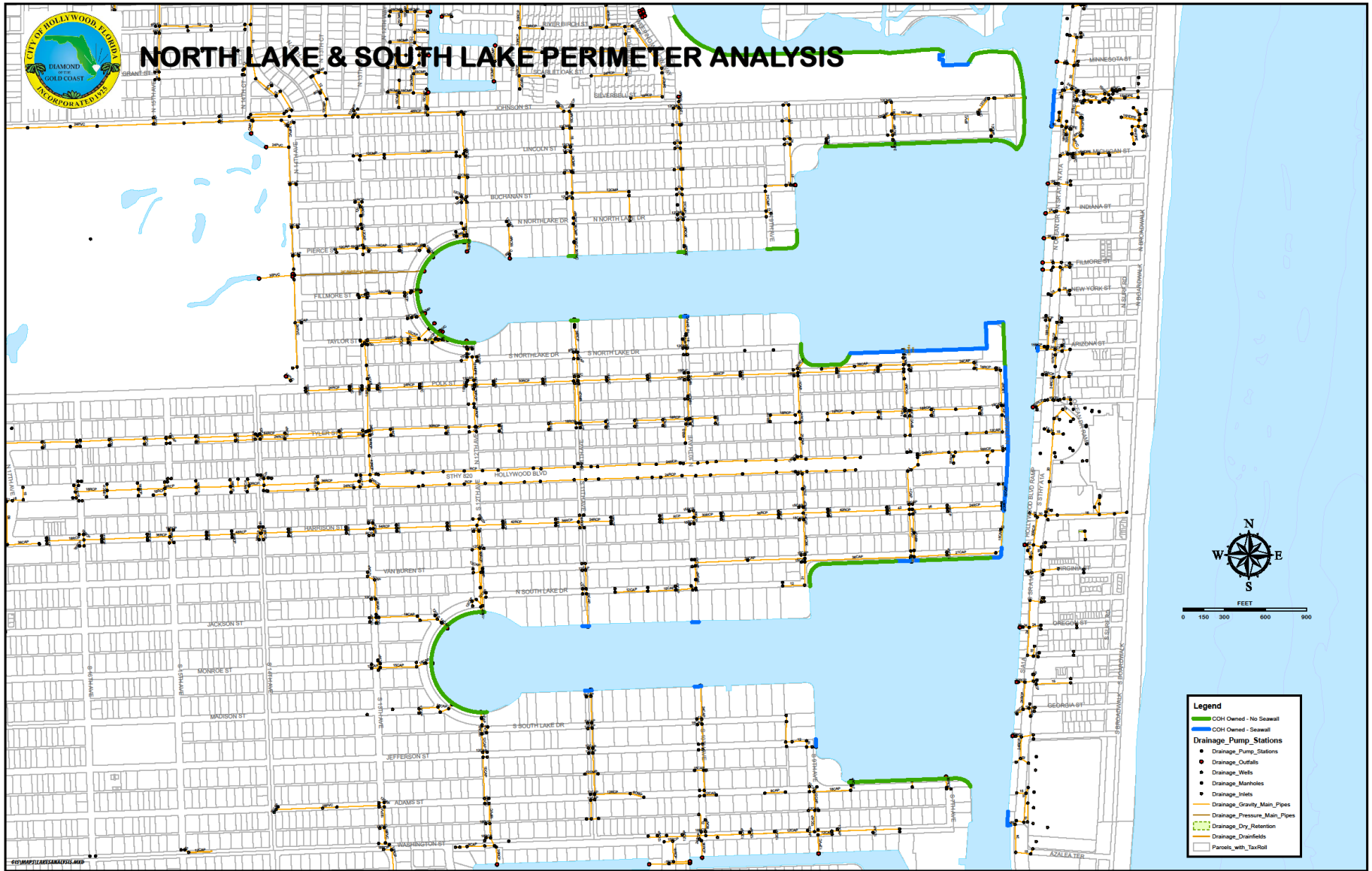
NORTH LAKE & SOUTH LAKE PERIMETER ANALYSIS



- Legend**
- CCR Closed - No Sewer
 - Drainage_Pump_Stations
 - Drainage_Pump_Stations
 - Drainage_Outfalls
 - Drainage_Wells
 - Drainage_Manholes
 - Drainage_Inlets
 - Drainage_Gravity_Main_Pipes
 - Drainage_Pressure_Main_Pipes
 - Drainage_Dry_Retention
 - Drainage_Drainfields
 - Parcels_with_TaxRoll

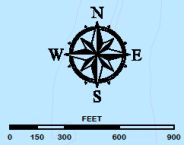
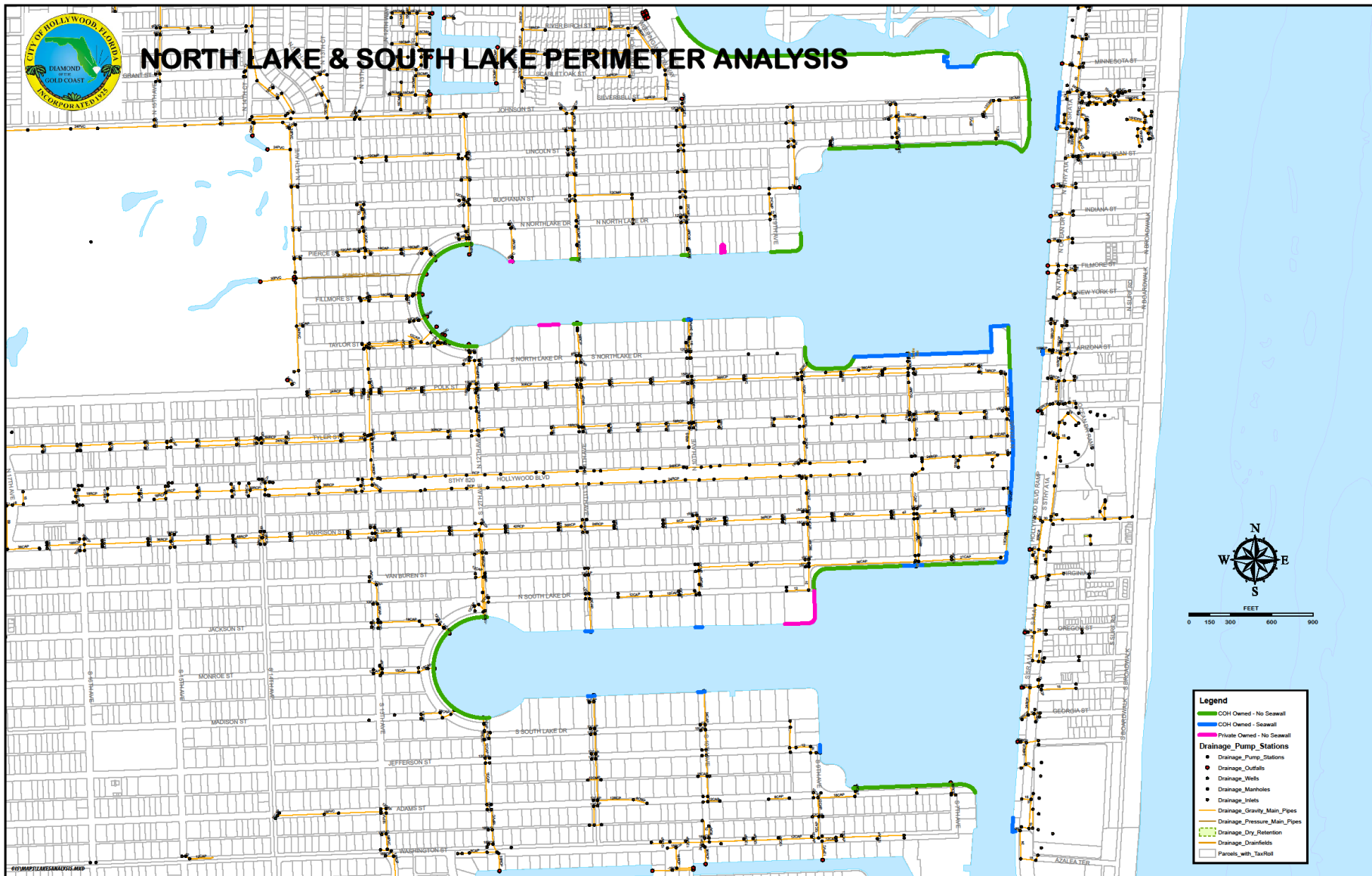


NORTH LAKE & SOUTH LAKE PERIMETER ANALYSIS





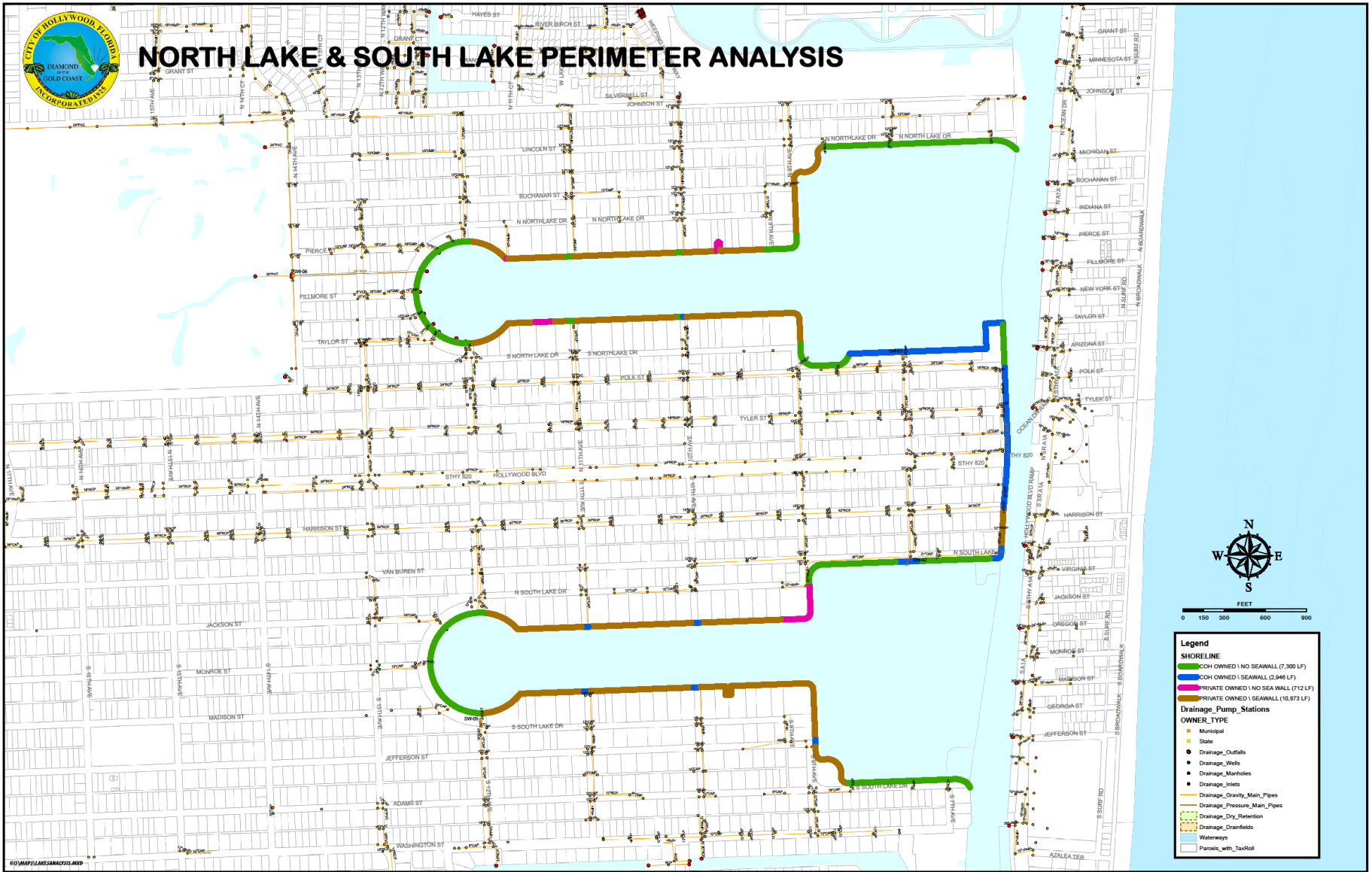
NORTH LAKE & SOUTH LAKE PERIMETER ANALYSIS



- Legend**
- CCH Owned - No Sewall
 - CCH Owned - Sewall
 - Private Owned - No Sewall
 - Drainage_Pump_Stations**
 - Drainage_Pump_Stations
 - Drainage_Outfalls
 - Drainage_Wells
 - Drainage_Manholes
 - Drainage_Islets
 - Drainage_Scruffy_Main_Pipes
 - Drainage_Pressure_Main_Pipes
 - Drainage_Dry_Retention
 - Drainage_Drainfields
 - Parcels_with_taxRoll



NORTH LAKE & SOUTH LAKE PERIMETER ANALYSIS



Legend

SHORELINE

- COH OWNED 1 NO SEAWALL (7,300 LF)
- COH OWNED 1 SEAWALL (2,048 LF)
- PRIVATE OWNED 1 NO SEA WALL (712 LF)
- PRIVATE OWNED 1 SEAWALL (10,873 LF)

Drainage_Pump_Stations

OWNER_TYPE

- Municipal
- State
- Drainage_Outfalls
- Drainage_Wells
- Drainage_Manholes
- Drainage_Inlets
- Drainage_Gravity_Main_Pipes
- Drainage_Pressure_Main_Pipes
- Drainage_City_Retention
- Drainage_Drainfields
- Waterways
- Parcels_with_TaxRoll

Keeping the Marina Clean and Resilient

Phase I

- Raise the boat launch ramp elevation from 2.15 NAVD to 4.5 NAVD
- Repair sea wall cap where needed

Phase II

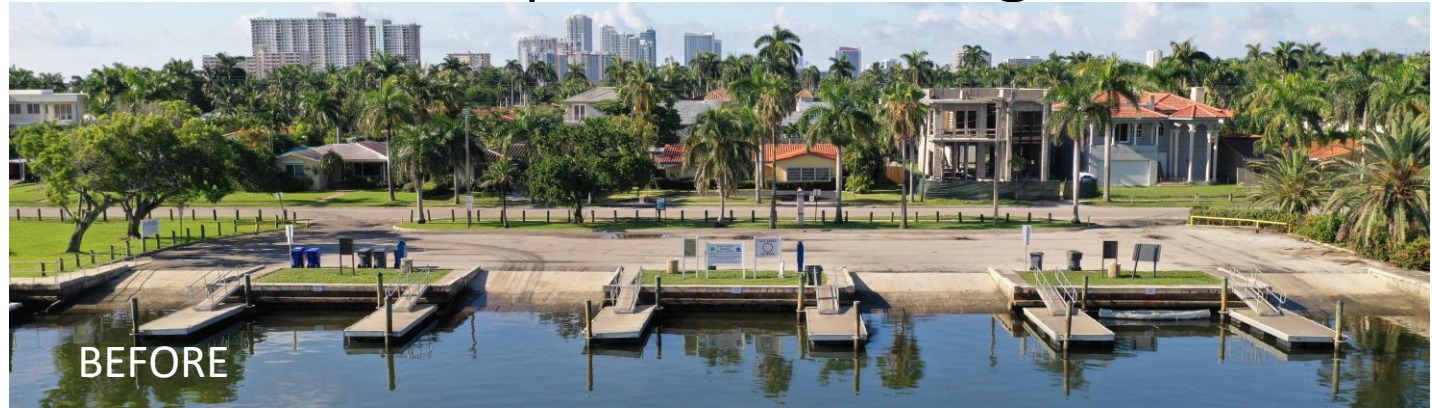
- Government Obligation Bond (GOB)
- Replace sea walls at the boat launch ramp, marina and add new sea walls in areas adjacent to the marina



Marina Improvements



Before and After – Ramps and Parking Area



Entrance to Boat Ramps – Before & After



Phase I

Project Cost and Timing

DEP Grant Cycle	Grant Funding	City Funding	Total	Completion
2018/19	\$75,950	\$400	\$76,350	May 2019

Design

Initiate permitting

Guarantee Maximum Price
(GMP) for construction

Phase I

Project Cost and Timing

DEP Grant Cycle	Grant Funding	City Funding	Total	Completion
2018/19	\$75,950	\$400	\$76,350	May 2019
2019/20	\$50,000	\$61,212	\$111,212	January 2020

Obtain permits

Earthwork

Phase I

Project Cost and Timing

DEP Grant Cycle	Grant Funding	City Funding	Total	Completion
2018/19	\$75,950	\$400	\$76,350	May 2019
2019/20	\$50,000	\$61,212	\$111,212	January 2020
	\$274,050	\$710,926	\$984,976	April 2020

Obtain permits

Complete construction

Earthwork

Phase II



Neighborhoods, Infrastructure, and Resiliency: \$23 million

- Sea Walls for Tidal Flooding Mitigation
- Hardening of Utilities in North Beach



Partnerships



See Life. See Opportunities.



CRAEN · THOMPSON & ASSOCIATES INC.

Engineers · Planners · Surveyors · Landscape Architects







RESILIENT FLORIDA

Planning, Policy and Practice

Gus Zambrano

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