



City of Atlantic Beach

Amended Agenda

Joint Workshop between the City Commission and the Community Development Board

Monday, June 17, 2024 - 6:00 p.m.

City Hall, Commission Chamber

800 Seminole Road, Atlantic Beach, FL 32233

INVOCATION AND PLEDGE TO THE FLAG

Page(s)

CALL TO ORDER

1. INTRODUCTIONS

2. PUBLIC COMMENT

3. OVERVIEW: STORMWATER MANAGEMENT PROGRAM AND ONSITE STORAGE HISTORY – STEVE SWANN, CITY ENGINEER

* [SW Workshop Presentation](#)

3 - 23

4. PRESENTATION – JONES EDMUNDS ENGINEERING AND CONSULTING SERVICES

5. QUESTIONS AND DISCUSSION – CITY COMMISSION

ADJOURNMENT

This meeting will be live-streamed and videotaped. The video recording will be posted within four business days on the City's website. To access live or recorded videos, visit www.coab.us/live.

Any person wishing to speak to the City Commission on any matter at this meeting should submit a request to the City Clerk. For your convenience, forms for this purpose are available at the entrance to the Commission Chamber.

In accordance with the Americans with Disabilities Act and Section 286.26, Florida Statutes, persons with disabilities needing special accommodation to participate in this meeting should contact the City Clerk's Office at (904) 247-5821 or at City Hall, 800 Seminole Road, Atlantic Beach, FL 32233, no later than 5:00 PM on the Thursday prior to the meeting.

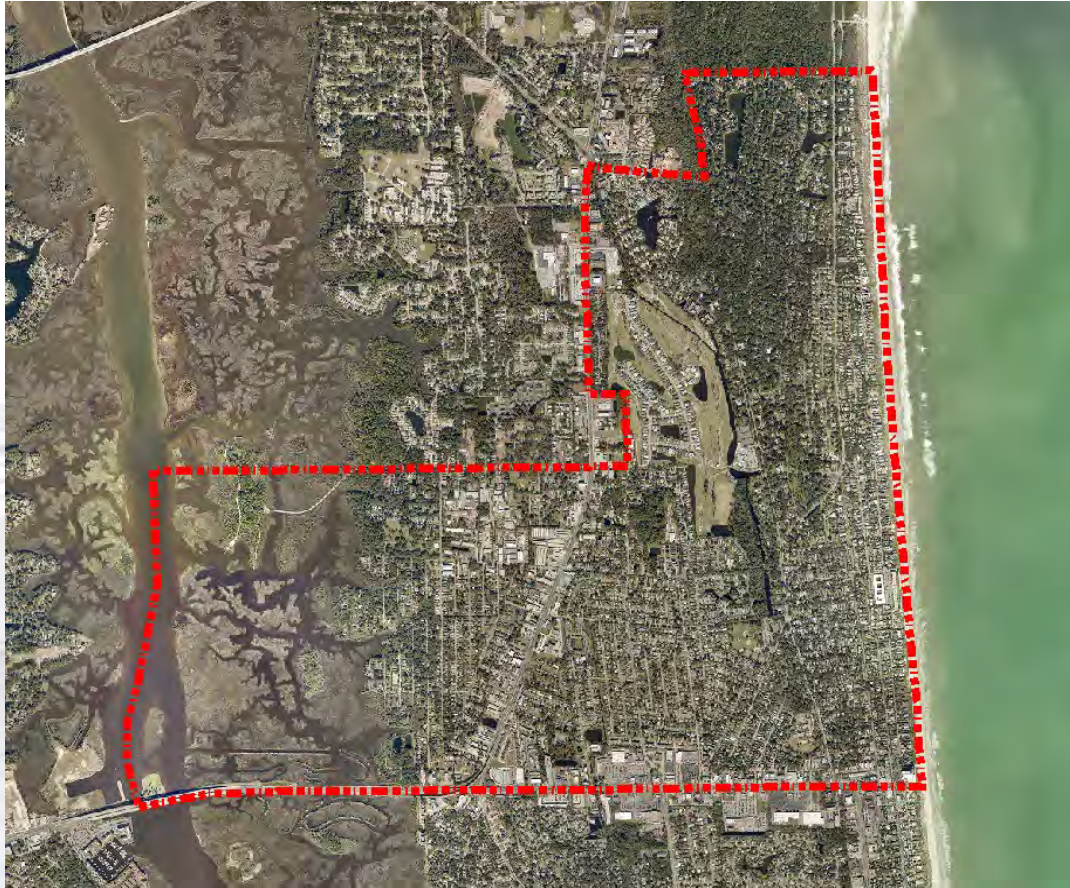
Overview of Stormwater Management in Atlantic Beach

**Joint Commission & Community
Development Board Workshop**

June 17, 2024



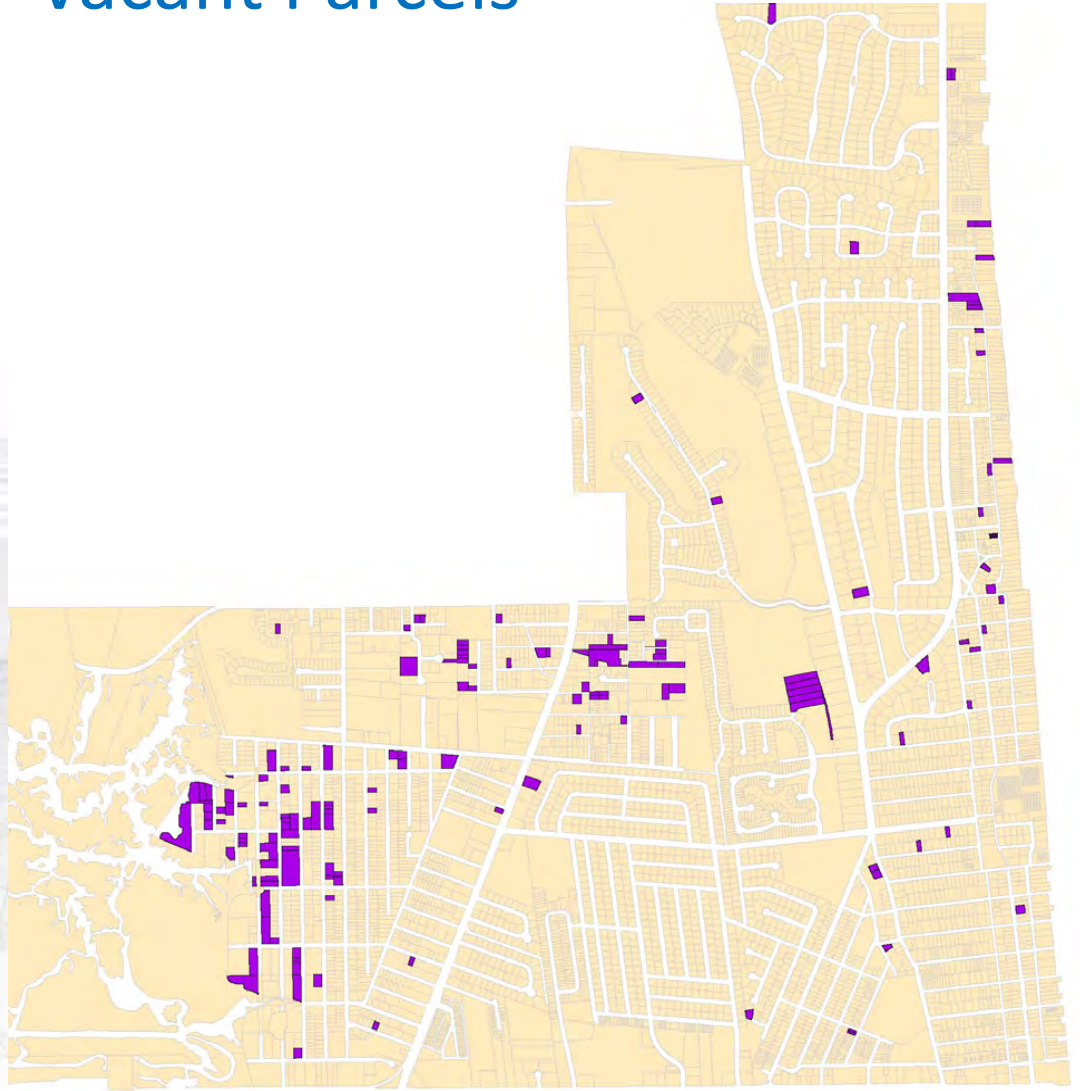
City of Atlantic Beach



- 4 square miles of flat & low-lying land
- Surrounded by water
- High ground water table
- Typical elevations from 10 FT to over 30 FT in some places

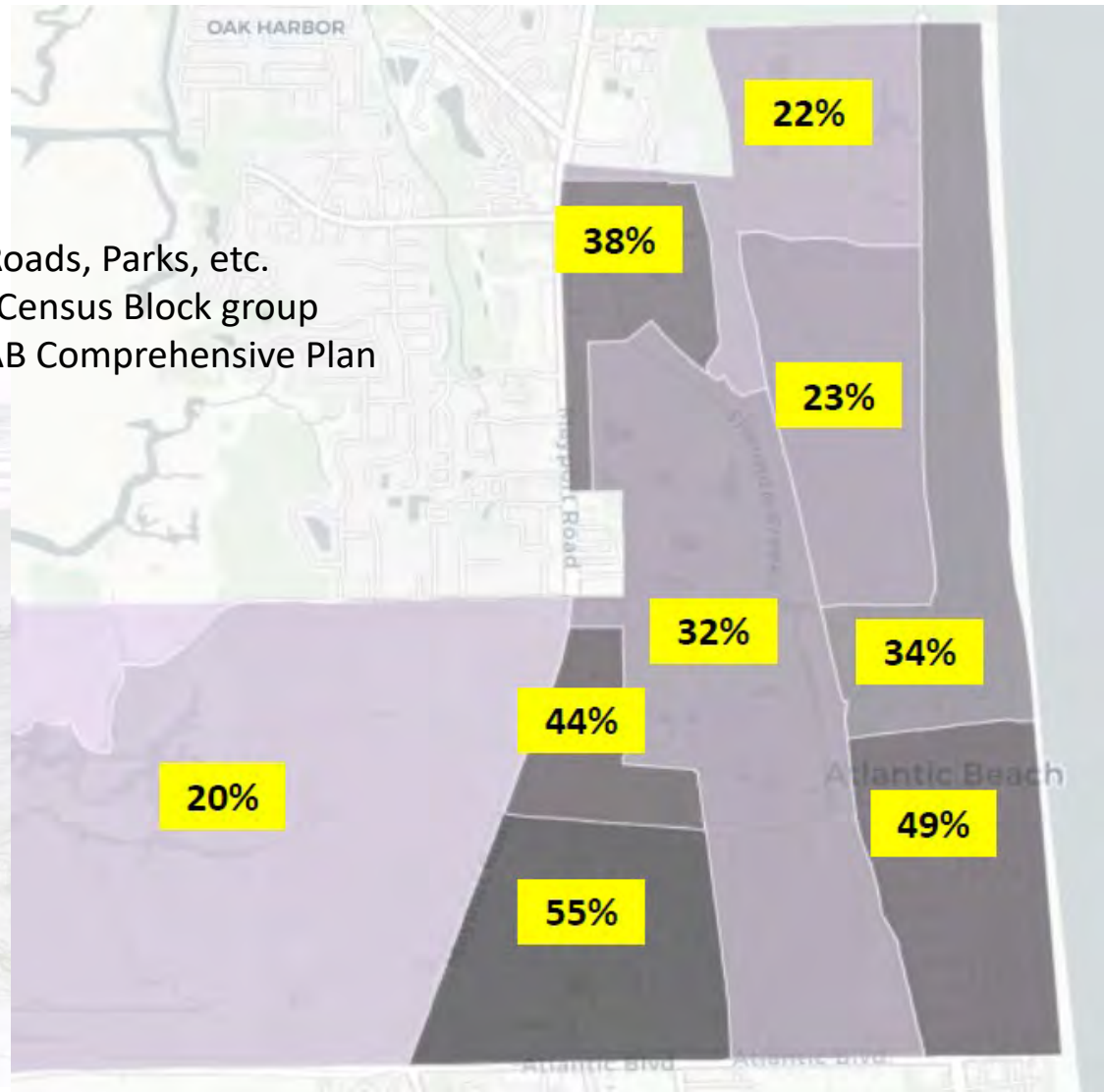
Vacant Parcels

- Few vacant parcels left
- City is essentially built out

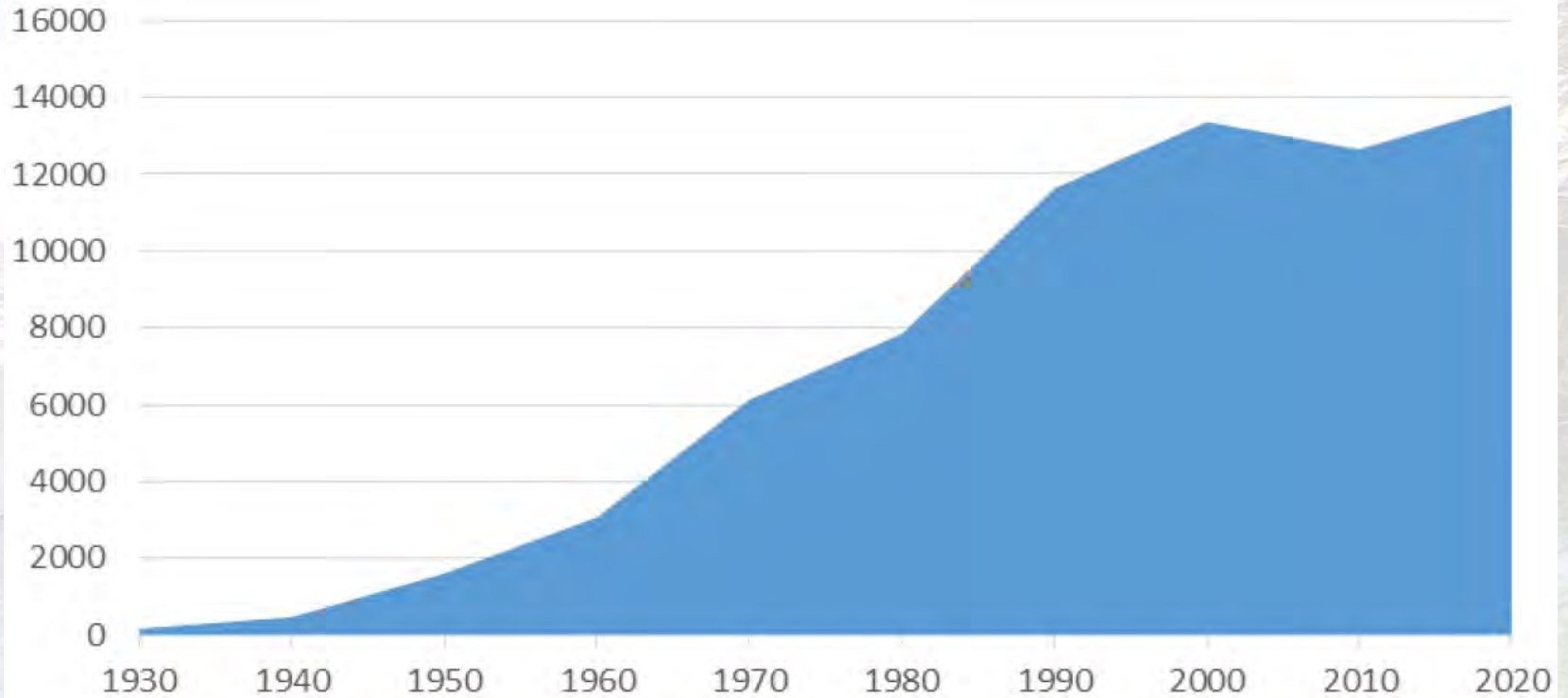


Overall Impervious Area Coverage

- Includes Buildings, Roads, Parks, etc.
- Impervious Area by Census Block group
- 2021 Data from COAB Comprehensive Plan



Population Data

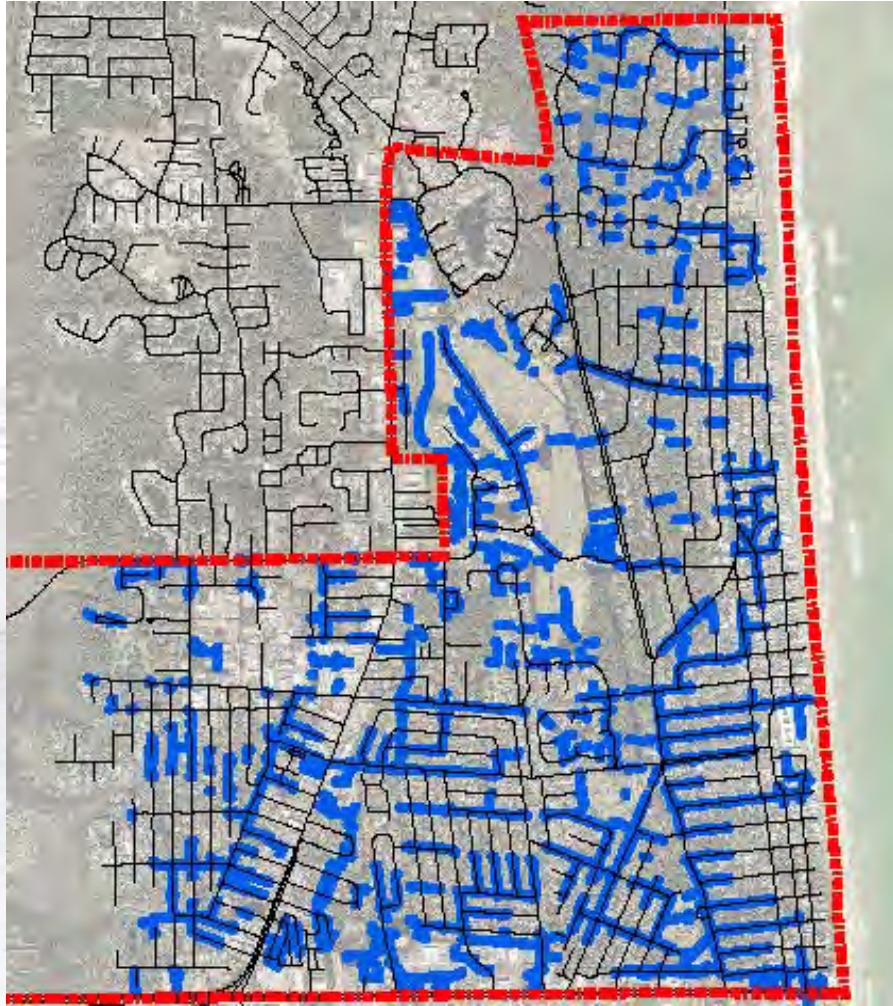


- City has grown to ~14,000 today
- Slower growth projected in the future as the City is essentially built-out

Storm Sewer System Overview

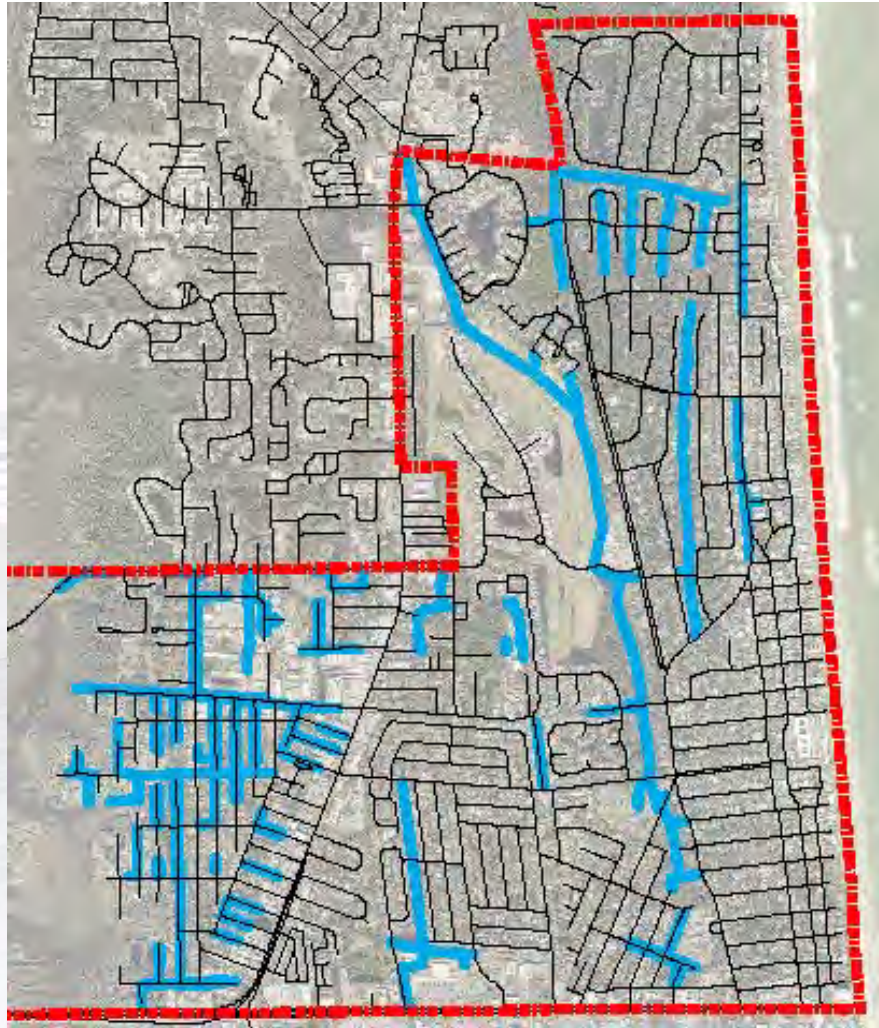
- System mostly constructed prior to modern regulations for flood protection
- Water quality treatment is not provided in most of the system
- Design Goal Level of Service for Flood Protection:
 - Major Streets (4-lane roads) should be passable with water not exceeding the crown of the road during a 10-year flood event
 - Residential streets and other 2-lane roads should be passable with water not exceeding the crown of the road during a 5-year flood event

Storm Sewer System Overview



➤ 26.5 miles of Storm Sewer Pipes

Storm Sewer System Overview



➤ 14 miles of Ditches & Swales

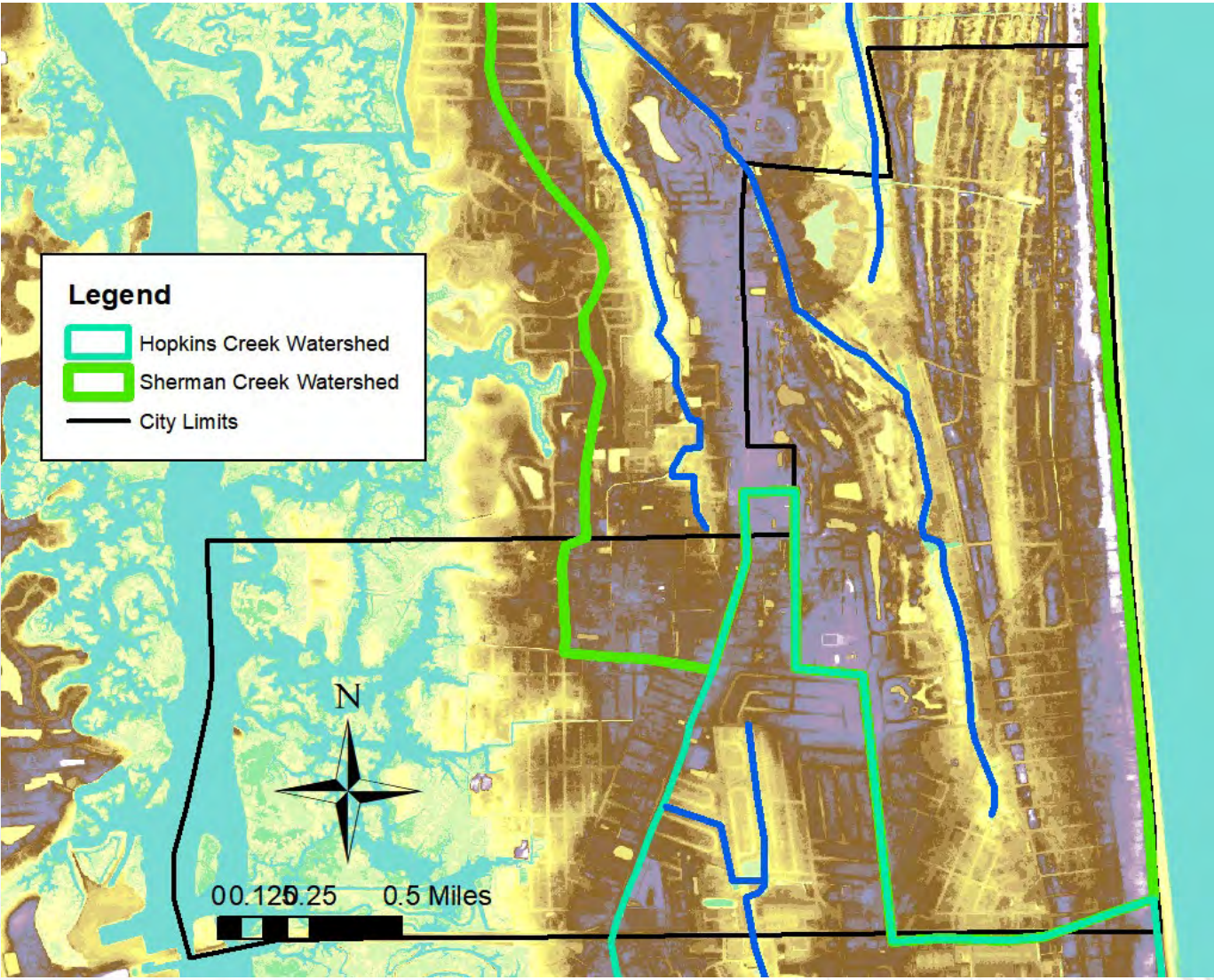
- **Longest Drainageways:**
 - **Sherman Creek – 2.5 Miles**
 - **Sherman Canal – 3 Miles**
 - **Hopkins Creek – 2 Miles**

Legend

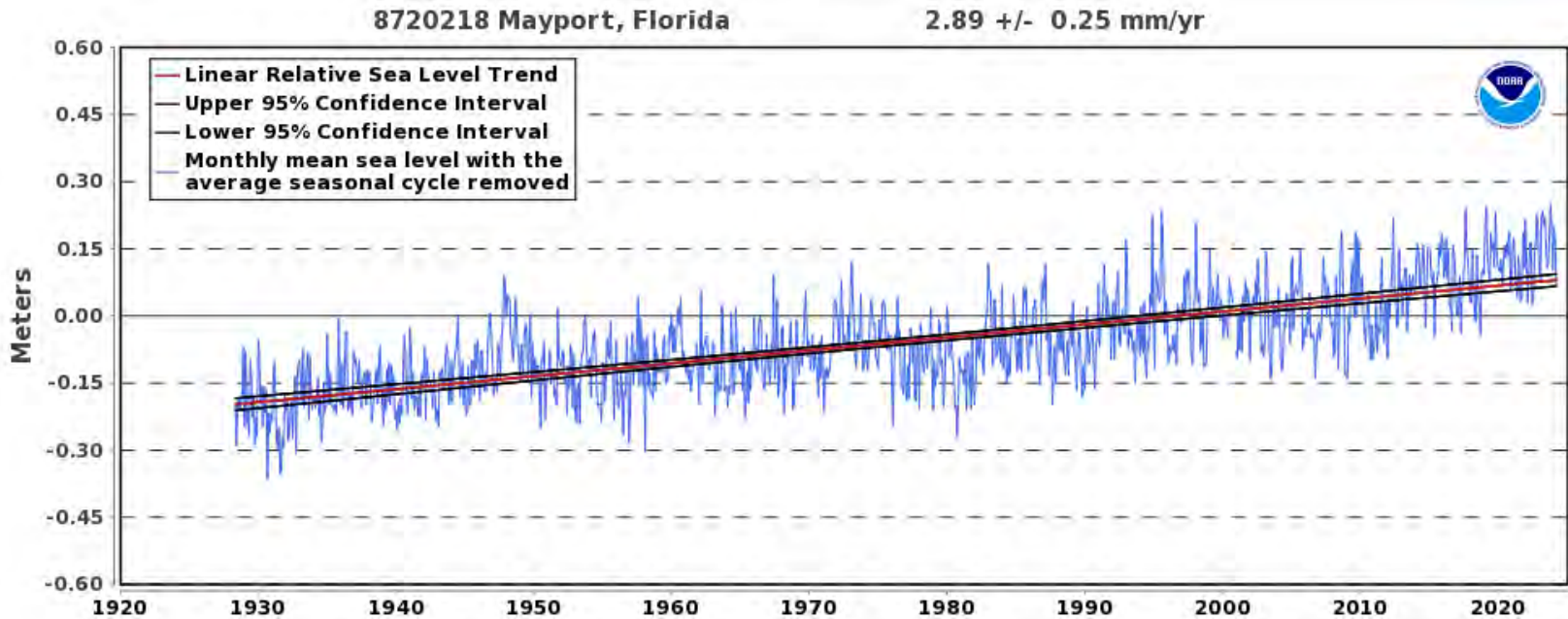
-  Hopkins Creek Watershed
-  Sherman Creek Watershed
-  City Limits



Topography

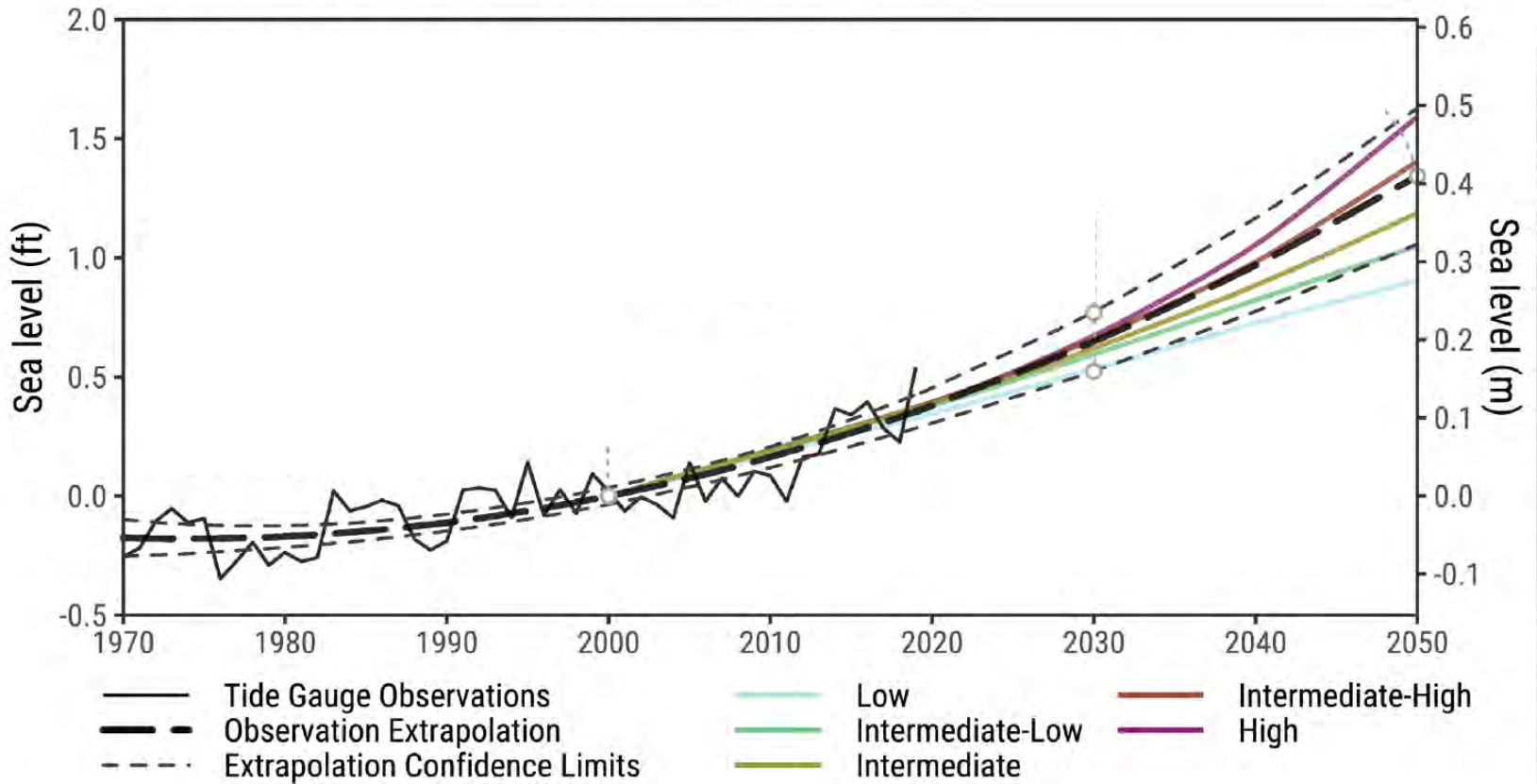


Sea Level Rise Trends



- Long-term rate of change = ~0.1 inch/yr
- ~5 inches of sea level rise since 1980
- Predictions are that sea level rise rates are increasing
- Drainage system performance degrades as sea levels rise and ground water table rises

Sea Level Rise Prediction



NOAA 2022 Southeast Region Sea Level Rise Predictions

FEMA 100-Year Flood Map

- Last major flooding event was Nov 2015 – 130 homes flooded
- The City has very few repetitive flood loss claims

100-Year Flood Map in 2044



Impervious Area History

1982 – Ord 90-82-74

Impervious Surface included in the definition for Lot Coverage. Lot Coverage included all areas of the lot covered by principal and accessory uses and structures as well as impervious surfaces such as drives, parking areas, walkways, swimming pools, patios, terraces, and the like.

- 35% maximum lot coverage for all residential districts
- 65% maximum lot coverage for Commercial Limited (CL)
- No maximum lot coverage for Commercial General (CG), Commercial Intensive (CI) and Light Industrial (LIW)

1985 – Ord 90-85-91

Driveways, parking areas, walkways, swimming pools, terraces and the like removed from lot coverage definition due to prohibition off-street parking in front setbacks which made it nearly impossible to meet the maximum 35% lot coverage requirement. Maximum lot coverage only accounted for areas of the lot covered by principal and accessory uses and structures.

- 35% maximum lot coverage for all residential districts
- 65% maximum lot coverage for CL
- No maximum lot coverage for CG, CI, and LIW

Impervious Area History

1986 – Ord 90-86-113

Eliminated maximum lot coverage requirements in all residential zoning districts. It was mentioned by the City Commission that the 35% maximum lot coverage requirement was unnecessary due to new setback requirements that allowed for over 35% lot coverage. The belief was that setback requirements would serve to control the amount of a lot covered by structures.

- No definition or restrictions on impervious surfaces existed in the City Code at this time.

1998 – Ord 90-98-167

Due to flooding and stormwater concerns, driveways, patios, decks and the like were added to the definition of lot coverage. Additionally, a 50% maximum lot coverage requirement was created for all residential zoning districts.

- 50% maximum lot coverage for all Residential districts
- No maximum lot coverage for CG, CI, and LIW

Impervious Area History

2001 – Ord 90-01-172

An independent definition of impervious surface was added to the Code. Definition included rooftops, sidewalks, patios, driveways, parking lots and similar surfaces. Swimming pools were not considered impervious. The definition of lot coverage was changed to “the area of the lot covered by all impervious surfaces.”

- 25% maximum Impervious Surface for Conservation zoning
- 50% maximum Impervious Surface for Residential districts
- 70% maximum Impervious Surface for commercial and industrial zoning districts

2003 – Ord 90-03-184

Added “surfaces using pervious concrete or other similar open grid paving systems shall be calculated as 50% impervious” to definition of impervious surface due to advancements in paver and pervious concrete technology. Lot coverage was still defined as the area covered by all impervious surfaces.

- 25% Maximum Impervious Surface for Conservation zoning
- 50% Maximum Impervious Surface for Residential districts
- 70% maximum Impervious Surface for commercial and industrial zoning districts, except that maximum Impervious Surface did not apply to infill development or redevelopment of previously developed sites. Stormwater management requirements were also required for infill development and for redevelopment projects involving exterior site changes.

Impervious Area History

2006 – Ord 90-06-188

Due to pavers often being installed in a way that prevented permeability, the following language was added to the definition of Impervious Surface:

- “Open grid pavers must be installed on a sand base, without liner, in order to be considered 50% impervious. Solid surface pavers do not qualify for any reduction in impervious area, regardless of type of base material used.”

To address infill and redevelopment of residential lots, the language below was also added to the definition of Impervious Surface:

- “In such cases where a previously and lawfully developed residential lot or development project exceeds the 50% limit, redevelopment or additions to existing residential development shall not exceed the pre-construction Impervious Surface limit...”

Impervious Area History

2019 – Ord 90-19-238

In 2018, Commission considered reducing Impervious Area in residential districts to 40% due to concerns from increased flooding potential. Final ordinance included:

- 45% maximum lot coverage for all residential districts
- Amended definition of Impervious Surface to include swimming pools at 50%
- No credit given for pervious pavers

Onsite Stormwater Storage History

2002 Stormwater Master Plan Update

- Topography of the City makes us sensitive to the volume of runoff discharged
- Concluded that new development and redevelopment could result in increases in the volume and rate of stormwater runoff
- Modeled Hopkins Creek area with all developable area at 50% Impervious – Result was flood stages in houses and buildings would be higher
- **Recommended that the City regulate the peak discharge of stormwater from individual lots for a 100-Year rainfall event**
- **Recommended onsite stormwater storage so that there is no increase in the rate or volume of stormwater runoff offsite**
- Alternatively, they suggested the City could require a fee-in-lieu of onsite storage. Fee would be based on fair share of capital and annual costs for construction and maintenance of piping & storage facilities. Fee would include cost of land acquisition
- Recommended the use of $V=CAR/12$ with runoff from IA = 100% and undeveloped = 20%

Onsite Stormwater Storage History

2003 – Ord 90-03-180

- Onsite storage implemented for a 25-Year rainfall event

2012 Stormwater Master Plan Update

- Concluded that by far, the most cost-effective means of controlling stormwater runoff is at its source - onsite storage

2018 Stormwater Master Plan Update

- Evaluated redevelopment resulting in partially reaching 50% total IA in residential areas of the city by 2030 and totally reaching 50% IA by 2045.
- Concluded that there would be a substantial increase in average and maximum peak stage flood conditions under these scenarios.

2019 – Ord 90-19-238

- All development and redevelopment which result in improvements that exceed 50% percent of the market value of all improvements, if any, on the subject development parcel before the new development or redevelopment project is started shall provide onsite storage of stormwater for all impervious surface on the development parcel.