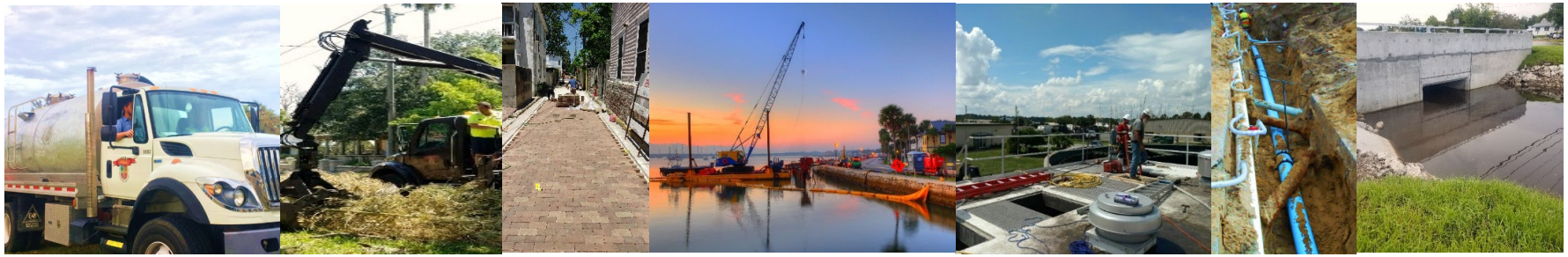
CITY OF ST AUGUSTINE EST. 1565

City Commission

Public Works Quarterly Update

August 14, 2023

Todd J. Grant, P.G. Director, Public Works



Public Works Quarterly Update Agenda

- Resilience Program Updates
- Capital Projects Overview and Status Summary
- Sustainability and Environmental Updates
- COSA/FPL Light Conversion Updates
- Mobility Program Update
- Questions and Discussion
- Appendix – CIP Project Information Sheets & Glossary of Terms
- Exhibit A – Resilience Program Information Packet

Resilience Program Updates

www.citystaug.com/resiliency

Resilience Program Updates

- **"One Stop Shop":**
  - ✓ Programs
  - ✓ Projects
  - ✓ Planning / Studies
  - ✓ Policy
  - ✓ Funding
  - ✓ Resources

www.CityStAug.com/Resiliency

- Flood Hazard Information
- Weather STEM
- Outreach / Education
- Report Flooding
- NOAA Daily Tide Chart
- 2022 King Tide Chart Prediction
- Jacksonville National Weather Ser
- Mitigation Strategies
- Arkly Flood Risk Search
- Flooding and Historic Properties

Home › Government › Resiliency › Resources

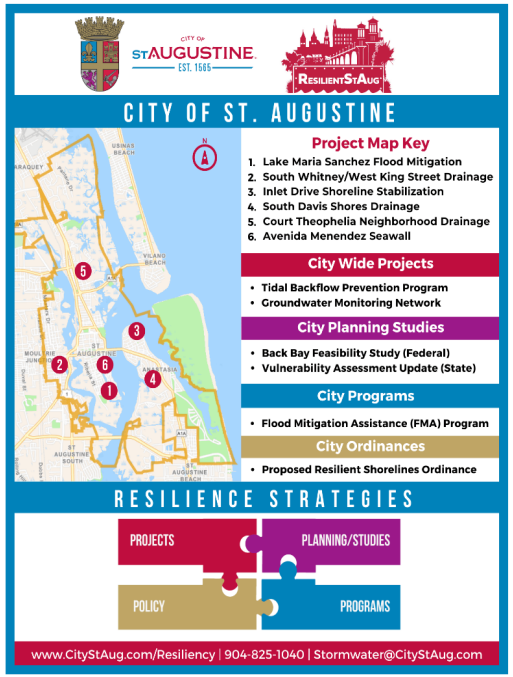
Resources

Helpful Links:

- Mitigation Strategies (PDF) for properties
- Arkly Flood Risk Search Tool allows homeowners to search for their properties and learn about their flood risk: https://www.arkly.com/
- Search for any property within the United States to look at potential flood risk indicators and ways to protect your property: www.floodfactor.com
- Provides outreach and education and a number of flood proofing type products for commercial and residential properties: www.floodproofing.com
- My Florida Safe Program helps homes become hurricane ready by providing free Wind Mitigation Inspections to homeowners that may lead to cost-share grant opportunities for door, window and roof upgrades: https://mysafeflhome.com/
- FEMA Technical Guidance on Dry Flood Proofing and FEMA Guidance to Floodproofing PDF's

❖ Recently added resources

Resiliency Updates Packet (PDF)



Resilience Program Updates

www.citystaug.com/FMA
for more info

❖ Flood Mitigation Assistance (FMA) Program

✓ Cost share program with FEMA to elevate and/or reconstruct flood prone, at-risk structures

✓ FY 22 – Application Cycle:

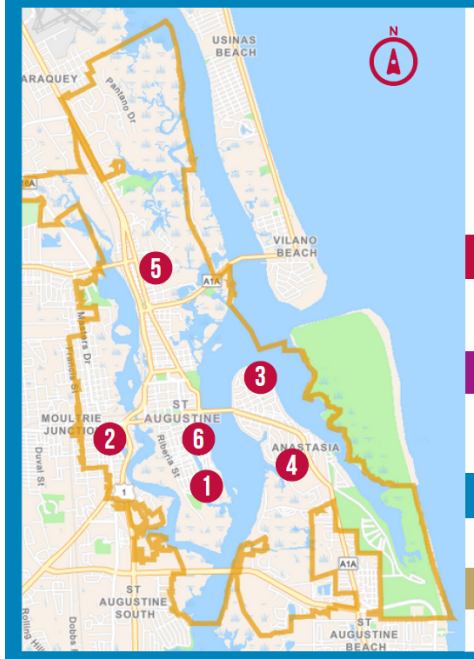
- Over 80 properties interested in the program, 62 properties had complete applications that met the program requirements
- City submitted its applications to the State November 14th , eligible applications have been submitted to FEMA
- Total funding request of $12,353,474 submitted that would be cost shared with FEMA if selected
- Late August – estimated timeframe to know if selected

✓ FY 23 – Application Cycle:

- Workshops held for Homeowners
- May 3rd @ 3 and 6 PM

Resilience Program Updates

CITY OF ST. AUGUSTINE



Project Map Key

1. Lake Maria Sanchez Flood Mitigation
2. South Whitney/West King Street Drainage
3. Inlet Drive Shoreline Stabilization
4. South Davis Shores Drainage
5. Court Theophelia Neighborhood Drainage
6. Avenida Menendez Seawall

City Wide Projects

- Tidal Backflow Prevention Program
- Groundwater Monitoring Network

City Planning Studies

- Back Bay Feasibility Study (Federal)
- Vulnerability Assessment Update (State)

City Programs

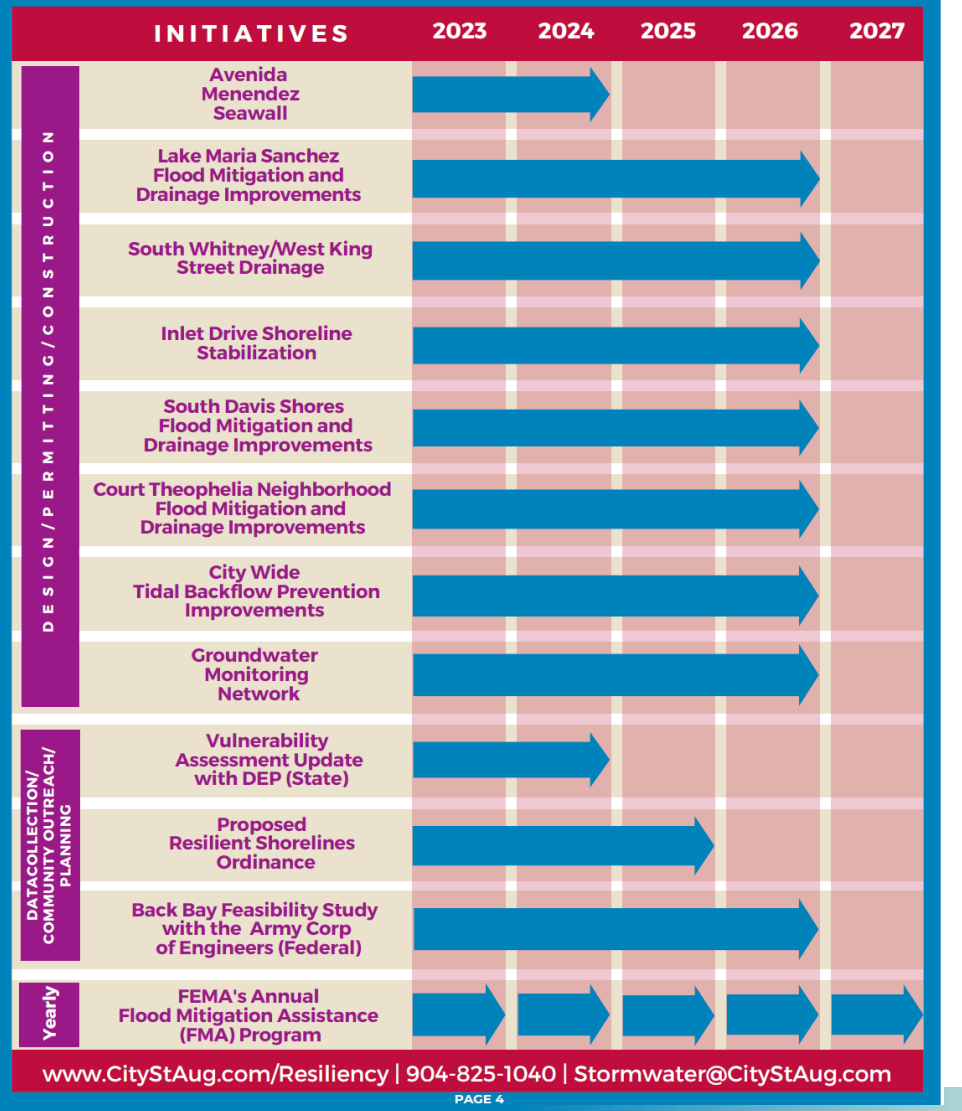
- Flood Mitigation Assistance (FMA) Program

City Ordinances

- Proposed Resilient Shorelines Ordinance

RESILIENCE STRATEGIES

RESILIENCE EFFORTS TIMELINE



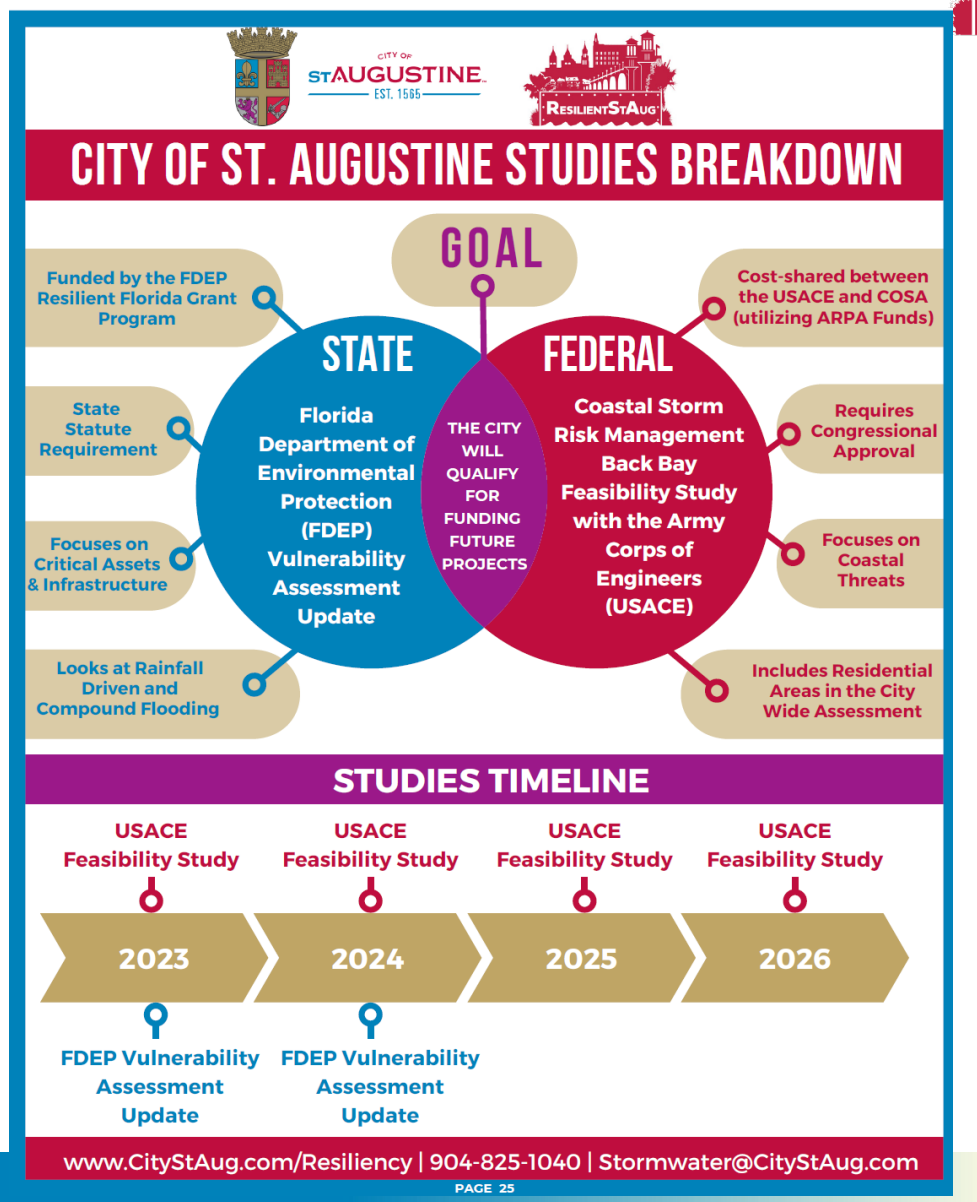
www.CityStAug.com/Resiliency | 904-825-1040 | Stormwater@CityStAug.com

PAGE 4

- Please refer to Exhibit A for the complete Resilience Program Information Packet

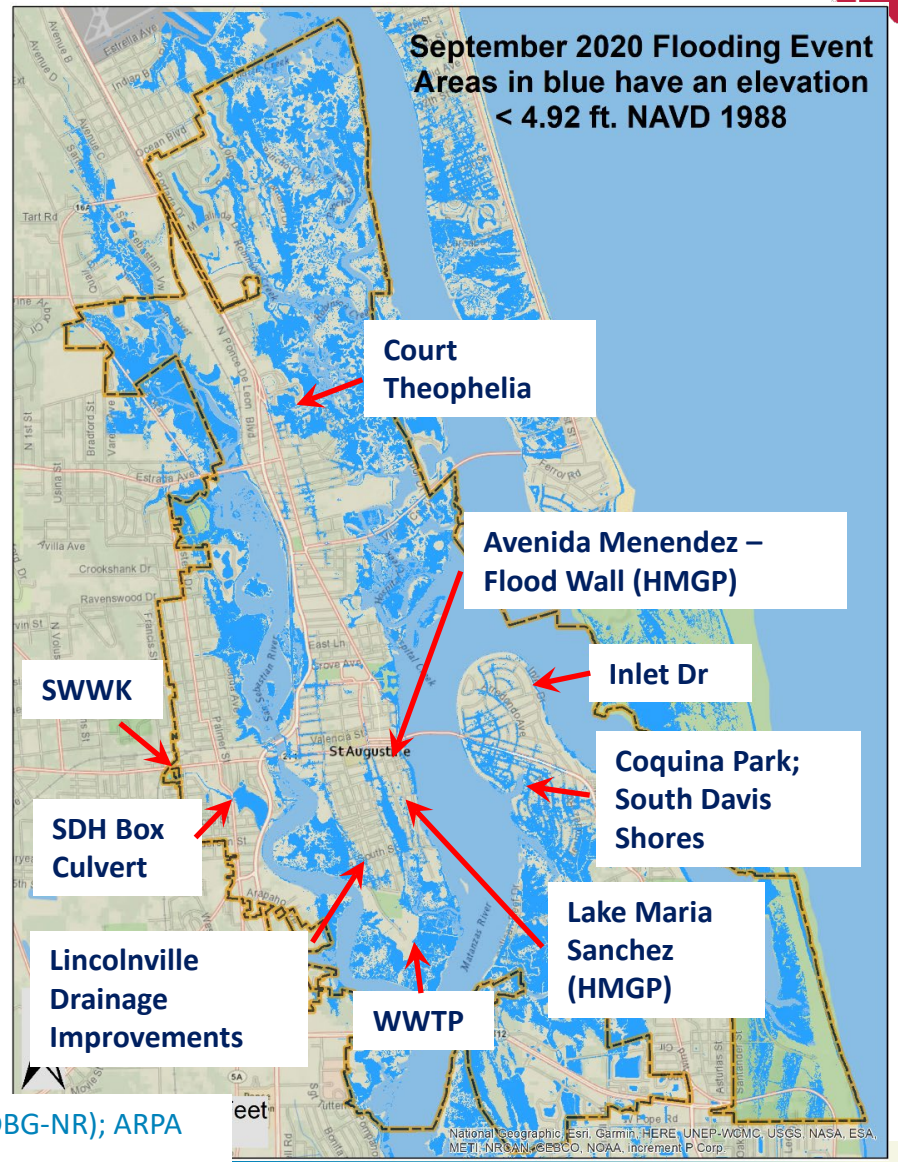
Resilience Program Updates

- Two (2) studies:
  - ✓ State funded updated Coastal Vulnerability Assessment (in coordination with St. Johns County and the City of St. Augustine Beach)
  - ✓ USACE-COSA Back Bay Feasibility Study
    - Charrette Planning 3-day event – February
    - Public meeting/input – February
    - Opening up monthly meetings to the public – April 20th
    - Alternative Milestones Meeting – May 1st



Resilience Program Updates

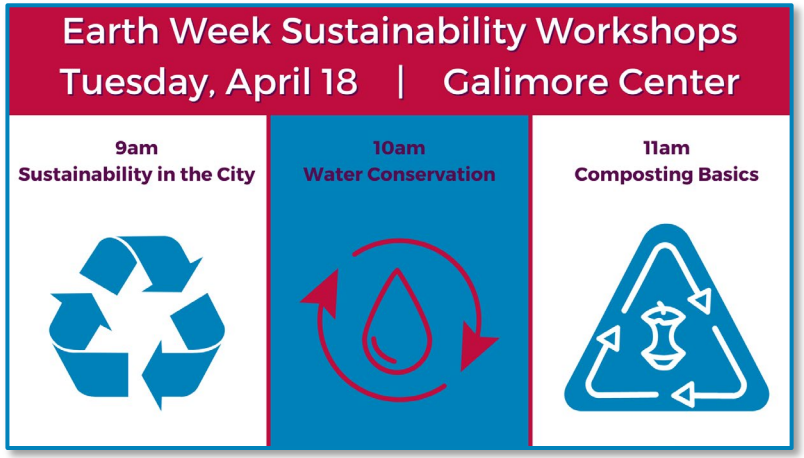
- **Current Flood Mitigation Investments ≈ $69,741,833 ($58,218,292, grant funded, 83%):**
  - ✓ **Lake Maria Sanchez*, ****
  - ✓ FEMA 13 Lift Station Hardening and Flood Proofing*
  - ✓ Wastewater Treatment Plant (WWTP) Flood Proofing
  - ✓ **South Whitney/West King (SWWK) Flood Mitigation***
  - ✓ **Avenida Menendez Flood Wall***
  - ✓ **City-wide tide check valves (43 installed, 20 future)*,****
  - ✓ Coquina Park
  - ✓ South Dixie Highway Culvert Replacement**
  - ✓ Lincolnville Utility and Drainage Improvements*, **
  - ✓ **South Davis Shores Flood Mitigation and Drainage Improvements *, ****
  - ✓ **Inlet Drive Shoreline Resiliency Improvements *, ****
  - ✓ **Flood Mitigation and Drainage Improvements for the Court Theophelia Neighborhood *, ****
  - ✓ **Updated Vulnerability Assessment (State)****
  - ✓ **USACE Back Bay Feasibility Study (Federal)***



*Denotes Federally Funded Project (FEMA –PA, HMGP; HUD/DEO-CDBG-NR); ARPA
**Denotes State Funded Project (SJRWMD, FDEP)

Sustainability Updates

- **Celebrating Earth Week 2023**
  - Workshops, Tuesday, April 18
    - Sustainability in the City
    - Water Conservation
    - Composting Basics
  - Annual Earth Day Recycling Event, Friday, April 21
    - Document Shredding
    - Outdated & Broken Electronics
    - Used Cooking Oil



www.CityStAug.com/Sustainability Events

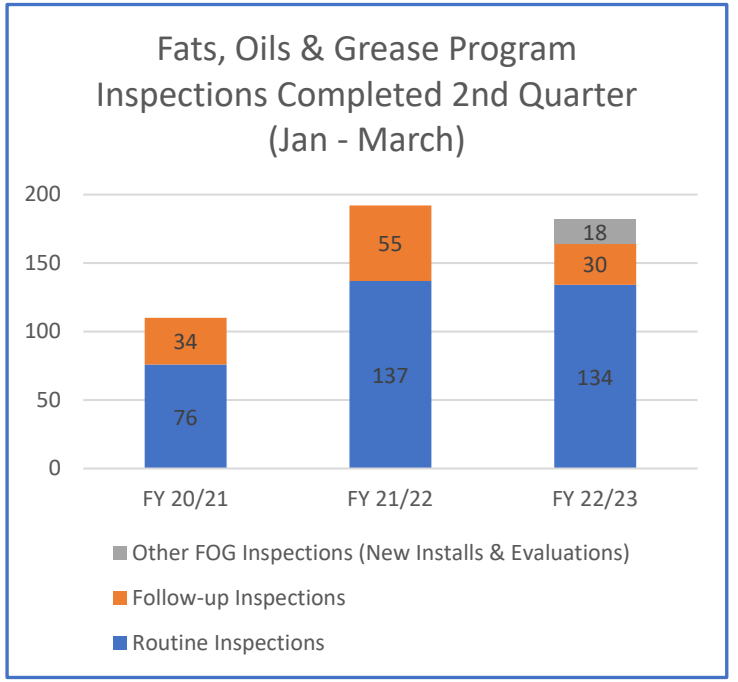
www.CityStAug.com/RecyclingEvents

Sustainability Updates

- **Wastewater Treatment Plant Tours**
  - 7 tours this quarter
  - More than 100 attendees
- **Oyster Creek Clean-Up, March 28**
  - Partnered with Matanzas Riverkeeper & Flagler College
  - Removed over 234 lbs of trash
- **Tree Canopy Enhancement Program**
  - 31 trees planted in February
  - 2-year total of 116 trees planted

Environmental Programs Updates

- **Fats, Oils & Grease Program**
  - 182 inspections completed this quarter
  - 30 facilities out of compliance & required follow-up inspections
  - 18 other inspections included new grease trap installations and facility evaluations



- **Industrial Pretreatment Program**
  - Annual inspections and samples completed at 2 permitted facilities for Department of Environmental Protection Audit

- **Illicit Discharge Detection & Elimination Program**
  - 135 proactive illicit discharge inspections
  - New internal employee refresher training established for illicit discharge; 3 divisions completed
  - Illicit discharge PSAs released for Earth Week

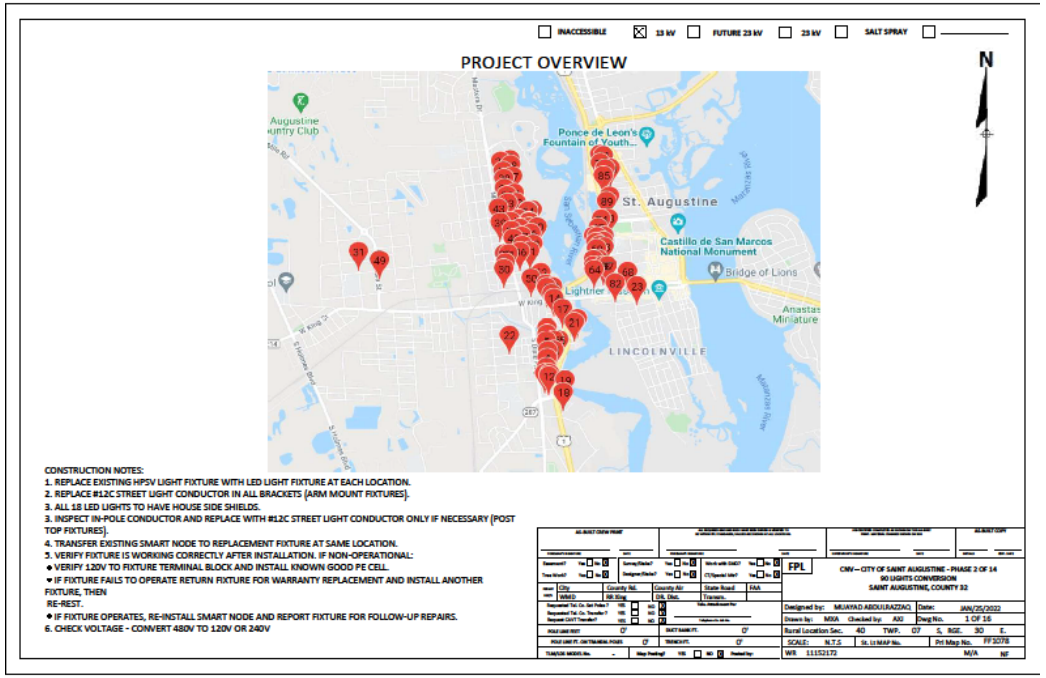
- **Cross-Connection Control Program**
  - Over 2,000 active accounts
  - Cityworks implementation for test report entry
  - Received/logged over 150 test reports
  - Completed annual report

CoSA/FPL LED Light Conversion Program

- **COSA / FPL LED Lighting Agreement**
  - Agreement signed on December 15, 2021
  - Total of 1,354 Fixtures to be changed from HPS to LED
  - Project was divided into 14 phases
  - 100% Complete

	NAME	KELVIN	LUMEN
PRE (HPS)	70 HPS	2200	9000
POST (LED)	CREE RSW	3000	5000

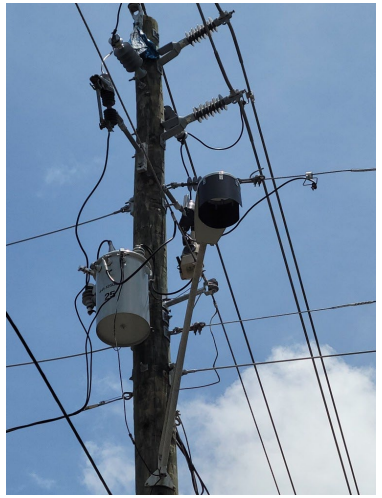
	NAME	KELVIN	LUMEN
PRE (HPS)	150 HPS	2200	15,000
POST (LED)	AEL ATBS	3000	8,212



CoSA/FPL LED Light Conversion Program

MITIGATING COMPLAINTS

- Complaints and requests are logged and recorded with the City then submitted to FPL through a work order system
- Total of 72 documented complaints
- Redirection Shrouds and tinting are being used to soften peripheral illumination
- The City continues to work with FPL and individual residents to resolve complaints.



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2022 Nights of Lights Shuttle Update

Lot Location	Saturday 19-Nov	Friday 25-Nov	Saturday 26-Nov	Saturday 3-Dec	Saturday 10-Dec	Saturday 17-Dec	Monday 26-Dec	Tuesday 27-Dec	Wednesday 28-Dec	Thursday 29-Dec	Friday 30-Dec	Totals
301 San Marco	415	712	561	380	442	444	n/a	n/a	n/a	n/a	n/a	2,954
County Health Dept.	541	282	389	645	510	497	n/a	n/a	n/a	n/a	n/a	2,864
Broudy's	577	486	496	556	618	547	289	299	466	541	461	5,336
Anastasia Baptist Church	610	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	610
Amphitheatre	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0
R. B. Hunt School	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0
2022 Totals	2,143	1,480	1,446	1,581	1,570	1,488	289	299	466	541	461	11,764
2021 Totals	1,929	1,463	1,410	1,784	2,290	1,958	868	793	736	625	768	14,624
2020 Totals (Covid)	0	0	0	0	0	0	0	0	0	0	0	0
2019 Totals	3,637	2,299	2,152	1,701	1,931	1,471	1,205	1,522	2,298	903	n/a	19,119
2018 Totals	2,895	1,006	1,769	1,640	1,436	1,862	n/a	n/a	1,125	n/a	n/a	11,733
2017 Totals	2,566	1,442	1,804	1,613	1,628	1,485	n/a	n/a	1,126	n/a	n/a	11,664
2016 Totals	1,190	784	873	1,184	1,159	588	441	454	530	260	456	7,919

Approximately 3,921 vehicles parked on the periphery for 2022 NoL

Circulator Update

Anticipated Launch Date is February 16, 2023

10am-10pm Daily

STAR
ST. AUGUSTINE RIDER

Passenger Loading Only

HUB at Visitor Information Center and Parking Garage

Stop #1 at Cuna Street and Avenida Menendez

Stop #2 at Cathedral Place and Cordova Street

***Hours of Operation:**
10am - 10pm Daily

Complimentary bus service operates in 15 minutes intervals.

**Hours of Operation may vary during Nights of Lights and other special holidays. Visit www.CityStAug.com/rider for schedule changes.*

CITYSTAUG.COM/STAR

Paving Management Program

CITY OF ST AUGUSTINE EST. 1565

Completed city-wide pavement condition assessment using Roadbotics

St Augustine, FL 2022

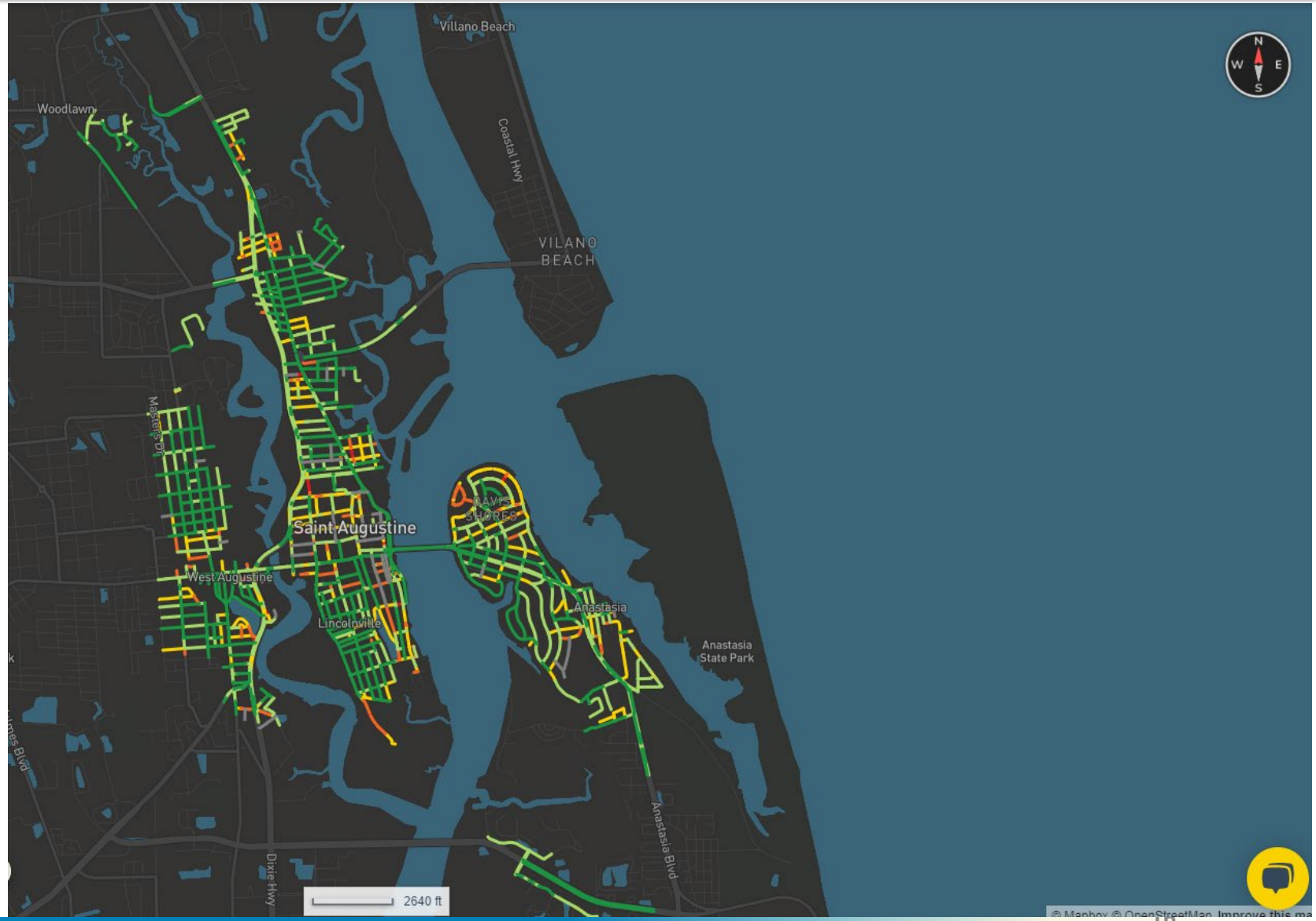
1.86	89
Network RB Score	Centerline Miles

VIEW ROAD REPORT ANALYSIS

Enter Address

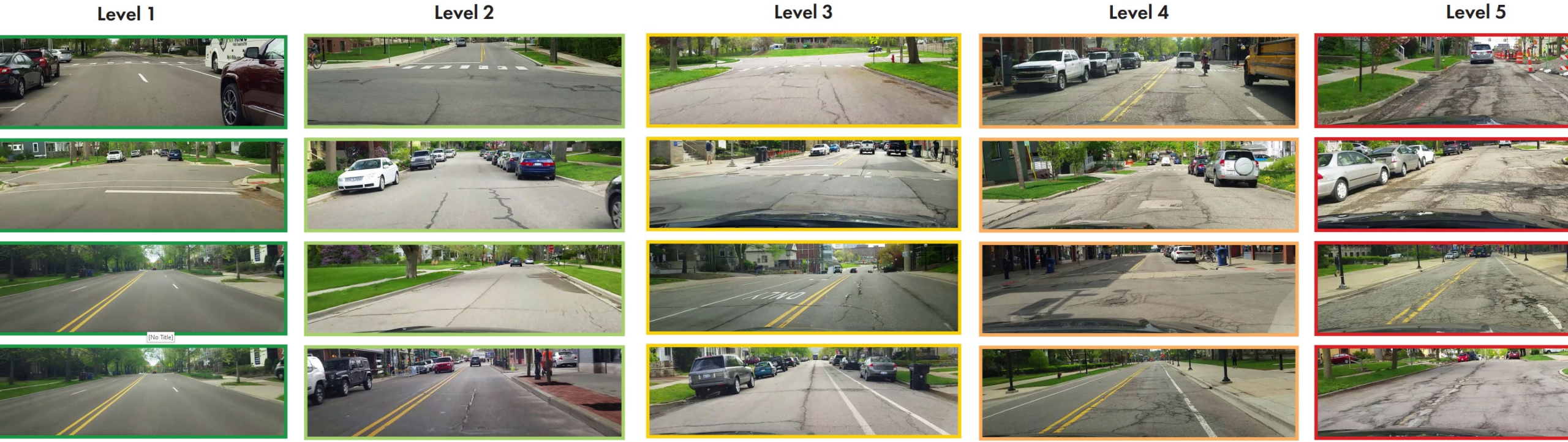
Segments

1 2 3 4 5 All



Paving Management Program

Roadbotics Classification System



High Quality

Very Poor Quality

City Street Network Rating is 1.87

Pavement Management Program

Proposed FY 2023 Mill and Resurface Paving Projects

- N. Whitney St. from Chapin St. to Ravenswood Dr.
- Florida Ave. from Evergreen Ave. to Helen St.
- Carrera St.- from US1 to Cordova St.
- Riberia St.- from Orange St. to Grove Ave.
- Cordova St.- from King St. to Orange St.
- Fancher Ct. – from Casanova to Casanova
- Eugene Pl. – from Fancher Ct to dead end
- Ocean Vista Ave/Lighthouse Boat Ramp
- Abbott St. – from Joiner to Pine
- Garnett Ave. – from US 1 to San Marco
- Matanzas Ave. – from US 1 to San Marco
- Cunningham Ave. – from Matanzas to Sanchez

Construction Cost: $ 800,000
Project Status: Solicitation - Construction
Construction Duration: Spring 2023

Additional Questions
and
Commission Discussion

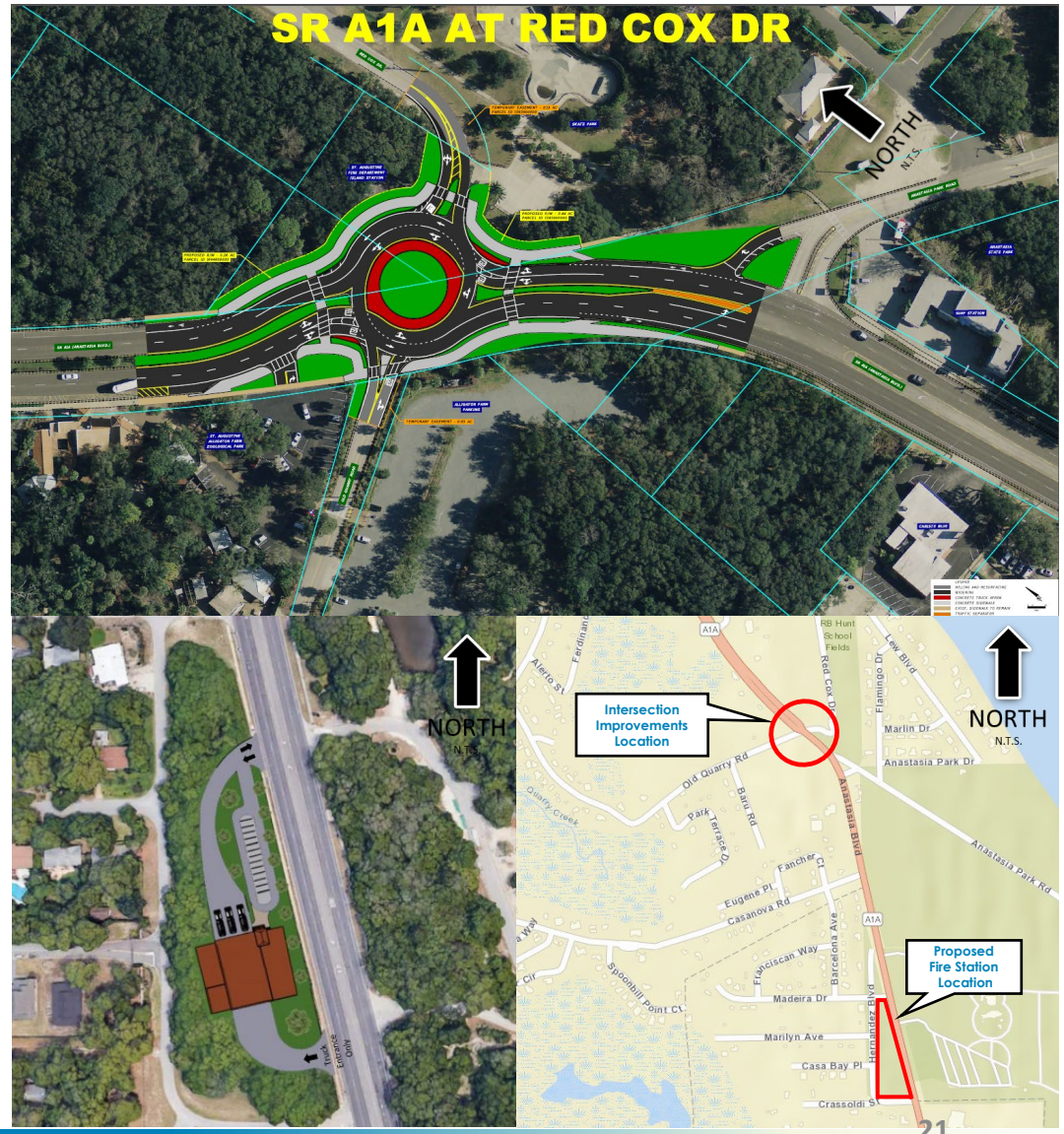
Appendix

CIP Project Information Sheets
and
Glossary of Terms

CIP Project Information Sheet

Anastasia Boulevard Fire Station and Traffic Improvements

The City intends to acquire 5-acres of vacant state land located at Anastasia Park. This land acquisition allows the City to construct a modern fire station in a new location to serve the surrounding area. It will also allow the existing fire station located near the state park entrance to be decommissioned. The City will then work with the FDOT to make intersection improvements at Anastasia Boulevard, Red Cox Road, and Old Quarry Road for safety improvements.

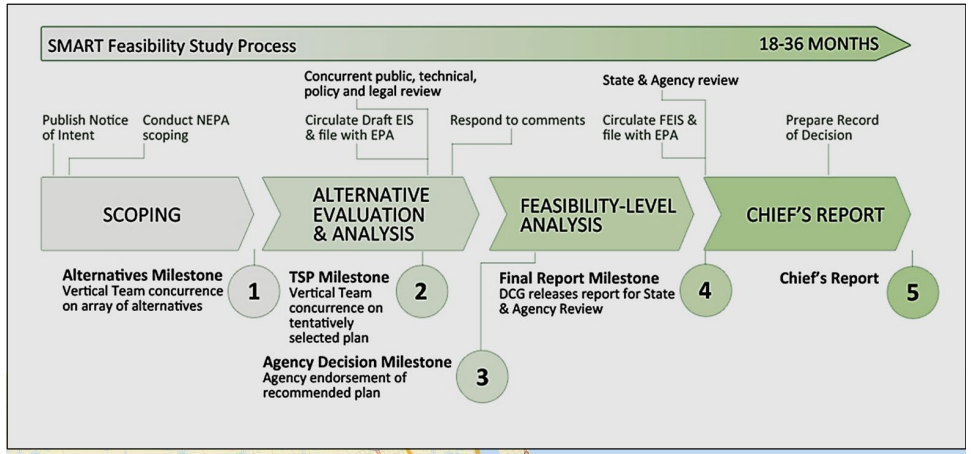


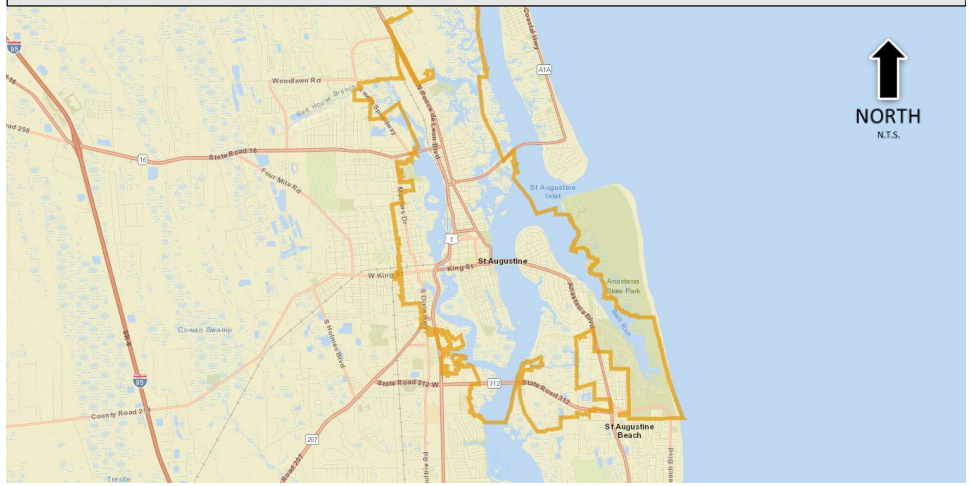
Design Cost:	$ TBD
Construction Cost:	$ TBD
Project Status:	Scope
Construction Duration:	TBD

CIP Project Information Sheet

Army Corps of Engineers Back Bay Feasibility Study

The City of St. Augustine Coastal Storm Risk Management (CSRM) Study is a three-year federal feasibility study that investigates coastal storm impacts on the City of St. Augustine. In partnership with the Army Corps of Engineers, City of St. Augustine and its stakeholders, the study will also explore economically-viable and environmentally-sound solutions to mitigate coastal storm risks. The objective of the Study is to investigate Coastal Storm Risk Management problems and identify solutions to reduce damages from coastal flooding that affects population, critical infrastructure, historic and culturally significant resources, and ecosystems, which will benefit the community as future projects are designed to mitigate flooding. Resilient Florida program is granting $500,000 to this study. US Army Corp will cover 50% of the $3 million.





Study Cost:	$ 3.0 M
Construction Cost:	$ TBD
Project Status:	Solicitation – Study
Study Duration:	2022 – 2025

CIP Project Information Sheet

Avenida Menendez Seawall

The City of St. Augustine has received federal funding through FEMA's Hazard Mitigation Grant Program to design and construct the final segment of seawall near the Marina. This project will essentially close the "elevation" gap between the existing north (Bayfront Park) and south (2013 Avenida Menendez Seawall) segments. The project entails raising the final segment of seawall to match the north and south elevations, installation of two (2) tide check valves, and rehabilitation of the existing seawall to harden it. The combination of this work will provide for a higher level of flood protection up to the 100-year storm event (also referred to as the 1% annual chance event). The City has also recently applied to the Florida Inland Navigation District (FIND) to help with the construction costs that that the City will be responsible for. Decisions on the pending grant application with FIND will be made later this summer or early fall.

Design Cost:	$ 150,000
Construction Cost:	$ 1.5 M estimate
Project Status:	Design
Construction Duration:	2023 – 2024

CIP Project Information Sheet

Court Theophelia Neighborhood
Stormwater and Utility Improvements

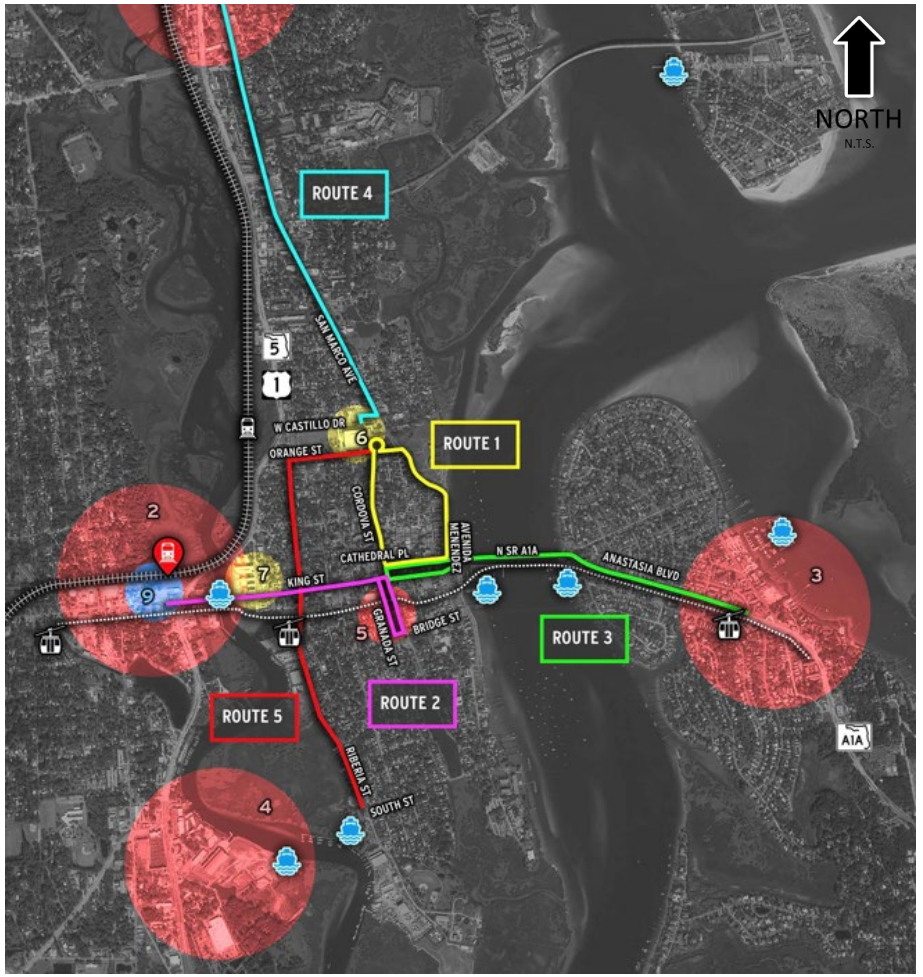
The project includes design, permitting, and construction to replace aged utilities, upgrade existing storm water infrastructure and evaluate structural and non-structural based resiliency options for the neighborhood. A mobility component will also be included. The project outcomes include reconstruction of flood prone and damaged roads due to high tide flooding, improved drainage to provide a higher level of service during rainfall events, replacement of aged utilities, implementation of green infrastructure and/or low impact development to provide water quality benefit with storm water management, potential incorporation of greenspace for multi-project benefits to serve as recreational, storm water mobility and resiliency uses. Resilient Florida program is granting $ 2,581,600 to this project.

Design Cost:	$ 200,000 estimate
Construction Cost:	$ 2,581,600
Project Status:	Solicitation – Design
Construction Duration:	TBD

CIP Project Information Sheet

Downtown Circulator – Route 1

This project will operate a bus circulator throughout the city. Beginning in the red brick cul-de-sac at the City of St. Augustine (CoSA) Visitor Information Center (VIC) located at 10 South Castillo Drive, the Circulator will travel south to the intersection of Cordova Street at Orange Street. Then turn left and travel east along Orange Street to South Castillo Drive. Then turn right onto South Castillo Drive and travel in a southeasterly direction to Avenida Menendez and turn right onto Avenida Menendez. Then right on Cathedral Place and right onto Cordova Street heading north back to the VIC. The total travel distance is 1.12 miles, and travel time is estimated to be 15 minutes during normal traffic conditions and should include normal required time for passengers unloading/loading at the 3 Stops. Frequency of Stops are desired to be in 15-minute intervals. FDOT is providing $1.0 million operational funding for five years.



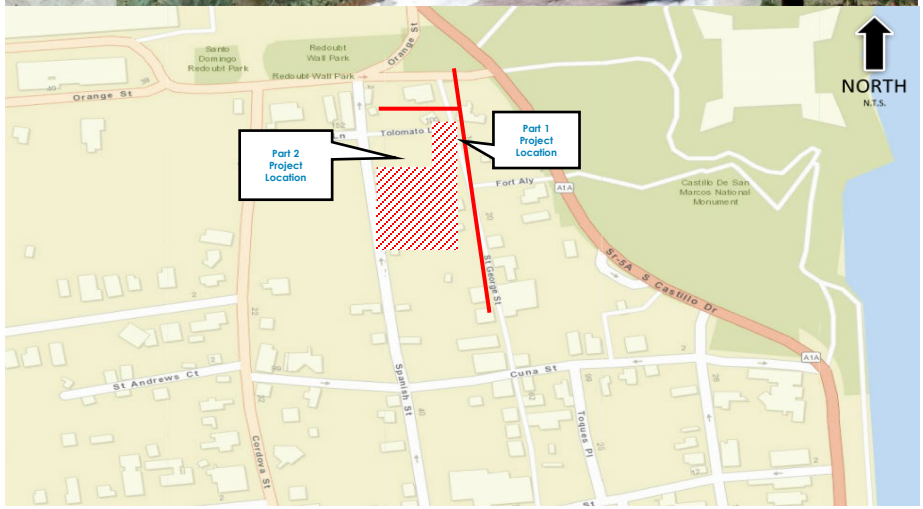
Operation Cost:	$ 1.0 M annually
Construction Cost:	$ NA
Project Status:	Solicitation
Operation Duration:	5 years

CIP Project Information Sheet

Downtown Improvement District Phase 2A

Part 1: Reconstruct Spanish St. (from Cuna St. to Orange St.) and Tolomato Ln (from Spanish St. to Cordova St.) as curb-less streets with coquina sidewalks and brick cart path. Improvements include underground water and sewer upgrades, stormwater pipes, and inlets, road regrading, concrete work, street lighting and landscaping.

Part 2: Reconfigure and reconstruct Tolomato Lot to include parking, commercial loading zones, a trash compactor enclosure and a recycling enclosure. The improvements include concrete pavement, pervious pavers, and loose coquina shell parking surface. Additionally, there is improved lighting, landscaping, bike racks, a perimeter masonry wall and pedestrian connections to Spanish St. Special care is to be taken to protect existing trees that are to remain.



Design Cost:	$ 200,000
Construction Cost:	$ 2.0 M estimate
Project Status:	Solicitation - Construction
Construction Duration:	2022 – 2023

CIP Project Information Sheet

Groundwater Monitoring

This project will focus on predicting impacts, specifically to critical infrastructure, of sea level rise by installing a monitoring network to accurately measure rates of change in current shallow groundwater elevation and water quality. The monitoring network proposed will contain up to 60 monitoring points. A professional licensed surveyor will survey each point. Monitoring will be scheduled/sequenced to represent the same atmospheric / geologic conditions each monitoring period to attempt to replicate these variables. All data (sea level, groundwater, water quality & creek level) will be compiled and summarized quarterly, building the data set. Daily rainfall along with any severe storm activity will also be summarized. Resilient Florida program is granting $ 217,100 for this project.

Design Cost:	$ 7,000 estimate
Construction Cost:	$ 210,100 estimate
Project Status:	Solicitation – Design
Construction Duration:	TBD

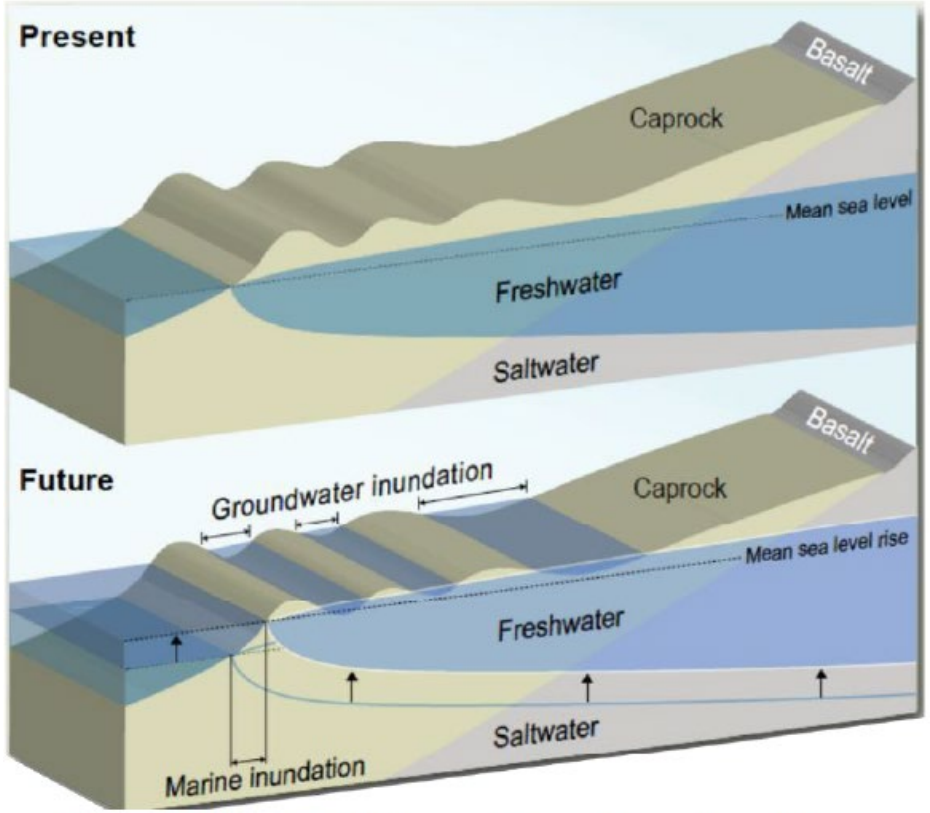
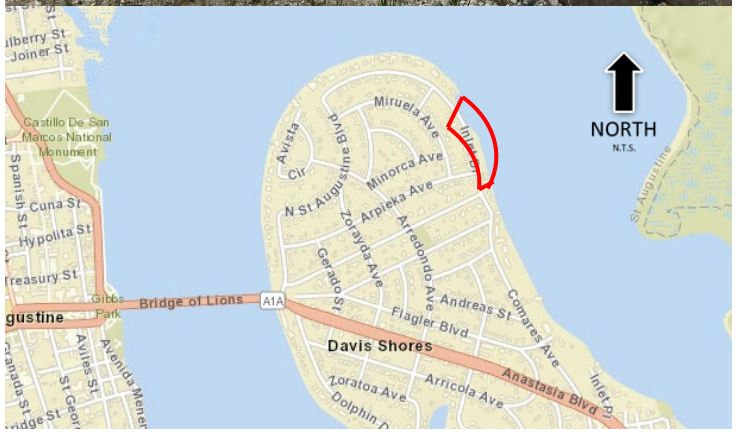


Figure 19. Conceptual diagram of groundwater inundation, obtained from Rotzoll and Fletcher (2012).

CIP Project Information Sheet

Inlet Drive Shoreline Stabilization

This project would look to include a combination of structural and non-structural based solutions (living shoreline enhancement, thin layer placement of dredged material etc.) to elevate and protect a section of shoreline that is subject to coastal erosion that would provide a higher level of flood protection for a critical residential road in the North Davis Shores neighborhood. This would also include upgrading the existing storm infrastructure and installation of a tide check valve. Resilient Florida program is granting $711,090 to this project.



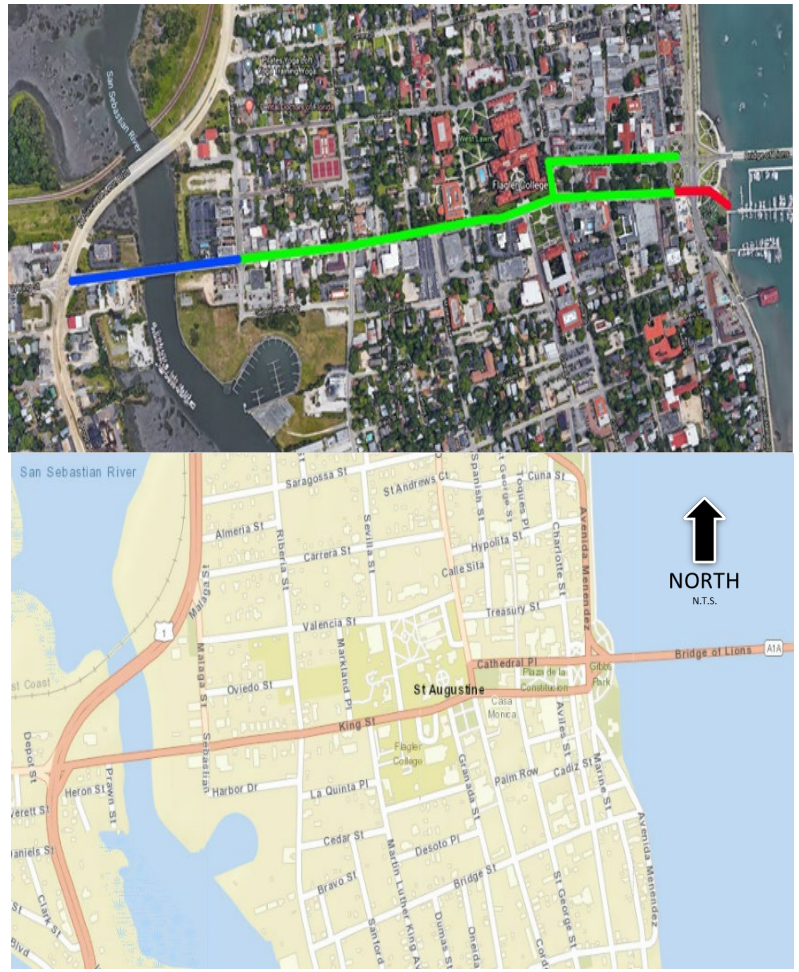
Design Cost:	$ 36,000 estimate
Construction Cost:	$ 620,000 estimate
Project Status:	Solicitation – Design
Construction Duration:	TBD

CIP Project Information Sheet

King Street Ownership Transfer

The Florida Department of Transportation (FDOT) transfers the ownership of right-of-way for King Street, Cathedral Place, Cordova Street and the San Sebastian Bridge located between US 1 and Avenida Menendez to the City of St. Augustine (CoSA). It is in the best interest of the CoSA to control this entry corridor bisecting the City to enact mobility improvements consistent with the CoSA's Mobility Plan. Ownership of the bridge will be transferred to CoSA once the reconstruction is complete. The FDOT commits to a redesign of the intersections located at the western base of the Bridge of Lions including Cathedral Place/Avenida Menendez and King Street/Avenida Menendez. The FDOT also commits to evaluating and if feasible work with the City to design, permit and construct a pedestrian/bicycle bridge crossing US 1 connecting east King Street to west King Street. FDOT is providing up to $18.0 million in reimbursement for this project.

Design Cost:	$ 1.0 M estimate
Construction Cost:	$ 17.0 M estimate
Project Status:	Design
Construction Duration:	TBD



CIP Project Information Sheet

Lake Maria Sanchez Flood Mitigation & Drainage Improvements

This project will benefit approximately 200 acres of the historic district of the Nation's Oldest City. It will provide an increased level of flood protection from increasing high tide events, storm surge and future sea level rise by incorporating a combination of resilience strategies which include upgrades to the existing stormwater infrastructure, installation of a stormwater pump station, construction of a flood wall, and installation of tide check valves. The project area includes several historic buildings and structures listed on the National Register of Historical Places. By maintaining the integrity of the Nations Oldest City through implementation of this project, it will help our regionally significant historical and cultural assets benefiting the County and arguably the Northeast Florida region. FEMA Hazard Mitigation program is granting $ 8.6 million and Resilient Florida program is granting $18.8 million for this project.

Design Cost:	$ 1.8 M
Construction Cost:	$ 27.0 M estimate
Project Status:	Design
Construction Duration:	2023 – 2026

CIP Project Information Sheet

Parking Pay Station Flood Proofing

The project will provide flood proofing to the parking pay stations along the bayfront and throughout downtown. The project entails building flood proof cases for the parking pay stations that will be deployed prior to flood events.

Design Cost:	$ NA
Construction Cost:	$ 70,000 estimate
Project Status:	Construction
Construction Duration:	2022 – 2023

CIP Project Information Sheet

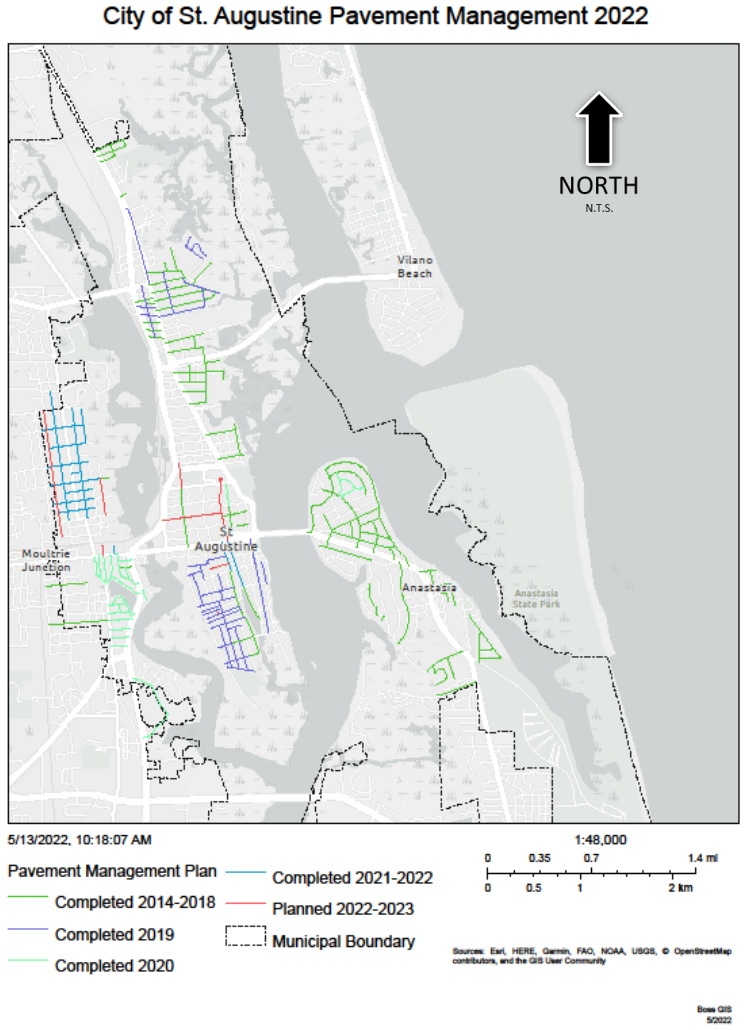
Paving Management Program

To repair damage caused to roadways over time and numerous utility cuts due to repairs, it is necessary to fund a paving management program. These paving projects are funded annually by the City.

The objective of this program is to provide pavement treatments (i.e., mill and resurface) to streets that have been affected by utilities repairs, flooding and/or suffered frequent pothole asphalt repairs due to age.

The City is currently performing a pavement condition assessment by RoadBotics.

Proposed FY 2023 Mill and Resurface Paving on the next page.



Design Cost:	$ NA
Construction Cost:	$ 600,000
Project Status:	Solicitation - Construction
Construction Duration:	2022 – 2023

CIP Project Information Sheet

Proposed FY 2023 Mill and Resurface Paving Projects

- N. Whitney St. from Chapin St. to Ravenswood Dr. - $103,312
- Florida Ave. from Evergreen Ave. to Helen St. - $86,951
- Carrera St.- from US1 to Cordova St. - $70,659
- Riberia St.- from Orange St. to Grove Ave. - $20,001
- Cordova St.- from King St. to Orange St. - $61,212
- South Dixie Hwy. – from Pellicer to SR207
- Fancher Ct. – from Casanova to Casanova
- Eugene Pl. – from Fancher Ct to dead end
- St. George St. – from Bridge to South St
- Abbott St. – from Joiner to Pine
- Osceola St. – from Joiner to Pine
- Water St. – from dead end to dead end
- Sanchezz Ave. – from US 1 to San Marco
- Garnett Ave. – from US 1 to San Marco
- Matanzas Ave. – from US 1 to San Marco
- Cunningham Ave. – from Matanzas to Sanchez

Design Cost:	$ NA
Construction Cost:	$ 600,000
Project Status:	Solicitation - Construction
Construction Duration:	2022 – 2023

CIP Project Information Sheet

South Davis Shores Flood Mitigation & Drainage Improvements

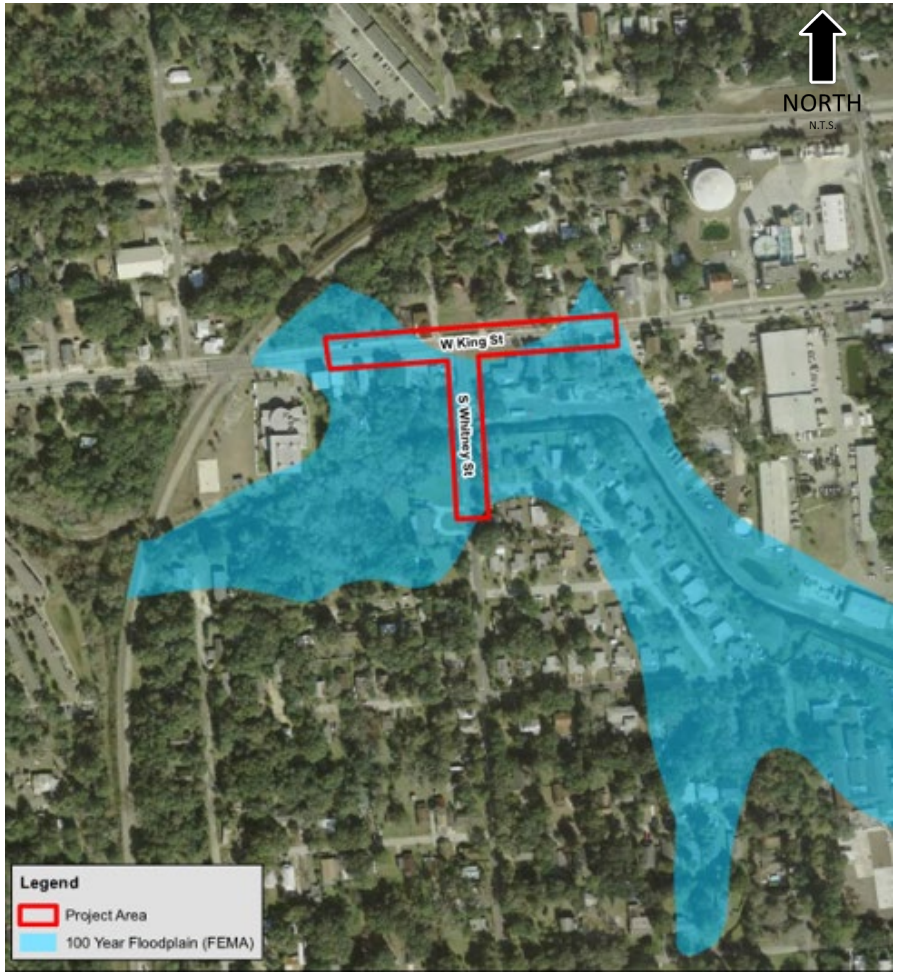
This project will be broken into two phases to include the design, permitting and construction to address the rainfall driven flooding events, with some consideration for tidal surge. This will primarily include major upgrades to the existing undersized and aged drainage infrastructure, reconfiguring a drainage ditch and upsizing an existing culvert. This project would seek to address the rainfall driven flooding through upgrades to existing stormwater infrastructure and installation of smart tide check valves. For the tidal surge, in lieu of the one-way in line tide check valves, a "smart" tide check valve system will be installed into 3 culverts that are tidally influenced. The smart valves will stay in the open configuration to maintain wetland hydrology of upstream wetland systems, but close temporarily in advance of flooding conditions. Florida Resilient program is granting $ 2.8 M to this project.

Design Cost:	$ 388,000 estimate
Construction Cost:	$ 2.4M estimate
Project Status:	Solicitation – Design
Construction Duration:	TBD

CIP Project Information Sheet

South Whitney & West King Street Stormwater Improvements

The proposed improvements consist of raising South Whitney St. and West King St. above the FEMA flood elevation of 7.0' NAVD88, replacing the existing box culvert (40-inch by 56 inch) at South Whitney with a single box culvert (48-inch by 96-inch) that doubles the hydraulic capacity. The project also includes reconstruction of the existing storm sewer system and its outfall at the box culvert on South Whitney St., but close temporarily in advance of flooding conditions. FEMA Hazard Mitigation program is granting $1,310,925 to this project.



Design Cost:	$ 183,091
Construction Cost:	$ 1.8M estimate
Project Status:	Design
Construction Duration:	2023 – 2024

CIP Project Information Sheet

Stormwater Master Plan – Phase 2

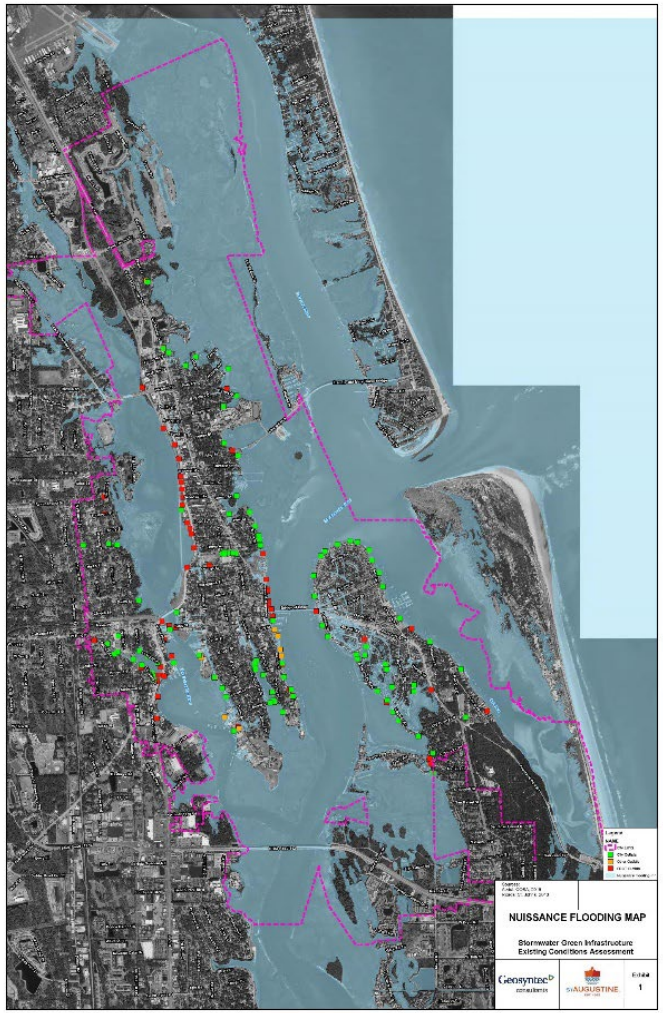
With the last stormwater master plan's data being from 2013, several flood events have taken place due to hurricanes, king tides and heavy rainfall. This proposed City-wide study will update the master plan to incorporate recent vulnerability assessments, resilience studies and a comprehensive plan update to better assess the increase in risk from coastal and rainfall driven flooding. This update will fill in data gaps from the previous coastal vulnerability assessment. The master plan will include an updated comprehensive analysis and risk assessment of critical infrastructure for coastal rainfall and compound flooding; needed stormwater ordinance and development code modifications; prioritization of areas needing stormwater improvements for flooding/water quality; benefit and cost analysis for flooding/water quality improvement projects; a public outreach and education; evaluation of funding options; and development of capital improvement projects to vulnerable areas. American Rescue and Recover Act is providing S2.0 million funding to this project.

Design Cost:	$ 2.0 M estimate
Construction Cost:	$ TBD
Project Status:	Solicitation – Design
Construction Duration:	TBD

CIP Project Information Sheet

City-Wide Tide Check Valve Installation

The City has approximately 103 stormwater outfalls that are tidally influenced, resulting in nuisance flooding of the road infrastructure. To date, the City has retrofitted 43 outfalls with tide check valves to eliminate nuisance tidal flooding. The City proposes to retrofit an additional 20 outfalls. Once the locations are identified, the City will contract out (using an existing competitively procured contract) for the evaluation of each storm outfall that includes cleaning and closed-circuit television (CCTV). The City will review that evaluation data and determine if any storm pipe repairs or lining needs to occur in preparation for the tide check valve installation. Resilient Florida program is granting $230,641 for this project.



Design Cost:	$ TBD
Construction Cost:	$ 461,282 estimate
Project Status:	Solicitation – Design
Construction Duration:	2023 – 2026

Glossary of Terms

ARPA – American Rescue Plan Act

CCTV – Closed Circuit Television

CI – Cast Iron

CIP – Capital Improvement Plan

CoSA – City of St. Augustine

CSRM – Coastal Storm Risk Management

FDOT – Florida Department of Transportation

FEMA – Federal Emergency Management Agency

FIND – Florida Inland Navigation District

HMGP – Hazard Mitigation Grant Program

HSP – High Service Pump

I & I – Infiltration and Inflow

LPRO – Low-pressure Reverse Osmosis

MCC – Motor Control Center

PVC – Polyvinyl Chloride

SCADA – Supervisory Control and Data Acquisition

USACOE – United States Army Corps of Engineers

VCP –Vitrified Clay Pipe

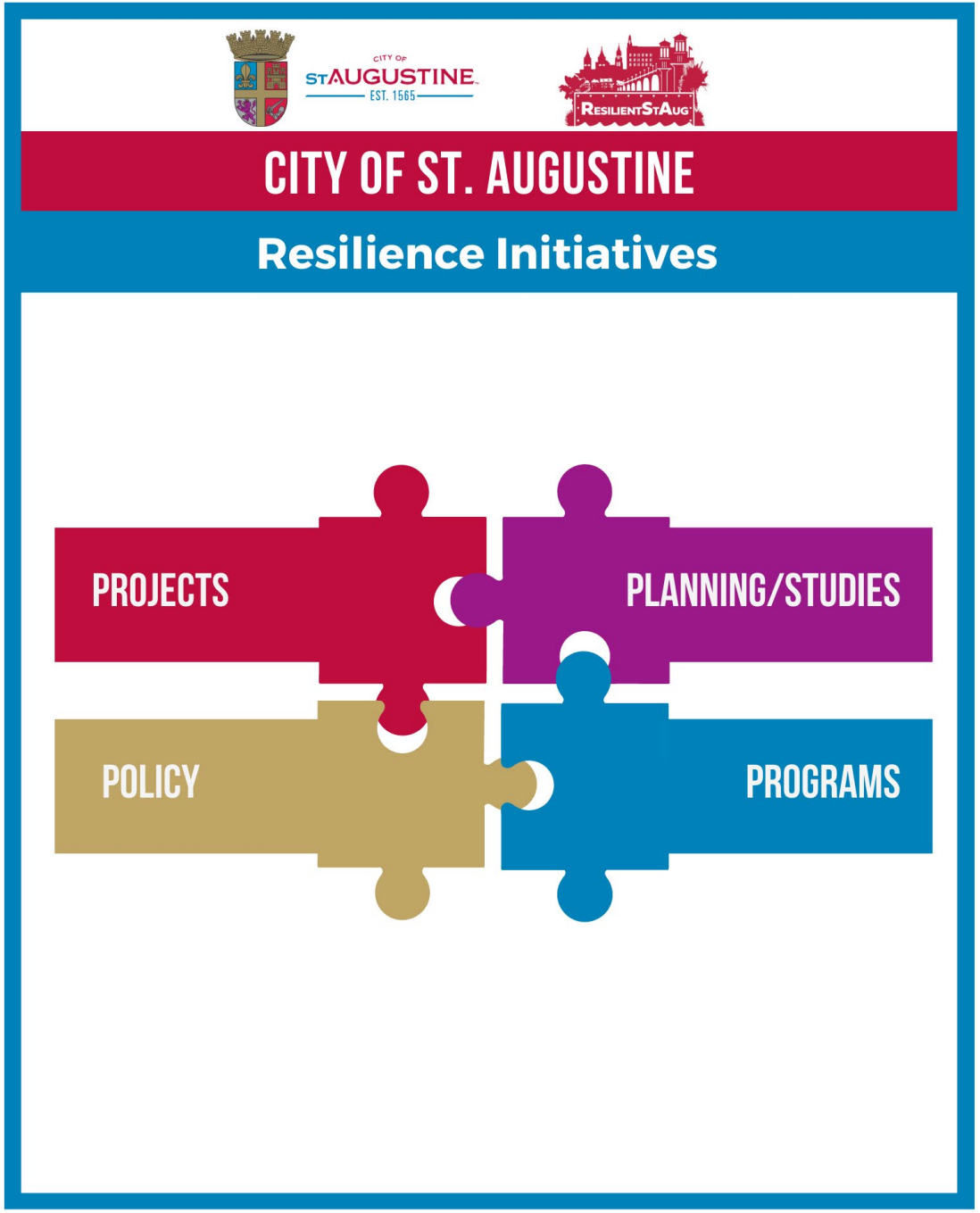
VIC –Visitor's Information Center

WTP – Water Treatment Plant

WWTP –Wastewater Treatment Plant

Exhibit A

Resilience Efforts Packet



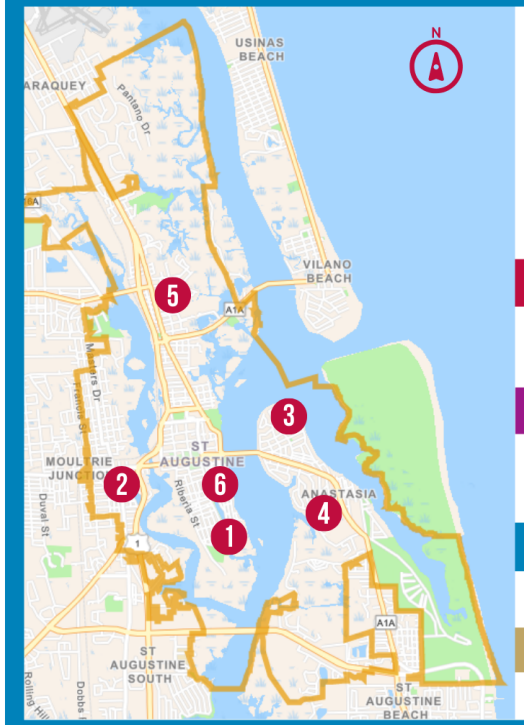
APPENDIX

CITY OF ST AUGUSTINE EST. 1565

CITY OF ST AUGUSTINE EST. 1565

RESILIENT ST AUG

CITY OF ST. AUGUSTINE



Project Map Key

1. Lake Maria Sanchez Flood Mitigation
2. South Whitney/West King Street Drainage
3. Inlet Drive Shoreline Stabilization
4. South Davis Shores Drainage
5. Court Theophelia Neighborhood Drainage
6. Avenida Menendez Seawall

City Wide Projects

- Tidal Backflow Prevention Program
- Groundwater Monitoring Network

City Planning Studies

- Back Bay Feasibility Study (Federal)
- Vulnerability Assessment Update (State)

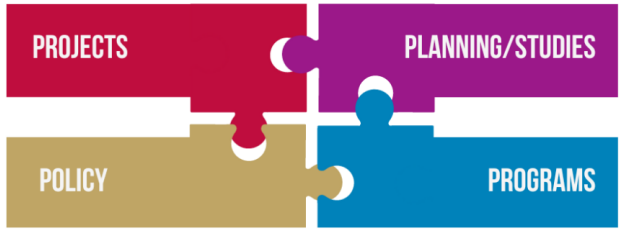
City Programs

- Flood Mitigation Assistance (FMA) Program

City Ordinances

- Proposed Resilient Shorelines Ordinance

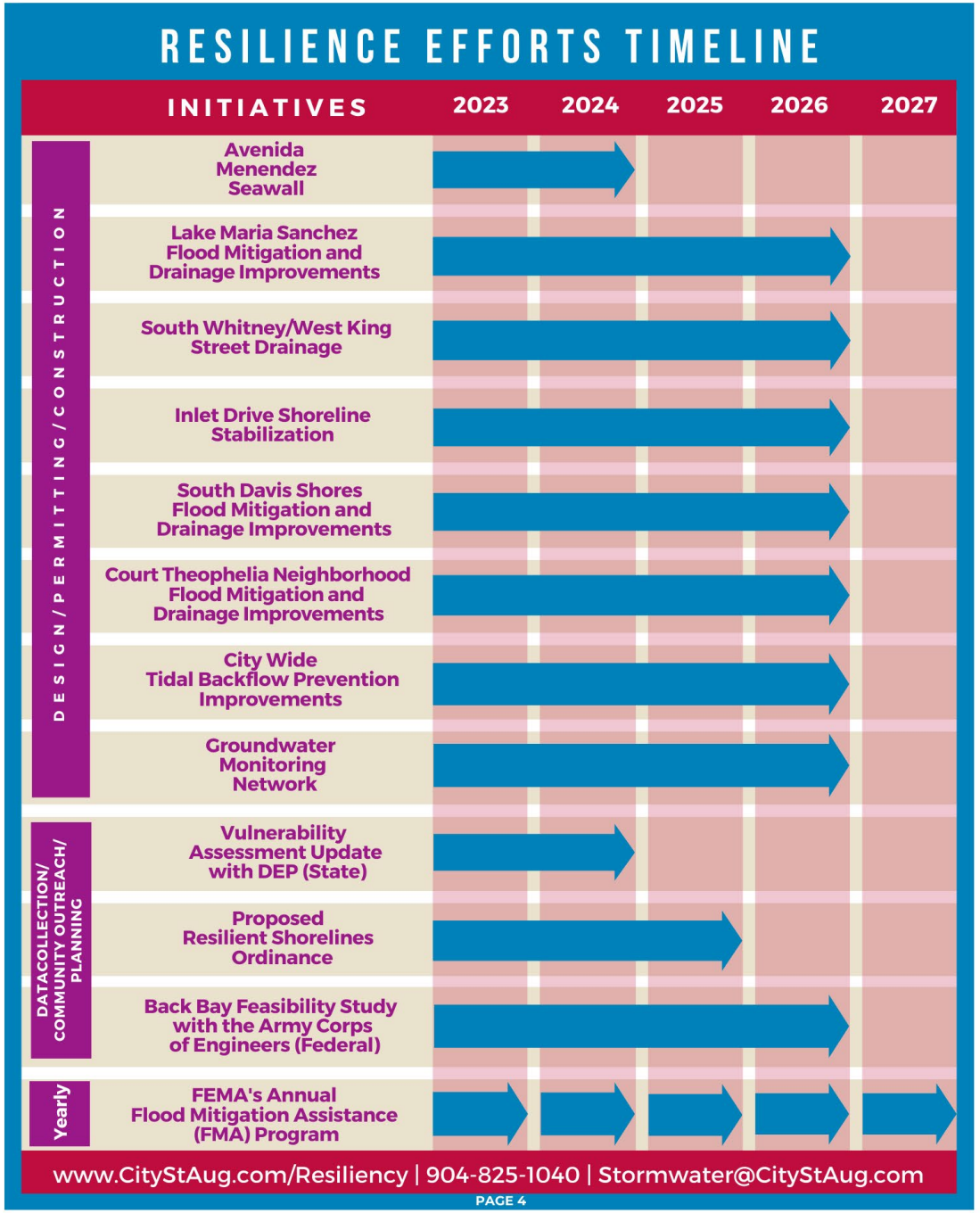
RESILIENCE STRATEGIES



www.CityStAug.com/Resiliency | 904-825-1040 | Stormwater@CityStAug.com

PAGE 3

CITY OF ST AUGUSTINE EST. 1565



LAKE MARIA SANCHEZ

Flood Mitigation & Drainage Improvements

What is this project?

The project will implement a number of resilience strategies to address both rainfall and coastal surge flooding. Strategies include: upgrades to the existing stormwater infrastructure, installation of a stormwater pump station, construction of a flood wall, and installation of tide check valves.

Why is this project needed?

The City has had a long history of enduring flooding, storms, and related events that have adversely impacted its critical infrastructure. Most recently, hurricanes (Matthew, Irma, Hermine, Dorian, Ian and Nicole), other unnamed storms, flash flood events, and nuisance flooding have exacerbated the infrastructure issues specifically related to roadways and drainage. The project will provide an increased level of flood protection from increasing high tide events, storm surge and future sea level rise by incorporating a combination of resilience strategies.

How is this project being funded?

The City of St. Augustine (COSA) has received a grant from the Department of Environmental Protection's (DEP) Resilient Florida Grant Program. The project will be cost-shared between the Resilient Florida Grant and COSA.

How will this project benefit the community?

The project will benefit approximately 200 acres of the historic district in the Nation's Oldest City. The project area includes a number of historic buildings and structures listed on the National Register of Historical Places. By maintaining the integrity of the Nation's Oldest City through the implementation of this project, it will help protect our regionally significant historical and cultural assets benefiting the County and arguably the Northeast Florida region.

Current Flooding without Project

Projected Flood Protection with Project

www.CityStAug.com/LakeMariaSanchez | 904-825-1040 | Stormwater@CityStAug.com

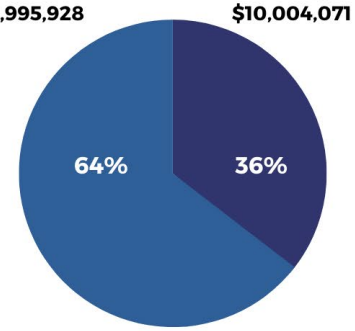
LAKE MARIA SANCHEZ

Flood Mitigation & Drainage Improvements

Estimated Construction Cost: $30,000,000

Resilient Florida Grant $19,995,928

***City of St. Augustine/ Other Funding Source $10,004,071**



* Budget subject to change as other funding sources are explored

Proposed Lake Maria Sanchez Pump Station

PROJECT SCHEDULE 2023-2026

PROJECT PHASE	PROJECT STATUS
PHASE 1	COMPLETE PERMITTING, SECURE EASEMENTS, FINALIZE DESIGN, PREPARE BID DOCUMENTS
PHASE 2	BID PROJECT, SECURE CONSTRUCTION CONTRACT
PHASE 3	CONSTRUCTION

Lake Maria Sanchez on South Street

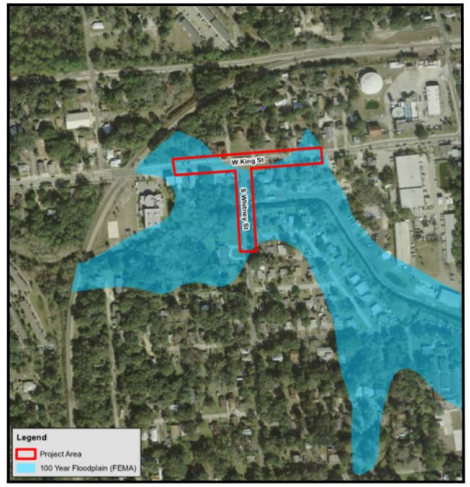
www.CityStAug.com/LakeMariaSanchez | 904-825-1040 | Stormwater@CityStAug.com

SOUTH WHITNEY ST. & WEST KING ST.

Roadway & Drainage Improvements

What is this project?

The proposed improvements consist of raising South Whitney Street and West King Street above the FEMA flood elevation of 7.0' NAVD88, replacing the existing box culvert (40-inch by 56 inch) at South Whitney with a single box culvert (48-inch by 96-inch) that doubles the hydraulic capacity. The project also includes reconstruction of the existing storm sewer system and its outfall at the box culvert on South Whitney Street.



Why is this project needed?

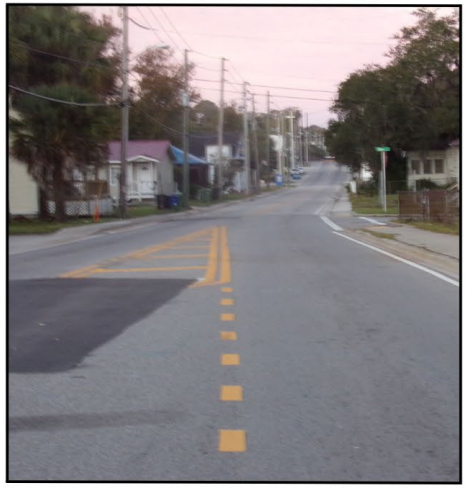
The project goal to eliminate flooding during the 100-year FEMA flood event for West King Street and South Whitney Street by raising both roads at, or above, the 100-year floodplain elevation. In addition to the surge-driven FEMA 100-year flood event, during significant rainfall occurs on South Whitney Street and a portion of West King Street where these streets intersect making these streets impassable.

How is this project being funded?

The City of St. Augustine (COSA) has received a grant from the Federal Emergency Management Agency (FEMA) under the Hazard Mitigation Grant Program (HMGP) in the amount of $463,198. COSA will cost share the estimated total project amount of $1,822,600.

How will this project benefit the community?

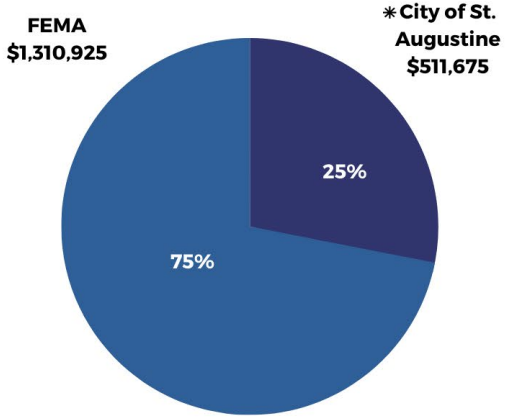
This is a high traffic area that is used heavily on a daily basis. By completing the drainage improvement project, residents of both the City. of St. Augustine and St. Johns County will benefit from the ability to drive through the street during a FEMA 100- Year Floodplain.



SOUTH WHITNEY ST. & WEST KING ST.

Roadway & Drainage Improvements

Estimated Total Construction Cost: $1,822,600



*The city will be seeking other grant funding to supplement the 25% cost share

PROJECT SCHEDULE 2023-2026

PHASE	PROJECT STATUS
PHASE 1	INTERLOCAL COORDINATION WITH ST. JOHNS COUNTY / FINALIZE PERMITTING
PHASE 2	CONSTRUCTION

City of St. Augustine | Public Works Department | 904.825.1040 | Stormwater@CityStAug.com

INLET DRIVE

Shoreline Stabilization

What is this project?

This project would look to include a combination of structural and non-structural based solutions (living shoreline enhancement, thin layer placement of dredged material, etc.) to elevate and protect a section of shoreline that is subject to coastal erosion that would provide a higher level of flood protection for a critical residential road in the North Davis Shores neighborhood. This would also include upgrading the existing storm infrastructure and installation of a tide check valve.

Why is this project needed?

The existing shoreline has eroded over time, with acceleration of that erosion during Hurricane's Matthew and Irma. It's existing elevation is around 5.0 feet NAVD88, which during the previous hurricanes, the top of bank of the shoreline overtopped, causing flooding throughout this segment of roadway. There are two existing storm inlets and pipe that are in need of replacement and proper sizing to also better collect any rainfall driven flooding. The existing storm outfall pipe is also tidally influenced and can allow for tidal water to back up through the storm pipe, causing road flooding. This project would address the erosion, undersized drainage and tidal flooding issues, taking into account sea level rise with the elevation of the shoreline revetment.

How is this project being funded?

The City of St. Augustine (COSA) has received a grant from the Federal Florida Department of Environmental Protection (DEP) under the Resilient Florida Grant Program for the estimated full project cost of $711,090

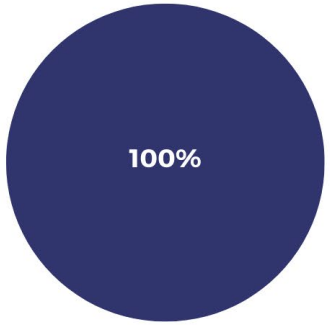
How will this project benefit the community?

The proposed improvements will help to protect the critical infrastructure for the neighborhood. A vegetated component would be added to the design to enhance the current living shoreline features, this would include supplemental planting of black mangroves and spartina grass. By enhancing the natural features, more critical habitat will be created. Given its existing elevation already being below the current base flood elevation, the vulnerability of this area will continue to increase with sea level rise if no action is taken. The City had an opportunity to evaluate the shoreline for flood mitigation options as a result of the hurricane impacts and also address vulnerable infrastructure that was identified in the Coastal Vulnerability Assessment.

INLET DRIVE

Shoreline Stabilization

ESTIMATED CONSTRUCTION COST: $711,090



Resilient Florida Grant

PROJECT SCHEDULE 2023-2026

PROJECT PHASE	PROJECT STATUS
PHASE 1	DESIGN AND PERMITTING OF PROJECT
PHASE 2	BIDDING/LOCAL PROCUREMENT
PHASE 3	CONSTRUCTION OF PROJECT

City of St. Augustine | Public Works Department | 904.825.1040 | Stormwater@CityStAug.com

SOUTH DAVIS SHORES

Flood Mitigation & Drainage Improvements

What is this project?

This project will be broken into two phases to include the design, permitting and construction to address the rainfall driven flooding events, with some consideration for tidal surge. This will primarily include major upgrades to the existing undersized and aged drainage infrastructure, reconfiguring a drainage ditch and upsizing an existing culvert. This project would seek to address the rainfall driven flooding through upgrades to existing stormwater infrastructure and installation of smart tide check valves. For the tidal surge, in lieu of the one-way in line tide check valves, a "smart" tide check valve system will be installed into three culverts that are tidally influenced. The smart valves will stay in the open configuration to maintain wetland hydrology of upstream wetland systems, but close temporarily in advance of flooding conditions.

Why is this project needed?

This neighborhood has suffered from repetitive flood impacts and damages from nuisance flooding, rainfall driven flooding and hurricanes. With the implementation of this project, it will help reduce the damages to upland properties and associated costs which primarily includes residential properties. The reconfiguration of the Coquina Ditch, which is tidally influenced, can be better enhanced and restored to provide additional flooding capacity/volume, while better protecting the residential structures that are adjacent to it.

How is this project being funded?

The City of St. Augustine (COSA) has received a grant from the Federal Florida Department of Environmental Protection (DEP) under the Resilient Florida Grant Program for the estimated full project cost of $2,797,000.

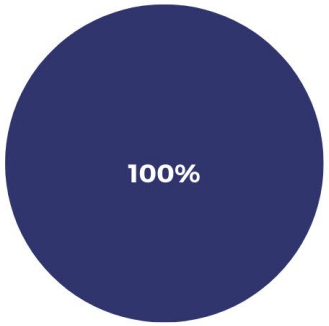
How will this project benefit the community?

Originally built in the early 1900s by Mr. Davis, South Davis Shores was identified in the 2016 Coastal Vulnerability Assessment as one of the major flood pathways for nuisance flooding and future sea level rise conditions. Over the last five years this neighborhood has suffered from repetitive flood impacts and damages from nuisance flooding, rainfall driven flooding and hurricanes, as it is one of the more lower lying areas within the City. This project would seek to address the rainfall driven flooding through upgrades to existing stormwater infrastructure and installation of smart tide check valves.

SOUTH DAVIS SHORES

Flood Mitigation & Drainage Improvements

ESTIMATED CONSTRUCTION COST: $2,797,000



Resilient Florida Grant
$2,797,000

PROJECT SCHEDULE
2023-2026

PROJECT PHASE	PROJECT STATUS
PHASE 1	DESIGN AND PERMITTING OF PROJECT
PHASE 2	BIDDING/LOCAL PROCUREMENT
PHASE 3	CONSTRUCTION OF PROJECT

City of St. Augustine | Public Works Department | 904.825.1040 | Stormwater@CityStAug.com

COURT THEOPHELIA

Neighborhood Flood Mitigation & Drainage Improvements

What is this project?

The project would include design, permitting and construction to replace aged utilities, upgrade existing stormwater infrastructure and evaluate structural and non-structural based resiliency options for the neighborhood. This would also incorporate a mobility component into the project for multiple benefits. The expected project outcomes include reconstruction of flood prone and damaged roads due to high tide flooding, improved drainage to provide a higher level of service during rainfall events, replacement of aged utilities, implementation of green infrastructure and/or low impact development to provide water quality benefit with stormwater management, potential incorporation of greenspace for multi-project benefits to serve as recreational, stormwater, mobility and resiliency uses.

Why is this project needed?

This neighborhood is subject to rainfall driven and coastal surge flooding. The streets are in poor condition due to the inundation of salt water on the roads that has accelerated the deterioration. The utilities are also aged and in need of replacement (water and sewer). This project would include the replacement of aged utilities while the stormwater improvements are conducted. The improvements to the neighborhood will provide a higher level of flood protection for critical infrastructure (City Roads).

How is this project being funded?

The City of St. Augustine (COSA) has received a grant from the Federal Florida Department of Environmental Protection (DEP) under the Resilient Florida Grant Program for the estimated full project cost of $2,581,600.

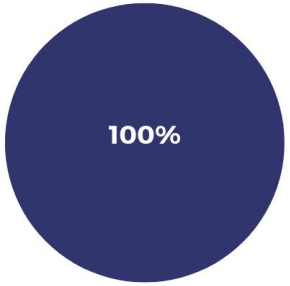
How will this project benefit the community?

This is a low-lying neighborhood that is subject to both tidal and rainfall driven flooding. The 2016 Coastal Vulnerability Assessment identified major flood pathways and increased risks for future nuisance flooding and 1% annual chance flooding with sea level rise. By providing a higher level of service for rainfall and coastal surge events, this will protect a large area that has vulnerable critical assets. This project would provide needed stormwater improvements to address both rainfall driven and coastal surge flooding and look to incorporate multiple project benefits that could include mobility components with green infrastructure and/or low impact development into the project design.

COURT THEOPHELIA

Neighborhood Flood Mitigation & Drainage Improvements

ESTIMATED CONSTRUCTION COST: $2,581,600

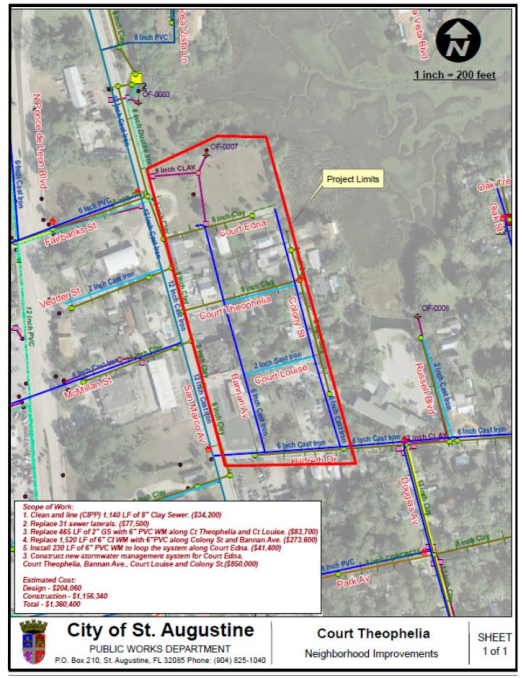


Resilient Florida Grant
$2,581,600

PROJECT SCHEDULE 2023-2026

PROJECT PHASE	PROJECT STATUS
PHASE 1	DESIGN AND PERMITTING OF PROJECT
PHASE 2	BIDDING/LOCAL PROCUREMENT
PHASE 3	CONSTRUCTION OF PROJECT

PROPOSED PROJECT AREA AND SCOPE OF WORK



City of St. Augustine | Public Works Department | 904.825.1040 | Stormwater@CityStAug.com

AVENIDA MENENDEZ SEAWALL

What is this project?

The project will involve repairs of the face and cap of a section of the seawall located along the bayfront in downtown St. Augustine, coupled with design and construction of a two foot wall behind the current seawall. The latter will resemble the parapet wall built adjacent to the promenade constructed in the early 2000's, South of the project area. Specifically, the project area extends from the north end of the "new" seawall on the south end to the Bridge of Lions apron on the north. The project length is approximately 570 feet. The Marina Building is on the western edge of the project area.

Why is this project needed?

The City completed the Avenida Menendez seawall replacement and the current Bayfront Park improvements which have both raised the level of flood in 2013. The area between the City Marina south access pier and the Whites Warf (formerly Santa Maria) restaurant provides a gap in the otherwise elevated flood protection along the Bayfront. This project will "fill the gap" and provide continuity of the City's target flood protection elevation of +7.1' NAVD extending along approximately 1,700 LF of the Bayfront. Failure to repair the existing marina seawall and replace the approx. 85 LF of failing seawall will put critical infrastructure and historic properties at risk.

How is this project being funded?

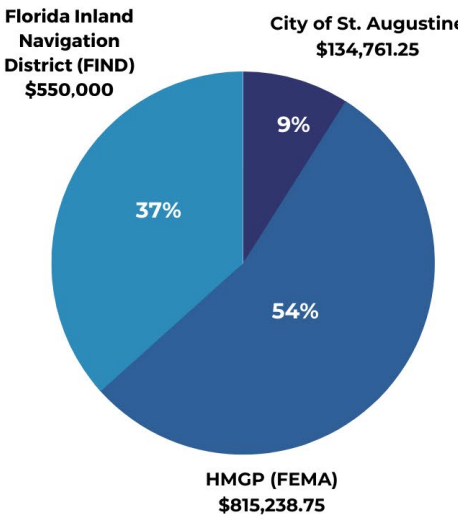
The City of St. Augustine (COSA) has received a grant from FEMA's HMGP grant program for Hurricane Irma disaster relief, along with funding from the Florida Inland Navigation District (FIND), and will cost-share the remainder of funds needed to complete the project.

How will this project benefit the community?

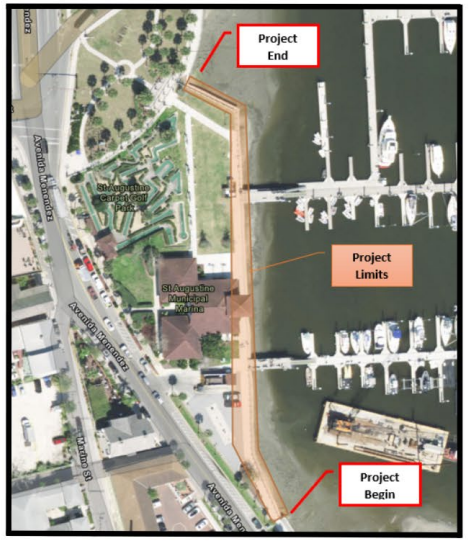
The primary community need addressed by this project is the enhanced protection from flooding associated with extreme weather events by providing a continuous seawall of equal height. By doing this project, it will provide the protection of the existing pedestrian/recreational path which provides access to the Municipal Marina facilities. Currently, the elevation gap between the two previous projects provides a vulnerable entry point that allows for flooding that can impeded and compromise the existing public access. Completion of the continuous seawall along the City's Southern Bayfront will increase flood protection and minimize the potential property and environmental damage resulting from extreme weather events.

AVENIDA MENENDEZ SEAWALL

ESTIMATED PROJECT COST: $1,500,000



PROJECT LIMITS MAP



PROJECT SCHEDULE 2023-2026

PROJECT PHASE	PROJECT STATUS
PHASE 1	DESIGN AND PERMITTING OF PROJECT
PHASE 2	BIDDING/LOCAL PROCUREMENT
PHASE 3	CONSTRUCTION OF PROJECT

SEAWALL EXAMPLE

City of St. Augustine | Public Works Department | 904.825.1040 | Stormwater@CityStAug.com

TIDAL BACKFLOW PREVENTION IMPROVEMENTS

City Wide Tide Check Valve Installations

What is this project?

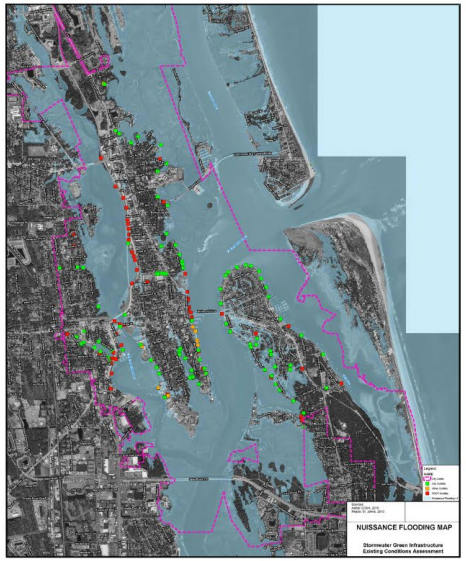
The City has approximately 103 stormwater outfalls that are tidally influenced, resulting in nuisance flooding of the road infrastructure. To date, the City has retrofitted 43 outfalls with tide check valves to eliminate nuisance tidal flooding. The City proposes to retrofit an additional 20 outfalls. Once the locations are identified, the City will contract out for the evaluation of each storm outfall that includes cleaning and closed-circuit television (CCTV). The City will review that evaluation data and determine if any storm pipe repairs or lining needs to occur in preparation for the tide check valve installation.

Why is this project needed?

The City of St. Augustine experiences nuisance tidal flooding between 12-16 times per year during lunar or king tides, with additional flooding during Nor'easter conditions. This frequently inundates the road infrastructure and provides a major flood pathway that can allow for additional flooding of structures. The road conditions have deteriorated due to standing salt water and inundation, reducing the lifespan of the road infrastructure. This project will continue those previous efforts to work towards completion of the outfalls with retrofitting and provide a higher level of flood protection and extend the life of the road infrastructure.

How is this project being funded?

The City of St. Augustine has received a grant from the Federal Florida Department of Environmental Protection (DEP) under the Resilient Florida Grant Program in the amount of $230,641.00. The City will match that $230,641.00 using the stormwater operational budget for a total project cost of $461,282.00.



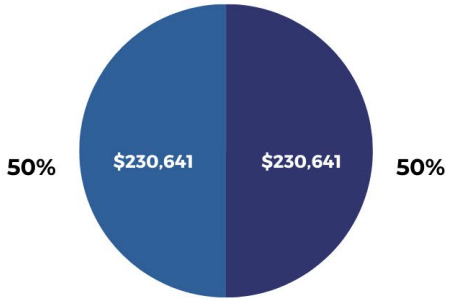
How will this project benefit the community?

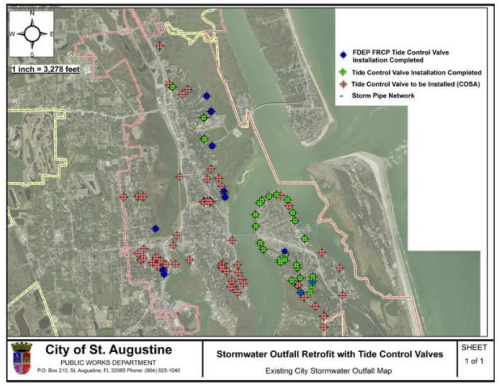
The stormwater outfalls are a major flood pathway that can allow for surge and high tide flooding to inundate the streets and potentially impact structures (residential and commercial). There are many historically significant buildings, structures and other cultural resources that can be impacted from the flooding that are considered regionally significant. Additionally, there are State Highways that are throughout the City. These stormwater outfalls can also have an impact on local and state roads, also considered regionally significant. By implementing this project, we can eliminate that risk that threatens a much larger area that has an overall higher percentage of vulnerable critical assets.

TIDAL BACKFLOW PREVENTION IMPROVEMENTS

City Wide Tide Check Valve Installations

Estimated Construction Cost: $461,282





PROJECT SCHEDULE 2023-2026

PROJECT PHASE	PROJECT STATUS
PHASE 1	PLANNING AND EVALUATION
PHASE 2	REHABILITATION AND PREPARATION
PHASE 3	CONSTRUCTION / INSTALLATION

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GROUNDWATER MONITORING NETWORK

For Sea Level Rise Impacts

What is this project?

In conjunction with the Vulnerability Assessment, this effort will focus on predicting impacts, specifically to critical infrastructure, of sea level rise by installing a monitoring network to accurately measure rates of change in current shallow groundwater elevation and water quality. The monitoring network proposed will contain up to 60 monitoring points. A professional licensed surveyor will survey each point. Monitoring will be scheduled/sequenced to represent the same atmospheric / geologic conditions each monitoring period to attempt to replicate these variables. All data (sea level, groundwater, water quality & creek level) will be compiled and summarized quarterly, building the data set. Daily rainfall along with any severe storm activity will also be summarized.

Why is this project needed?

As sea level rises, so does shallow groundwater. As groundwater approaches closer to land surface, water quality and critical infrastructure may become adversely impacted, such as the stability of foundations, water quality used for irrigation, function of buried utilities (communications, electric transmission, natural gas distribution), storm/water/sanitary sewer functions, and historic structures can become more at risk. Therefore, better prediction of these impacts by monitoring is needed to mitigate for these risks.

How is this project being funded?

The City of St. Augustine (COSA) has received a grant from the Florida Department of Environmental Protection (DEP) under the Resilient Florida Grant Program in the amount of $201,903.00. The City will contribute $15,197 for a total project cost of $217,100

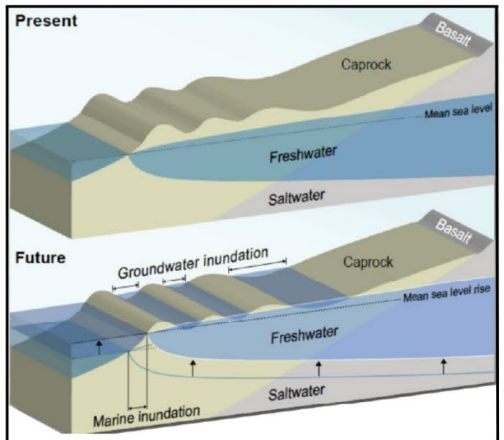


Figure 19. Conceptual diagram of groundwater inundation, obtained from Rotzoll and Fletcher (2012).

How will this project benefit the community?

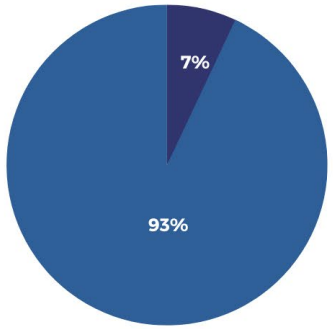
The data collected from this project will be able to better predict and model groundwater impacts which has a significant impact on critical infrastructure. This includes the threat to the city's existing archaeological and historic buildings which are considered regionally significant assets. Having a better mechanism for predicting those impacts and risks will enable the City to identify mitigation strategies to address those risks. The groundwater monitoring network can be installed and monitoring to begin within the first year of the project. The data collected from that network would occur over the next 15-18 months and then the results from that effort will be summarized into a final report by the end of year three.

GROUNDWATER MONITORING NETWORK

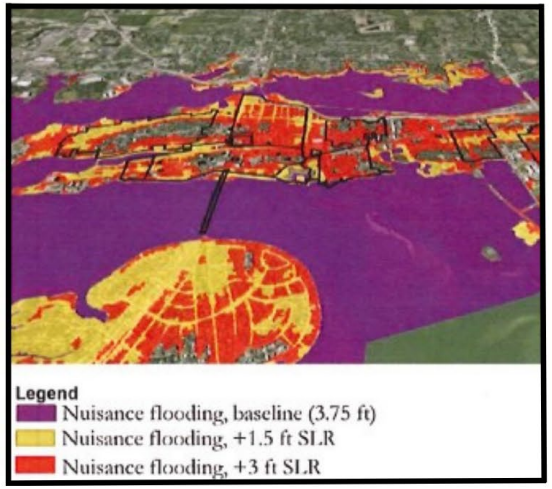
For Sea Level Rise Impacts

ESTIMATED CONSTRUCTION COST: $217,100

City of St. Augustine
$15,197



Resilient Florida Grant
$201,903



PROJECT SCHEDULE 2023-2026

PROJECT PHASE	PROJECT STATUS
PHASE 1	MONITORING NETWORK INSTALLATION
PHASE 2	MONITORING
PHASE 3	MONITORING AND FINAL REPORTING

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VULNERABILITY ASSESMENT UPDATE

With The Florida Department of Environmental Protection

What is this study?

Vulnerability Assessments (VA) identify or address risks of flooding and sea level rise and help development of adaptation/resilience plans, projects, and policies that allow for preparation for threats from flooding and sea level rise. The final report does include an adaptation plan with recommendations for identified projects to be implemented.

Why is this study needed?

Previous studies, including a coastal vulnerability assessment, were completed in 2016, which identified major flood pathways in the city. However that previous VA does not meet the current criteria outlined in section 380.093 of Florida statutes. By completing the FDEP VA it qualifies the city for the 50% cost-share for implementation projects and the city is eligible for future funding.

How will this study benefit the community?

A Vulnerability Assessment helps a community determine which structural and social assets are likely to be impacted by future coastal flooding and sea level rise and help create an adaptation plan for future mitigation projects. By integrating scientific methods and developing awareness of different structural and social assets that may be vulnerable to future coastal flooding, the community may ensure that the most useful basis for planning is established.

How is this study being funded?

The City of St. Augustine has been awarded funding from the Resilient Florida Grant Program in the estimated total assessment cost of $500,000.

ESTIMATED ASSESMENT COST: $500,000

Resilient Florida Grant 100%

STUDY SCHEDULE 2023-2024

PHASE	STATUS
PHASE 1	DATA COLLECTION & ANALYSIS
PHASE 2	COMMUNITY OUTREACH
PHASE 3	REPORTING

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BACK BAY COASTAL STORM RISK MANAGEMENT

A City Wide Feasibility Study With The U.S. Army Corps of Engineers

What is this study?

The City of St. Augustine Coastal Storm Risk Management Study is a three-year federal feasibility study that investigates coastal storm impacts on the City of St. Augustine. In partnership with the Army Corps of Engineers, City of St. Augustine and its stakeholders, the study will also explore economically-viable and environmentally-sound solutions to mitigate coastal storm risks.

Why is this study needed?

The reduction of flood-related damages to residential, commercial and historic/culturally significant resources, and critical infrastructure is vital. The study will identify comprehensive Coastal Storm Risk Management strategies to increase resilience and to reduce risk from future storms and compounding impacts of sea level change.

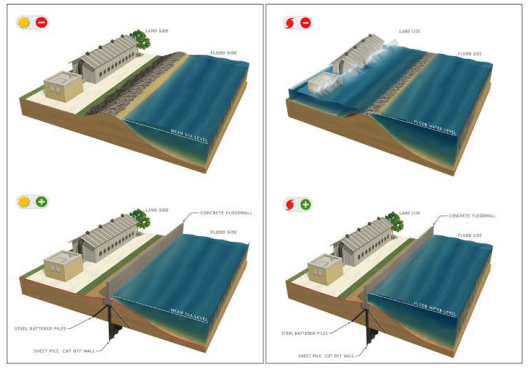
How will this study benefit the community?

The objective of the study is to investigate Coastal Storm Risk Management problems and identify solutions to reduce damages from coastal flooding that affects population, critical infrastructure, historic and culturally significant resources, and ecosystems, which will benefit the community as future projects are designed to mitigate flooding.

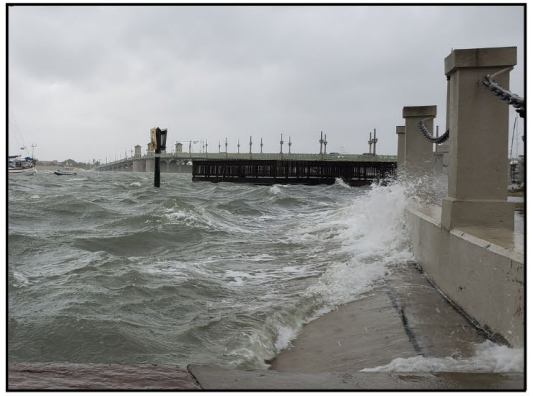
How is this study being funded?

The City of St. Augustine will be utilizing $1,500,000 in American Rescue Plan Act (ARPA) funds, while the Army Corps of Engineers will fund $1,500,000 for a total cost of $3,00,000.

Flood Wall Example



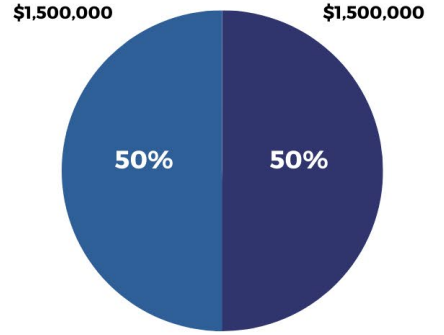
St. Augustine Bay Front During a Storm



BACK BAY COASTAL STORM RISK MANAGEMENT

A City Wide Feasibility Study With The U.S. Army Corps of Engineers

Total Estimated Study Cost: $3,000,000



St. Augustine Bay Front During a Storm

Taken on Nov. 13, 2019 of water crashing over the sea wall and flooding the park lawn.

Photo Credit:
https://www.nps.gov/casa/learn/historyculture/climatechange.htm

STUDY SCHEDULE 2023-2026

PHASE	STATUS
PHASE 1	DATA COLLECTION, ANALYSIS AND MODELING / COMMUNITY OUTREACH
PHASE 2	DATA COLLECTION, ANALYSIS AND MODELING / COMMUNITY OUTREACH
PHASE 3	DEVELOPMENT / ADOPTION, FINAL STUDY

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CITY OF ST AUGUSTINE
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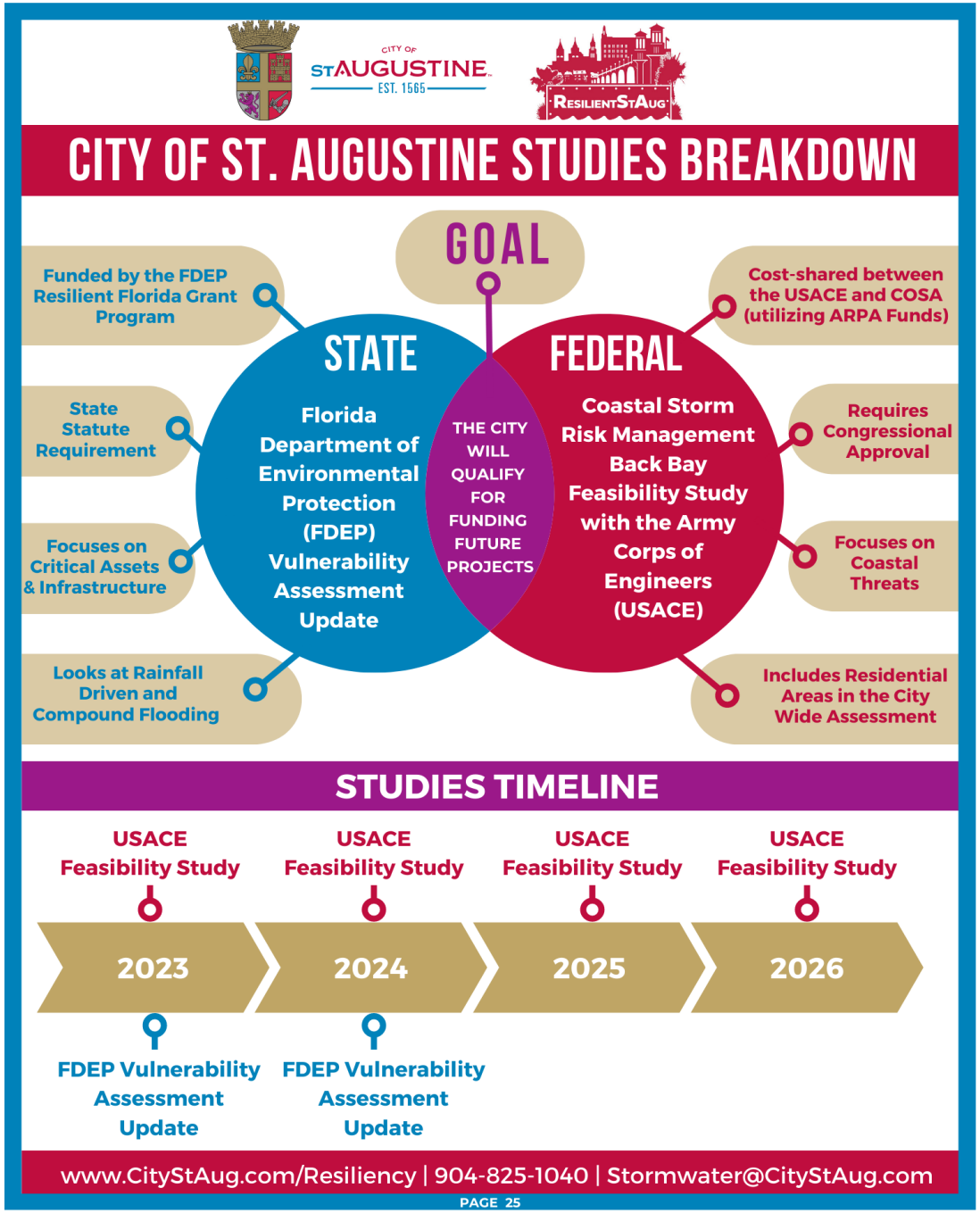
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RESILIENTSTAUG
CITY OF ST. AUGUSTINE STUDIES BREAKDOWN
GOAL
STATE
Florida Department of Environmental Protection (FDEP) Vulnerability Assessment Update
FEDERAL
Coastal Storm Risk Management Back Bay Feasibility Study with the Army Corps of Engineers (USACE)
THE CITY WILL QUALIFY FOR FUNDING FUTURE PROJECTS
Funded by the FDEP Resilient Florida Grant Program
State Statute Requirement
Focuses on Critical Assets & Infrastructure
Looks at Rainfall Driven and Compound Flooding
Cost-shared between the USACE and COSA (utilizing ARPA Funds)
Requires Congressional Approval
Focuses on Coastal Threats
Includes Residential Areas in the City Wide Assessment
STUDIES TIMELINE
USACE Feasibility Study
USACE Feasibility Study
USACE Feasibility Study
USACE Feasibility Study
2023
2024
2025
2026
FDEP Vulnerability Assessment Update
FDEP Vulnerability Assessment Update
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CITY OF STAUGUSTINE EST. 1565

CITY OF STAUGUSTINE EST. 1565 | RESILIENTSTAUG

PROPOSED RESILIENT SHORELINES ORDINANCE

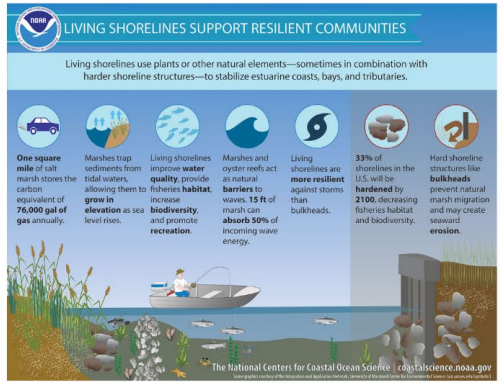
What is this proposed ordinance?

The City of St. Augustine is working on implementing a Resilient Shorelines Ordinance to help combat sea level rise and coastal storm surge threats to the city. A Resilient Shoreline Ordinance will help promote nature-based designs that create/protect habitat & improve water quality.

Why is this proposed ordinance needed?

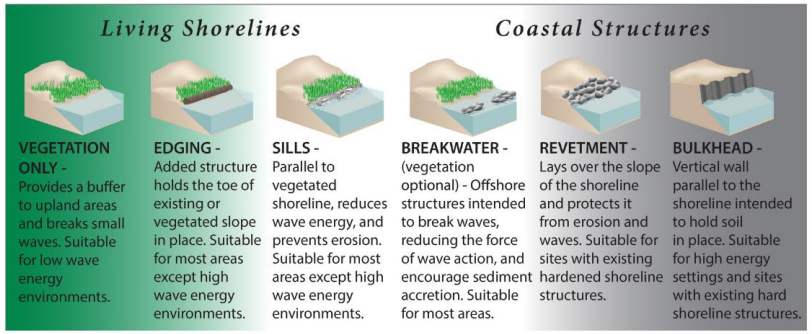
Sea level rise increasingly threatens both public and private infrastructure. The development of a resilient shoreline ordinance will provide the city and its residents guidance and opportunities for protective infrastructure such as seawalls, living shorelines, and hybrid approaches. The proposed ordinance will allow for a consistent approach to inform both public and private stakeholders on appropriate shoreline policy, infrastructure construction, maintenance and repair, and methodology and account for future flood risk.

SCHEDULE 2023-2025



PHASE	STATUS
PHASE 1	DATA COLLECTION
PHASE 2	DRAFT RESILIENT SHORELINE ORDINANCE
PHASE 3	COMMUNITY OUTREACH & ENGAGEMENT SUPPORT

GREEN - SOFTER TECHNIQUES → GRAY - HARDER TECHNIQUES



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CITY OF STAUGUSTINE EST. 1565

FLOOD MITIGATION ASSISTANCE (FMA) PROGRAM

What is the FMA Program?

FEMA's Flood Mitigation Assistance (FMA) grant program is a resource provided to the City meant to reduce or eliminate the risk of repetitive flood damage to buildings and structures insured under the National Flood Insurance Program (NFIP).

The FMA Program is a nationally competitive annual FEMA grant program. Prioritization is given to those structures listed as Severe Repetitive Loss and Repetitive Loss.

Cost shares for the homeowner will vary depending on the validation of the structure and are pre-determined by FEMA in most cases.

Who can apply for the FMA program?

Those who currently participate in the National Flood Insurance Program:

- Must be insured with the NFIP at the time of the Cycle 2 application opening period of 9/30/23
- Policy must be effective as of 9/30/23
- Must maintain flood insurance to the structure in perpetuity

More FMA Info: www.citystaug.com/FMA

What is the FMA Program timeline?

The FMA Program is a yearly resource available to residents of the City of St. Augustine. The application is due annually in late September to the City. However, residents can be working to actively building an application all year and turn in paperwork at any time. Once the application has been turned into the state, the awards will not be announced until late summer the following year. If funding is awarded, the grant must be completed within three years of contract execution.

Documents Needed for Participation Elevation and Reconstruction

- Signed FMA Forms
- NFIP Insurance Declaration Page
- Current Elevation Certificate - contact a local surveyor or check to see if the City has one on file: **904.209.4327 / fma@citystaug.com**
- 3 Elevation Quotes from qualified elevation firms (Quote should indicate who is performing the lift)
  - A sketch of the structure submitted
  - Copy of Contractor License
- Copy of Riggers Insurance (if lift contractor)
- Color photos of all 4 sides of structure

Planning & Building Dept- 904.825.1065
Public Works Dept- 904.825.1040

Before Elevation

After Elevation

City of St. Augustine | FMA@CityStAug.com | www.CityStAug.com/FMA

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