CITY OF ST AUGUSTINE EST. 1565

City Commission

Public Works & Utilities Quarterly Update

July 25, 2022

Todd J. Grant, P.G. — Director, Utilities

Reuben C. Franklin, Jr., P.E. — Director, Public Works

PW & Utilities Quarterly Update Agenda

- Resilience Program Updates
- FEMA 13 Lift Station Rehabilitation Project
- West Augustine Gravity Sewer Improvements
- Capital Projects Overview and Status
- Sustainability and Environmental Updates
- Development Updates
- Mobility Program Updates
- Questions and Discussion
- Appendix – CIP Project Information Sheets & Glossary of Terms

Resilience Program Updates

Planning

Stormwater Resilience Master Plan

- Commission approval to use ARPA Funds ≈ $2,000,000
- Use the latest data available, understand associated risks and timelines to make informed decisions
- Staff is drafting Request for Qualifications (RFQ) solicitation packet

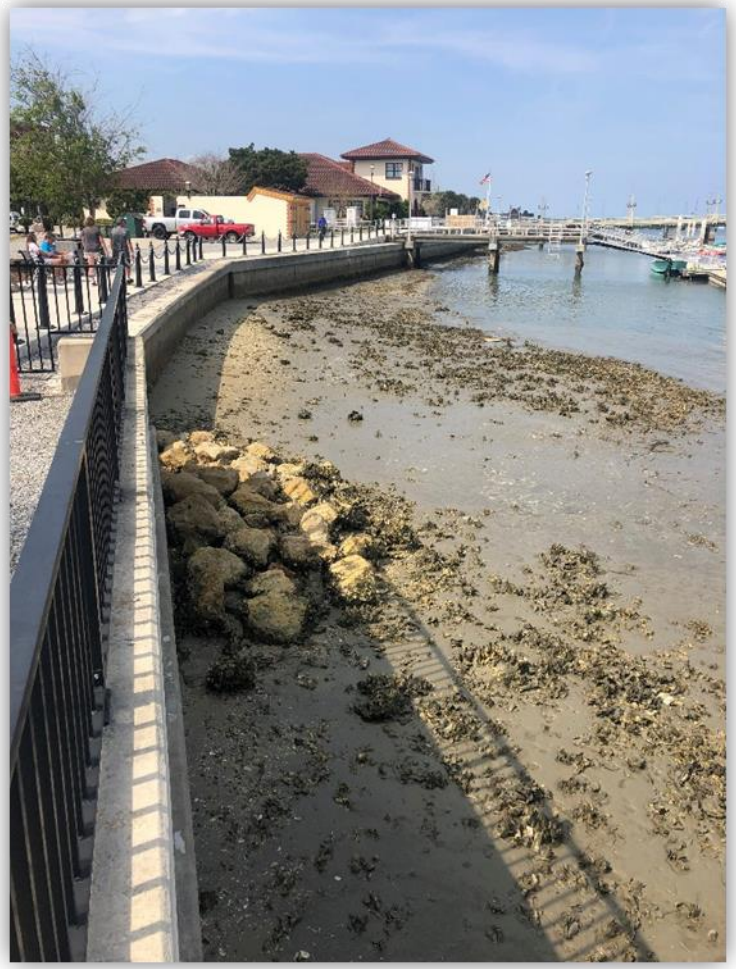
USACE Back Bay Feasibility Study

- 3-year, $3 Million comprehensive study to evaluate coastal storm risks
- Identified solutions are eligible for Federal cost share funding for construction
- Staff is working with the Corps on the Draft Feasibility Cost Share Agreement

Resilience Program Updates

Projects

- ✓ FEMA 13 Lift Stations Rehabilitation - under construction (www.CityStAug.com/FEMA13)
- ✓ Lake Maria Sanchez Flood Mitigation and Drainage Improvement Project (HMPG)– proceeding with design (www.CityStAug.com/LakeMariaSanchez)
- ✓ Avenida Menendez Flood Barrier (HMGP) – Phase 1 @ 100% Design, submitted for FIND grant funding, permitting in progress
- ✓ South Whitney West King Street Flood Mitigation (HMGP) – design completed, preparing bid solicitations, working with St. Johns County



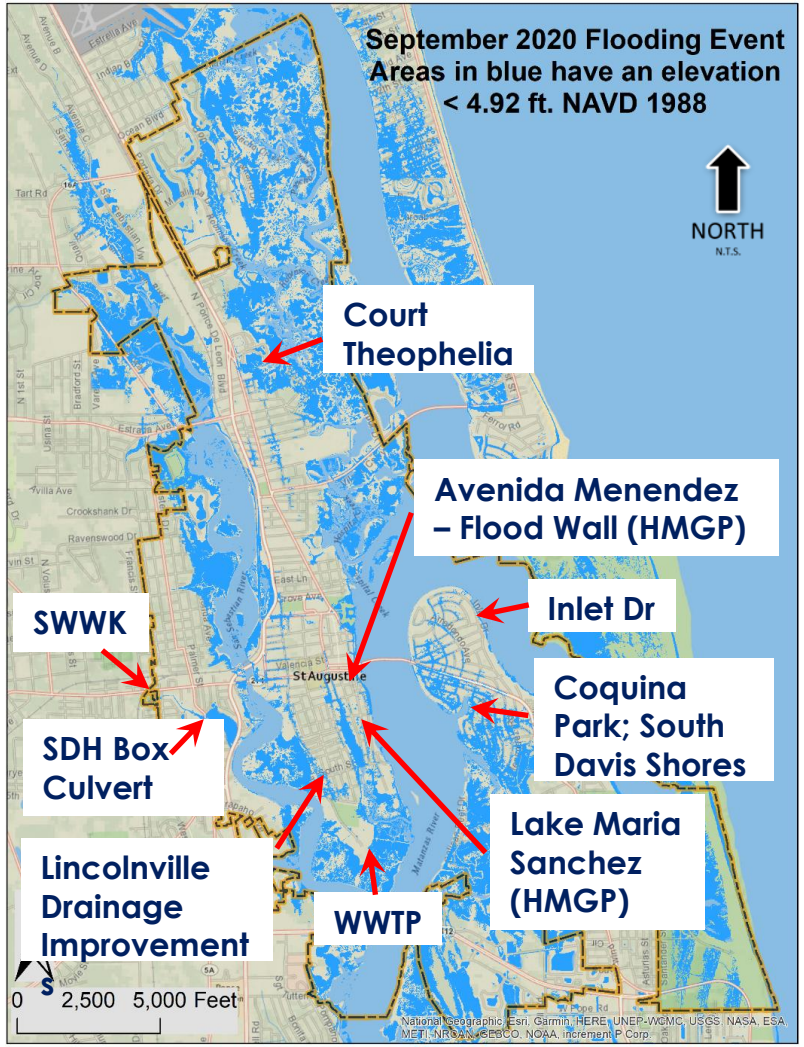
Resilience Program Updates

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 *, **
- Stormwater Master Plan Update for Resiliency**
- USACE Back Bay Feasibility Study *, **

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

**Denotes State Funded Project (SJRWMD, FDEP)



FEMA 13 LIFT STATIONS REHABILITATION

- Construction Cost $13.8M
- Start Construction Jan 2021
- Finish Construction Feb 2023
- Substantially Complete:
  - LS-4, 5, 6, 21, 22, 23, 24
- Under construction
  - 7, 10, 11, 12, 52
- Arricola Ave. Force Main
  - Complete

West Augustine Gravity Sewer Improvements

West Augustine Sewer Master Plan

- In Design

West 3rd Street Sewer Extension – Volusia to Knowlton St

- In Design
- Eliminates 20 Residential Septic Tanks

Septic-to-Sewer Program

- Completed: Pkg 5, 7 connections
- Abandoned 57 septic systems to date

Pearl Street Gravity Sewer

- In Design - Expanding gravity sewer from existing lift station

CIP Overall Status Summary

Capital Improvement Projects – Through July 25, 2022

Project Scope Development	Conceptual Analysis & Studies	Preliminary Design	Final Design	Bidding Construction Contract	Construction Phase	Substantial Completion	Final Completion
South Tank Potable Water Fill Line	St. Francis Street Utility Improvements	Lake Maria Sanchez Flood Mitigation	Sevilla St Roadway & Utility Improvements	City Marina Crosswalk*	Hurricane Matthew FEMA 13 Lift Station Rehabilitation	S. Orange Street Utility Adjustments (SJC)	I&I Clean & Inspect Sewer Basins 62, 68, 69, & 71
SCADA Master Plan	Lift Station 14 Replacement	San Sebastian WM HDD King Street	Avenida Menendez Seawall (HMGP) (1)	WTP Motor Control Center Replacement	N. Rodriguez Street Utility Adj (SJC)	Lift Station 4, 5, 6, 21 22, 23, 24 (FEMA 13)	West Augustine Septic to Sewer Connections PKG 5
Pearl Street Force Main Improvements	Lift Station 8 Replacement	Stormwater Outfall Tide Check-Valve Master Plan	Duero & Cerro Utility and Storm Improvement	RO Concentrate Discharge	I&I Manhole Rehab Basins 16, 17, 20, & 52	I&I Smoke Testing Sanitary – 16 Basins	
Lighthouse Park Gravity Sewer Improvements	Lift Station 41 Replacement	W Augustine Gravity Sewer Master Plan	King Street Drainage (FDOT)	SR 312 from 207 to Holmes Util Adj (FDOT)	WWTP Headworks Rehabilitation	Automatic Meter Reading Phase 4	
Court Theophelia Neighborhood Stormwater and Improvements	Stormwater Master Plan Update Phase 2	Inlet Drive Shoreline Stabilization	S. Holmes Utility Adjustments (SJC)	I&I Sanitary Sewer Main & Lateral Rehab FY 2022	Parking Pay Station Flood Proofing	Arricola Ave Force Main HDD Improvements	
South Davis Shores Flood Mitigation & Drainage Improvements	USACOE Back Bay Feasibility Study	Stormwater CIPP Lining for Valves	Santa Rosa Utility Adjustments (SJC)	Downtown Circulator Route 1		Oyster Creek Force Main HDD (FDOT)	
WWTP Motor Control Center #1 Improvements	Groundwater Monitoring	Pearl Street Gravity Sewer Improvements	West 3rd Street Gravity Sewer Improvements	Downtown Improvement District Phase 2A		I&I Clean & Inspect Sewer Basins 60, 64, 66, & 70	
		King Street Ownership Transfer	S. Whitney & W. King Stormwater Improvements (1)				

Key:
(1) Grant Dependent
(2) Developer Dependent
(*) Postponed
(**) Phase Complete

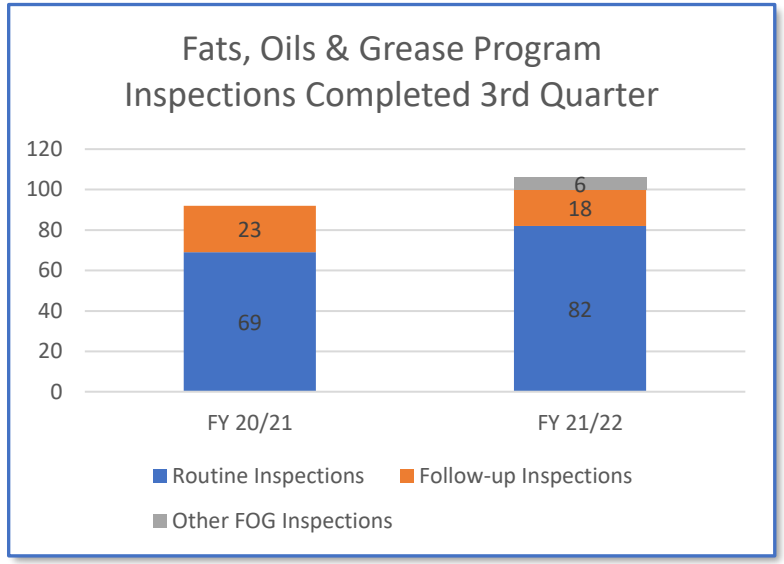
Sustainability Updates

- **Residential Compost Bin Pilot Program**
  - Applications opened 3/18/2022, quantity limits met same day
  - Bins delivered May 5 – June 24
  - 45 bins total: 31 tumbling units, 14 stationary ground units

- **Tree Canopy Enhancement Program Update**
  - Year 2 applications opened 6/1/2022
  - Application quantity limits have been met
  - Next step: City staff will conduct site assessments August – September
  - Target planting trees November – February

Environmental Programs Updates

- **Fats, Oils & Grease Program**
  - 106 inspections completed this quarter, 15% increase over 3rd quarter FY 20/21
  - 18 facilities out of compliance & required follow-up inspections



- **Cross-Connection Control Program**
  - 2,067 active accounts
  - Received/logged more than 146 backflow preventer test reports

- **Illicit Discharge Detection & Elimination Program**
  - Monthly pollution prevention inspections completed at fleet & marina
  - 81 proactive illicit discharge inspections completed

Development Updates

STATISTICS FOR FY 2022 YEAR TO DATE

Private Development Projects:

- Projects In Active Construction: 23
- Current Projects In Review Process: 15
- Submittal Packages Received: 27
- Development Permits Issued: 19
- Projects Closed Out: 5

Right-of-way Permits Issued:

- General: 109
- Franchise Utilities: 87

Mobility Program Activity Update

Progress to Date				
Level/Initiative	**Deliverable/Activity**	**% Complete**	**Est. Finish**	**Notes**
Neighborhood				
North City Trail Concept Plan	Develop trail from the Fort to the Fullerwood Neighborhood	100%	-	
San Marco Bike Lanes	Install bike lanes, crosswalks & sidewalk between US1 & SR16	75%	2/1/2023	Need to request quote from contractor
City				
Parking Code Update	Review and update parking code requirements	30%	1/15/2023	Fall 2022 PZB; Mobility Fee was prioritized
Smart Parking System	Phase 2 Integrate Parking Garage with On/Off Street Parking	90%	TBD	Pilot system started on July 18, 2022
Tolomato Lot Redesign	Reconstruct lot to include commercial loading zones	50%	2/1/2024	Construction plans out to bid, bid opening July 25th
DID Phase 2A	Construct curbless streets on Spanish St (Cuna to Orange)	50%	2/1/2024	Construction plans out to bid, bid opening July 25th
Bike Share Program	Develop a sponsored bike share program for the City	100%	-	
May St/San Marco Landscape	Design and install landscaping at the new intersection	90%	2/1/2023	Installation planned for January 2023
Broudy Multi-Modal Project	Develop public parking as part of a multi modal development	50%	TBD	MOD zoning consideration in process
King St Master Plan	Determine whether City should request ownership transfer from FDOT	100%	-	
King St Complete St Design	Design King St, Cordova St and Cathedral Pl as complete streets	0%	6/1/2028	Developing RFQ to select design team
Granada/Cordova Repaving	Add bike lane to Granada St and Sharrows to Cordova St	0%	2/1/2023	Need to request quote from contractor
Circulator - Route 1	Establish a circulator utilizing FDOT grant funds	50%	10/20/2022	Grant is executed and vendor is selected
Local (SJC, CoSAB, TPO, etc.)				
Anastasia Blvd Study	Develop Complete Street options for the corridor from Red Cox to BoL	100%	-	Presented findings to City Commission

Mobility Program Activity Update

Progress to Date				
Level/Initiative	**Deliverable/Activity**	**% Complete**	**Est. Finish**	**Notes**
State (FDOT, SJRWMD, DEP)				
Red Cox Rd/Anastasia Blvd	Intersection improvements - Roundabout	30%	-	Working to relocate fire station
BoL Intersection	Intersections improvements at the base of the bridge at Avenida	0%	6/1/2028	In conceptual development
Smart St. Augustine	Deploy dynamic message signs, flood sensor, etc..	0%	6/1/2026	Waiting on FDOT funding
Zorayda/A1A Ped Crossing	Design	100%	-	
Federal				

Major Accomplishments (since April 2021)	Upcoming Activities
→ Bikeshare Launch	→ Circulator Launch
→ Anastasia Blvd Study	→ Mobility Week
→ King St Ownership Agreement	

Challenges, Risks & Issues

□ Land Acquisition for Park and Ride Program

Key Decisions

Decisions Required:

-

Mobility Program: Bikeshare Service

BOLT

St. Augustine

Ridership Report:

April, 2022

St. Augustine April, 2022

BOLT

Ridership Data:

Fleet Overview

Total number of rides : **1,055**

Average number of deployed vehicles : **85**

Ridership Trends

Average trips per rider : **1.8 trips**

Most popular day of the week for ridership : **Sat**

Peak ridership time : **18**

Rider Data

Total number of unique riders : **581**

New : **490**

Repeat : **91**

Trip Data

Average trip length : **1.0 miles**

Average trip duration : **21.2 minutes**

Total miles ridden : **1,035**

Hubs

Top hub location : **staugustine_Visitor InformationCenterVIC**

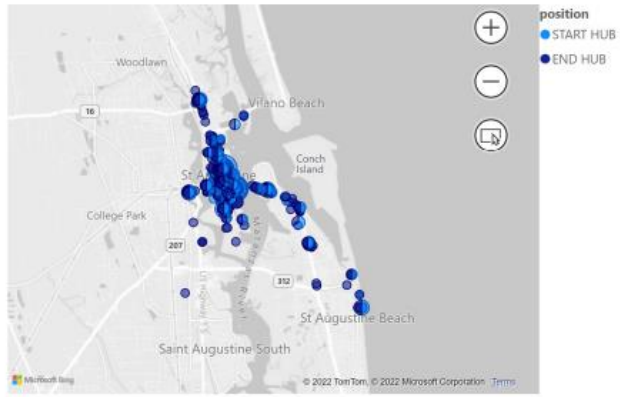
Number of rides that ended in a hub : **504**

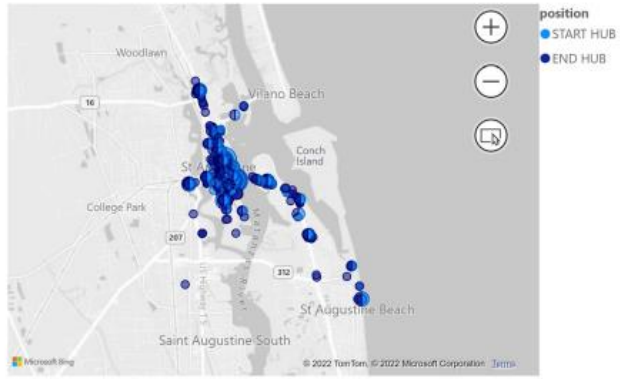
Number of rides that ended outside of a hub : **551**

St. Augustine April, 2022

BOLT

Heat Map:





Mobility Program: 4th of July Shuttle

July 4, 2022, Anastasia Island – Park & Ride Shuttle

Passenger Count (in-bound)

Lot Location	4-July
Anastasia Island	1,633 (Monday)
2022 Totals	**1,633**
2021 Totals (Covid)	No Shuttle (Sunday)
2020 Totals (Covid)	No Shuttle (Saturday)
2019 Totals	2,778 (Thursday)
2018 Totals	2,968 (Wednesday)
2017 Totals	2,682 (Tuesday)

Mobility Program: Parking Dynamic Signage

Phase 1 of the dynamic parking signs is complete. These signs are installed at all the entry ways to the parking garage.

The next step is to have real-time parking data available on the City website, followed by the Smart St. Augustine initiative funded via FDOT.

Additional Questions
and
Commission Discussion

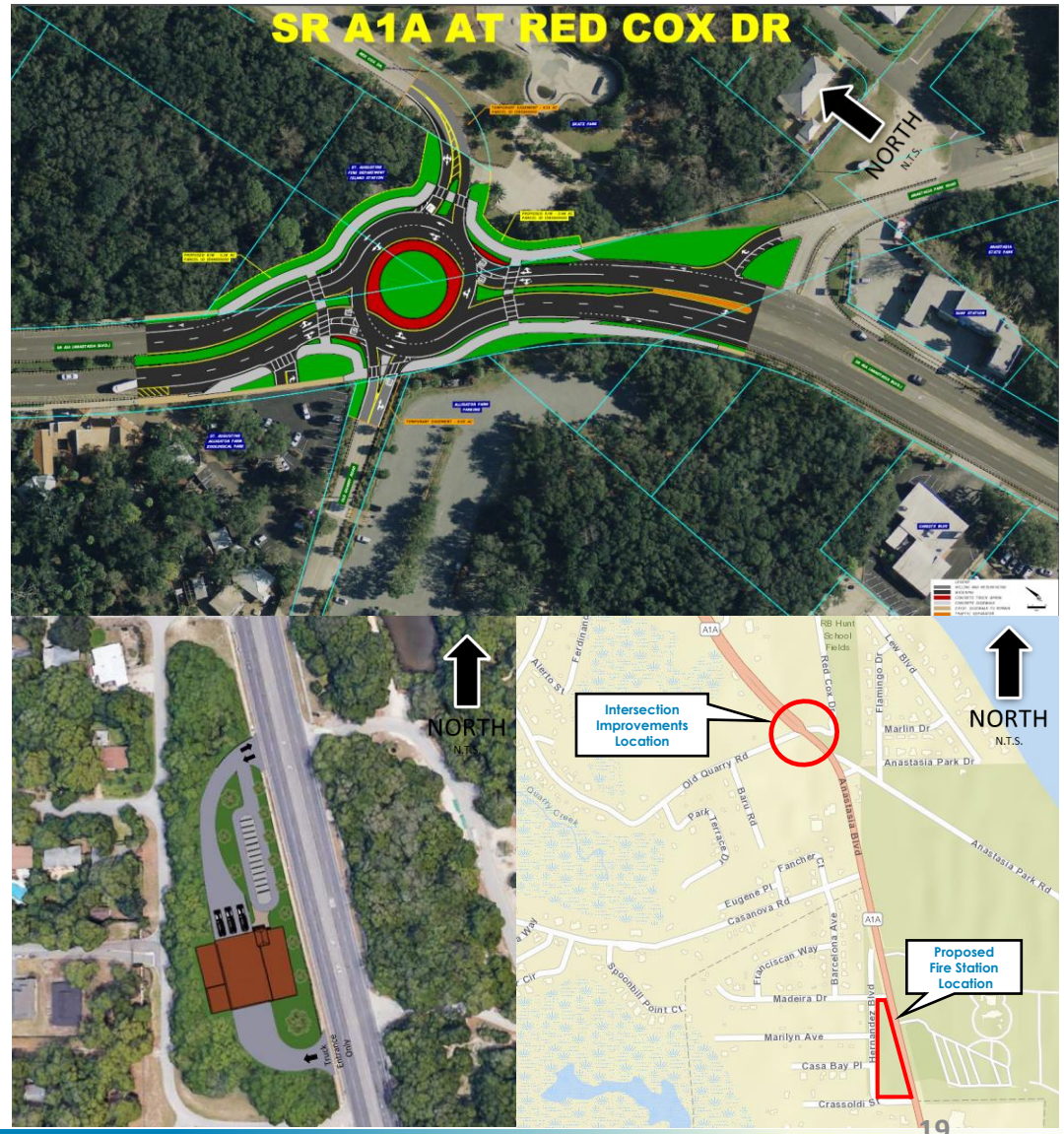
Appendix

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.

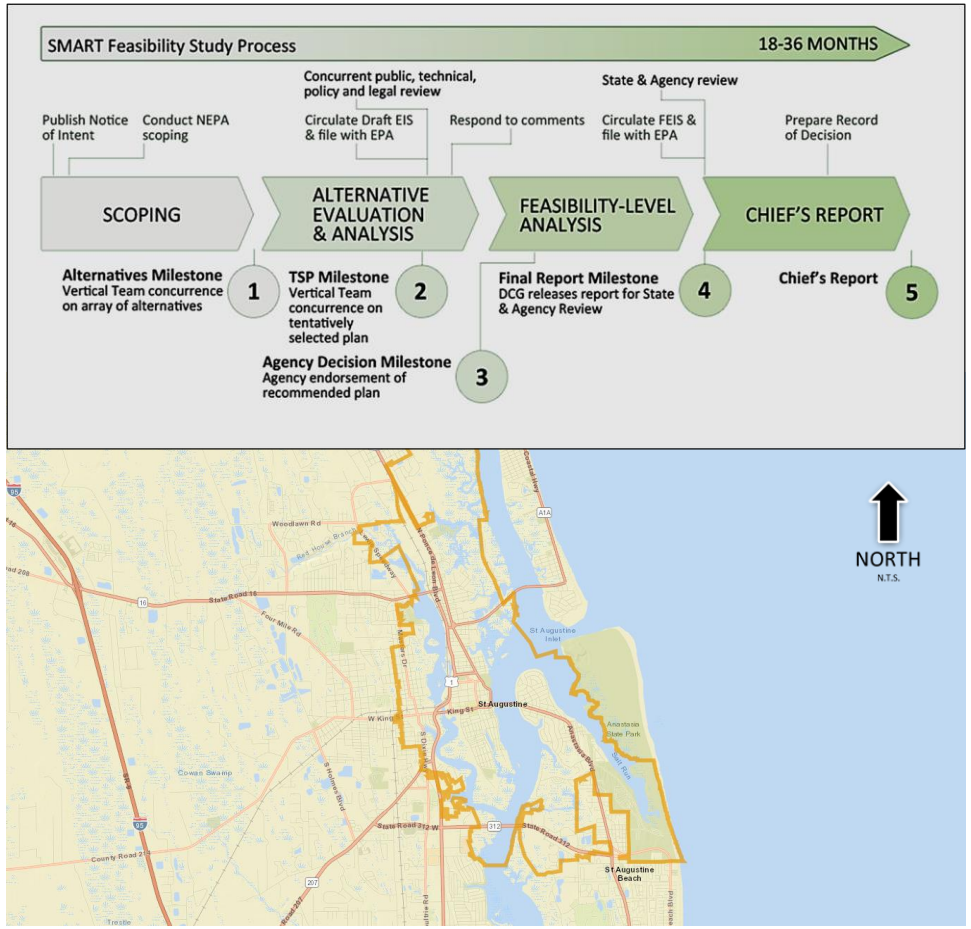


Design Cost:	$ TBD
Construction Cost:	$ TBD
Project Status:	Scope
Construction Duration:	TBD

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.



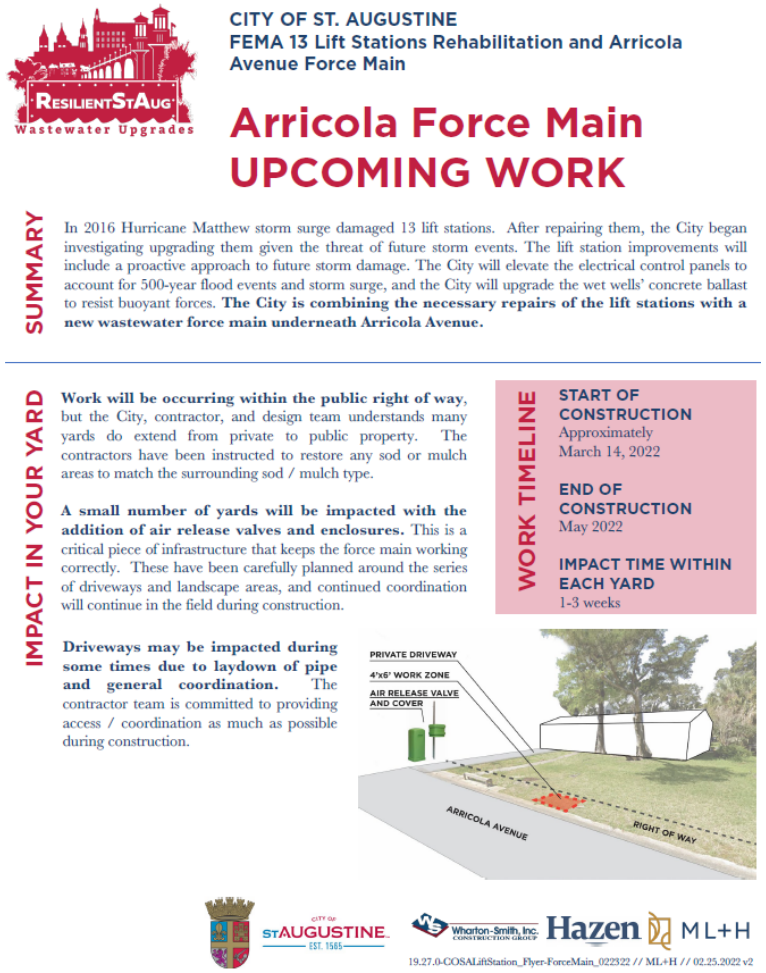
Study Cost:	$ 3.0 M
Construction Cost:	$ TBD
Project Status:	Solicitation – Study
Study Duration:	2022 – 2025

CIP Project Information Sheet

Arricola Ave Force Main HDD

This project will replace and extend the force main between LS-51 and 52 in South Davis Shores. The existing cast iron force main stops short of LS-52 and discharges into a manhole on Solano Ave. This has caused SSOs (sanitary sewer overflows) at the manhole on Solano. This project will improve our utility, harden the collection and transfer of wastewater, and eliminate SSOs. Design and construction of this project is funded by city bond proceeds.

Design Cost:	$ 181,000
Construction Cost:	$ 620,000
Project Status:	Construction
Construction Duration:	April 2022 – May 2022



CITY OF ST. AUGUSTINE
FEMA 13 Lift Stations Rehabilitation and Arricola Avenue Force Main

ResilientStAug Wastewater Upgrades

Arricola Force Main UPCOMING WORK

SUMMARY

In 2016 Hurricane Matthew storm surge damaged 13 lift stations. After repairing them, the City began investigating upgrading them given the threat of future storm events. The lift station improvements will include a proactive approach to future storm damage. The City will elevate the electrical control panels to account for 500-year flood events and storm surge, and the City will upgrade the wet wells' concrete ballast to resist buoyant forces. **The City is combining the necessary repairs of the lift stations with a new wastewater force main underneath Arricola Avenue.**

IMPACT IN YOUR YARD

Work will be occurring within the public right of way, but the City, contractor, and design team understands many yards do extend from private to public property. The contractors have been instructed to restore any sod or mulch areas to match the surrounding sod / mulch type.

A small number of yards will be impacted with the addition of air release valves and enclosures. This is a critical piece of infrastructure that keeps the force main working correctly. These have been carefully planned around the series of driveways and landscape areas, and continued coordination will continue in the field during construction.

Driveways may be impacted during some times due to laydown of pipe and general coordination. The contractor team is committed to providing access / coordination as much as possible during construction.

WORK TIMELINE

START OF CONSTRUCTION
Approximately
March 14, 2022

END OF CONSTRUCTION
May 2022

IMPACT TIME WITHIN EACH YARD
1-3 weeks

CITY OF ST. AUGUSTINE EST. 1565 · Wharton-Smith, Inc. Construction Group · Hazen · ML+H

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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

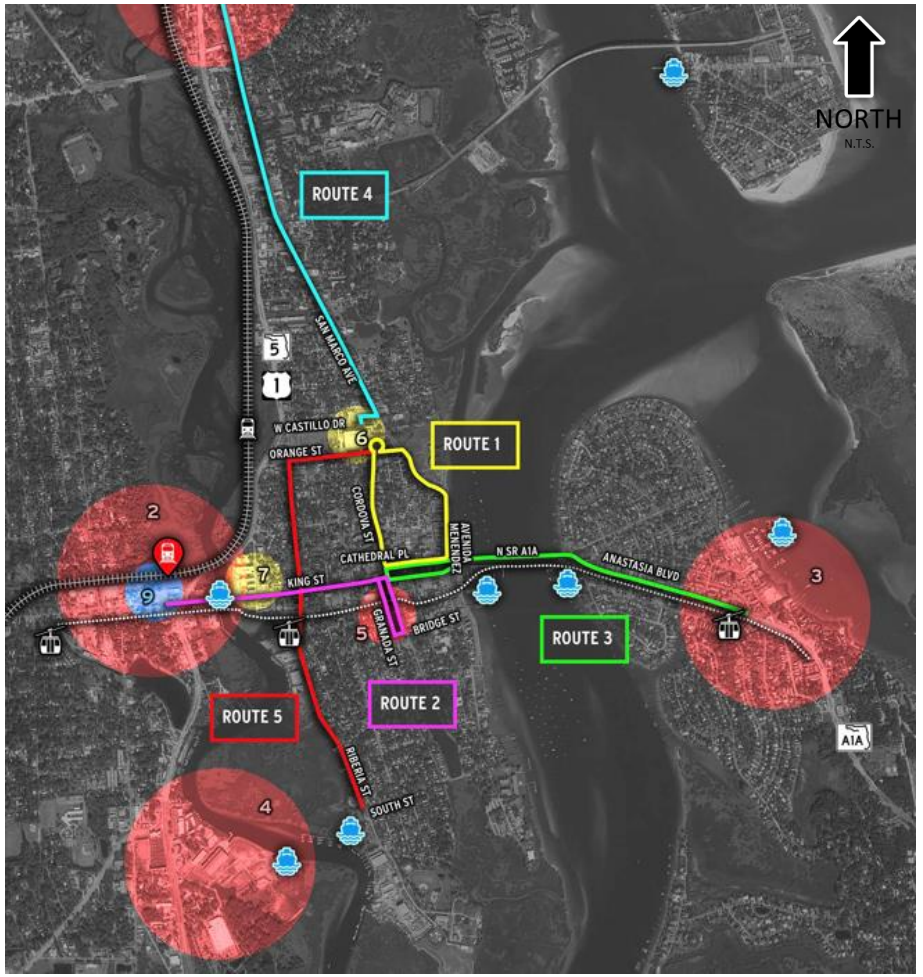
The project includes design, permitting, and construction to replace aged utilities, upgrade existing storm water infrastructure and evaluate structural and non-structural based resiliency options for the neighborhood. A mobility component will also be included. The project outcomes include reconstruction 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.



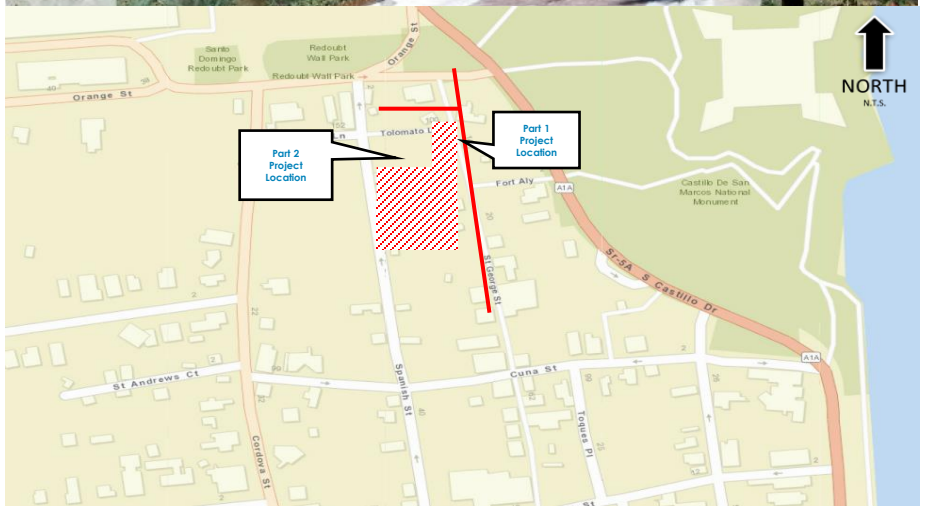
Operation Cost:	$ 1.0 M annually
Construction Cost:	$ NA
Project Status:	Solicitation
Operation Duration:	5 years

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

Duero and Cerro St. Stormwater and Utility Improvements

This project will replace and improve utilities along Duero Street, Twine Street, and Cerro Street. Stormwater collection inlets and culverts will be replaced along Duero Street, between MLK Ave. and Blanco Street, and added along Cerro Street. Gravity sewer, water main, and force main improvements will also occur along Duero Street, Cerro Street, and the block of Twine Street between.

Design Cost:	$ 144,000
Construction Cost:	$ TBD
Project Status:	Design
Construction Duration:	TBD

CIP Project Information Sheet

FEMA 13 Lift Station Rehabilitation and Replacement

These 13 lift stations (LS-4, 5, 6, 7, 10, 11, 12, 21, 22, 50, & 52) were identified as being damaged during hurricane Mathew, and again during hurricane Irma. This project will elevate, rehabilitate, replace, and harden the lift stations against future storms and flooding events. This project is funded through FEMA's Public Assistance program with 75% reimbursable, the State reimbursing 12.5%, and the city's share 12.5%.

Design Cost:	$ 1.4 M
Construction Cost:	$ 14.8 M
Project Status:	Construction
Construction Duration:	Sept 2020 – Feb 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

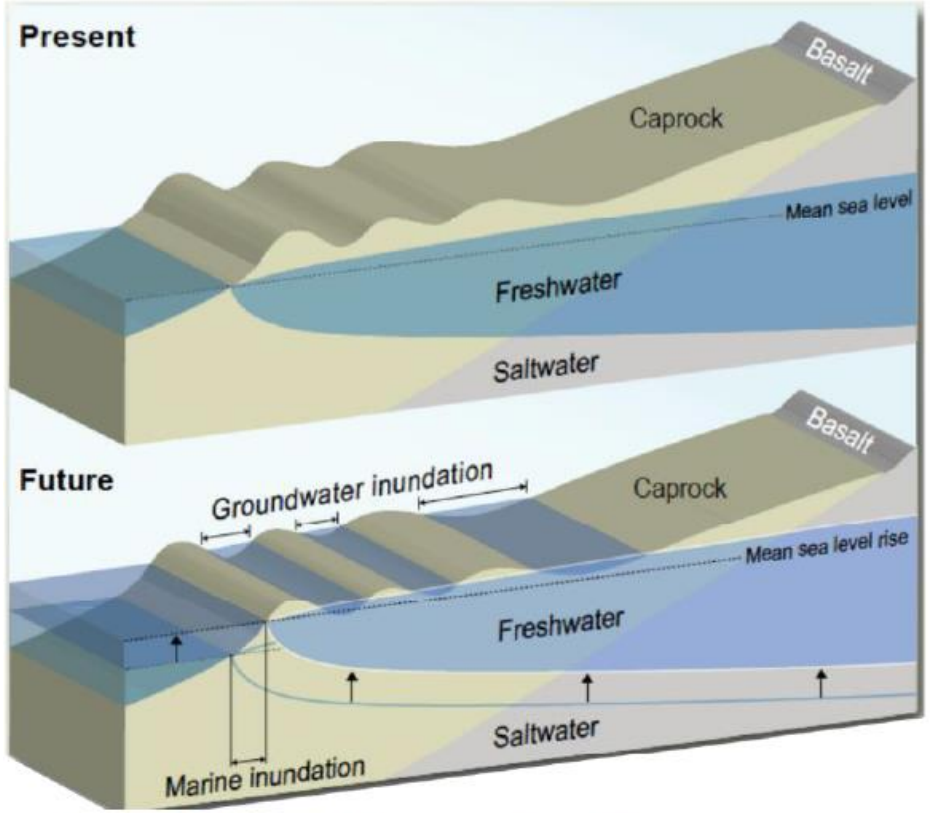


Figure 19. Conceptual diagram of groundwater inundation, obtained from Rotzoll and Fletcher (2012).

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.

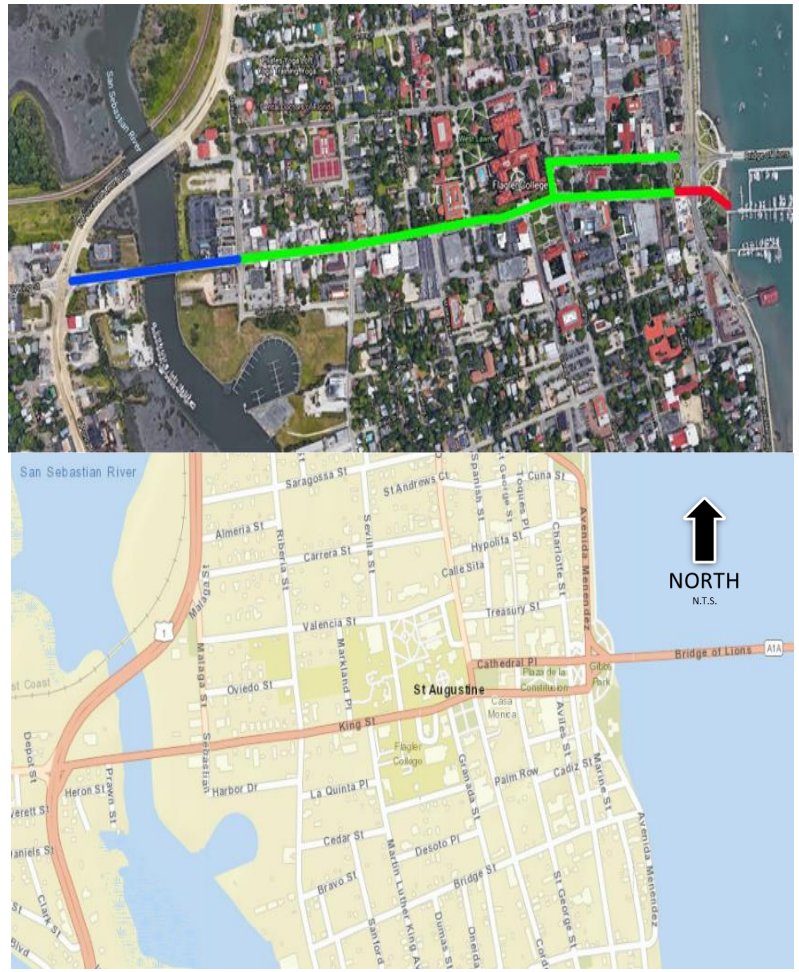
Design Cost:	$ 36,000 estimate
Construction Cost:	$ 620,000 estimate
Project Status:	Solicitation – Design
Construction Duration:	TBD

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.

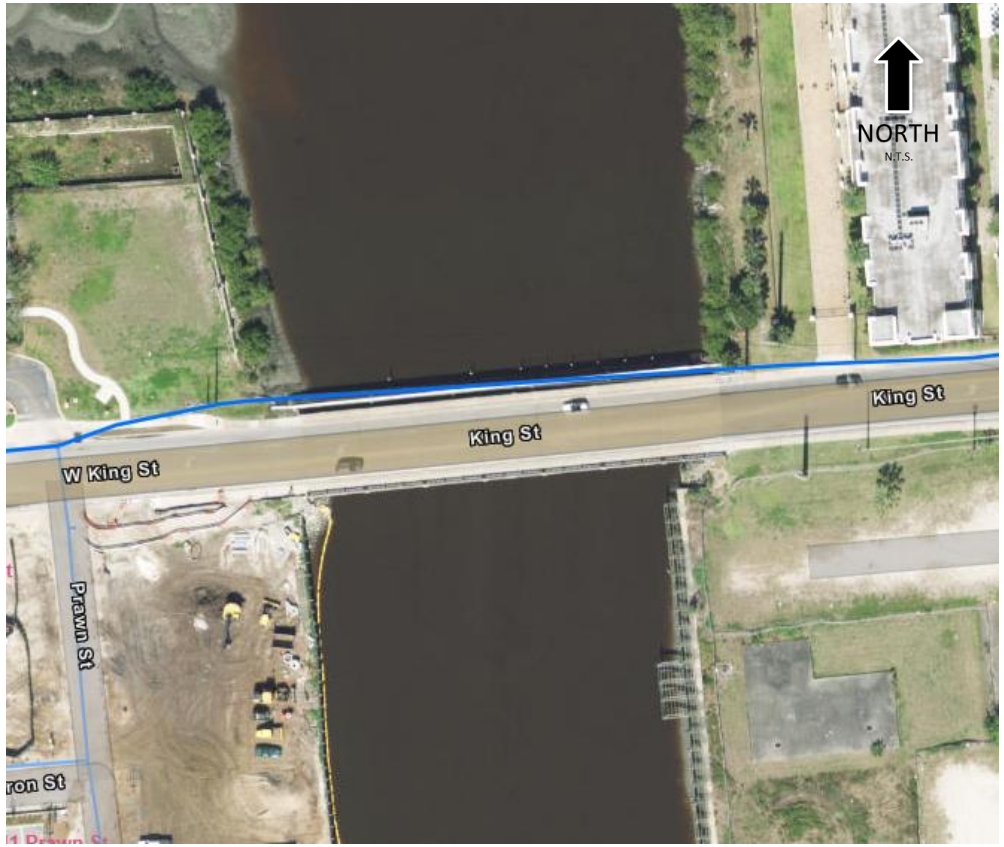
Design Cost:	$ 1.0 M estimate
Construction Cost:	$ 17.0 M estimate
Project Status:	Design
Construction Duration:	TBD



CIP Project Information Sheet

King Street and San Sebastian River WM HDD

This project will replace the existing water main on King Street crossing San Sebastian river. FDOT is replacing the bridge on King Street that crosses the San Sebastian river. The city's existing cast iron water main is an aerial crossing adjacent to the bridge. The new water main will be a horizontally-directionally-drilled (HDD) water main beneath the river. This water main replacement will occur before the FDOT bridge replacement project.



Design Cost:	$ 100,000
Construction Cost:	$ 400,000 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

Lift Station 8, 14, and 41 Replacement

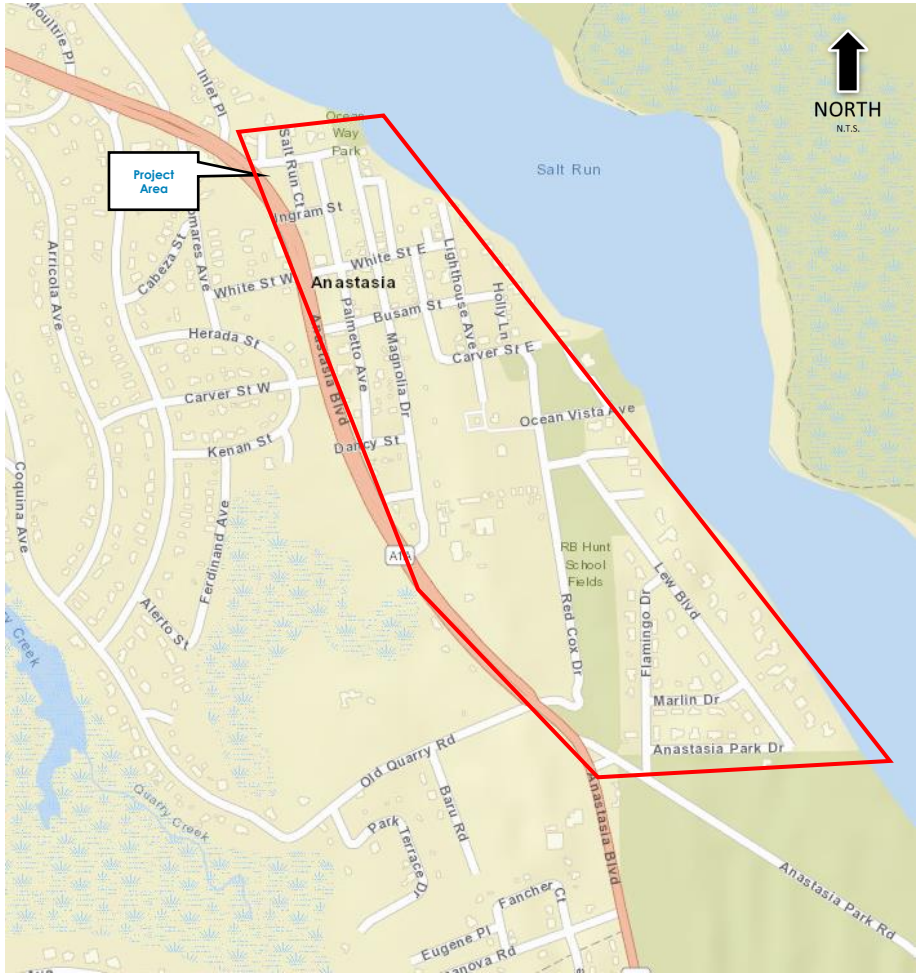
These projects will replace existing city lift stations located throughout the city. Lift station 8 and 14 are circa 1960's "can" stations utilizing a wet and dry pit. LS-41 is an existing suction-lift wastewater pumping station. The new stations will be modern submersible duplex stations with an emphasis on resiliency and hardening against storm surge and flooding.

Design Cost:	$ 360,000 estimate
Construction Cost:	$ 3.0 M estimate
Project Status:	Design
Construction Duration:	TBD

CIP Project Information Sheet

Lighthouse Park Gravity Sewer Improvements

This project will bring gravity sewer collection systems to the greater Lighthouse Park Neighborhood area. This neighborhood area was identified in the Septic Tank Vulnerability Assessment study as one the top contributors to surface water nitrogen from septic within the city limits. This project will eliminate existing and future onsite septic systems and residential grinder pump connections to force main. The project area is east of Anastasia Blvd between Ocean Way to the north and Anastasia Park Dr to the south. Design for this project is funded by city bond proceeds.



Design Cost:	$ 665,000 estimate
Construction Cost:	$ 6.7 M estimate
Project Status:	Design
Construction Duration:	TBD

CIP Project Information Sheet

Mini Grant Program for Sewer Connections in West Augustine – Package 5

This program connects west Augustine area existing homes on septic to the city's existing gravity sanitary sewer collection system. The city has been setting aside $250,000 per year to be used for these septic to sewer conversions. The city identifies qualifying homes (homes on septic with gravity sewer available) and assembles construction packages. During construction, the existing septic tank is demolished, the home's plumbing is rerouted and connected to the existing gravity sanitary sewer main. Package 5 is converting 11 homes to gravity sewer and 61 conversions have been completed to date.

Design Cost:	$ In-House
Construction Cost:	$ 181,019
Project Status:	Construction Complete
Construction Duration:	5 Months

CIP Project Information Sheet

Oyster Creek Force Main HDD

This project will replace the existing 8-inch PVC and 6-inch cast iron force mains with a single 12-inch HDPE force main. The new 12-inch force main will be installed via the horizontal directional drill (HDD) method. This work will improve the city's utility and relocate it out the way of future FDOT box culvert work.

Design Cost:	$ 27,000
Construction Cost:	$ 334,800
Project Status:	Construction Complete
Construction Duration:	90 days

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 Projects

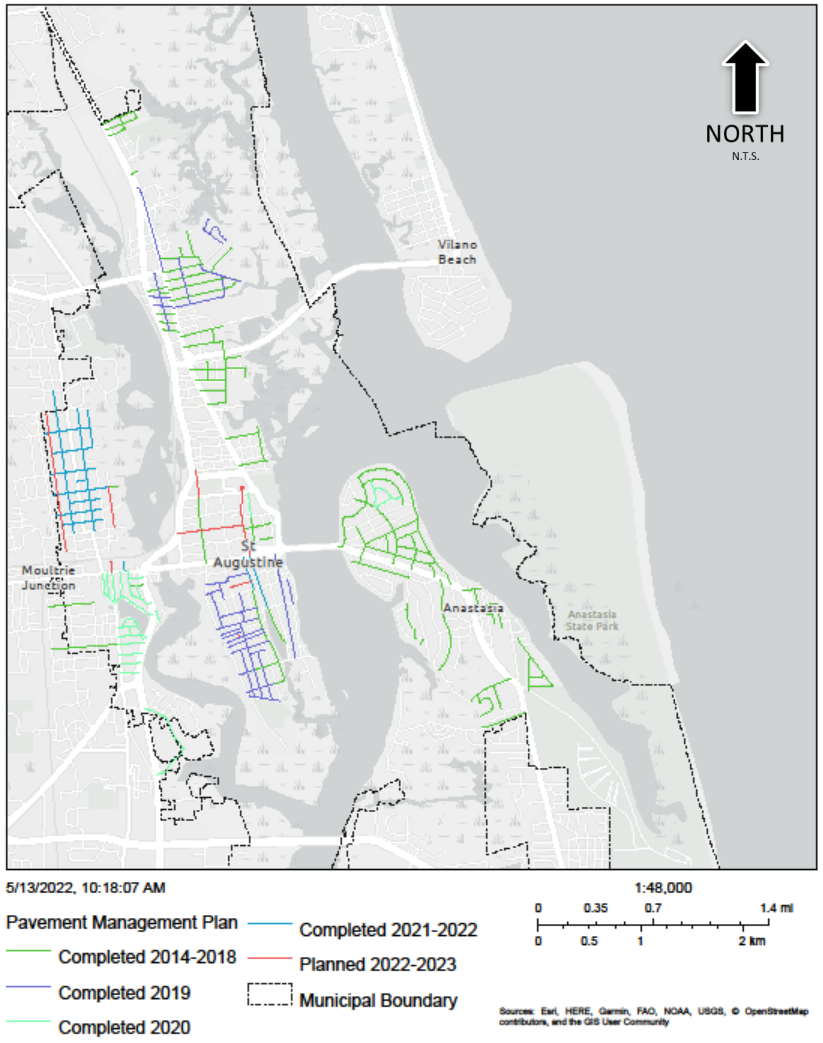
To repair damage caused to roadways over time and numerous utility cuts due to repairs, it is necessary to fund a paving management program. These paving projects are funded annually by the City. The City is currently performing a pavement condition assessment by RoadBotics. The objective of this project 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.

Proposed FY 2023 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
- N. Leonardi St.- from King St. to r/r dead end - $27,746
- Cordova St.- from King St. to Orange St. - $61,212

Total Cost- $369,881

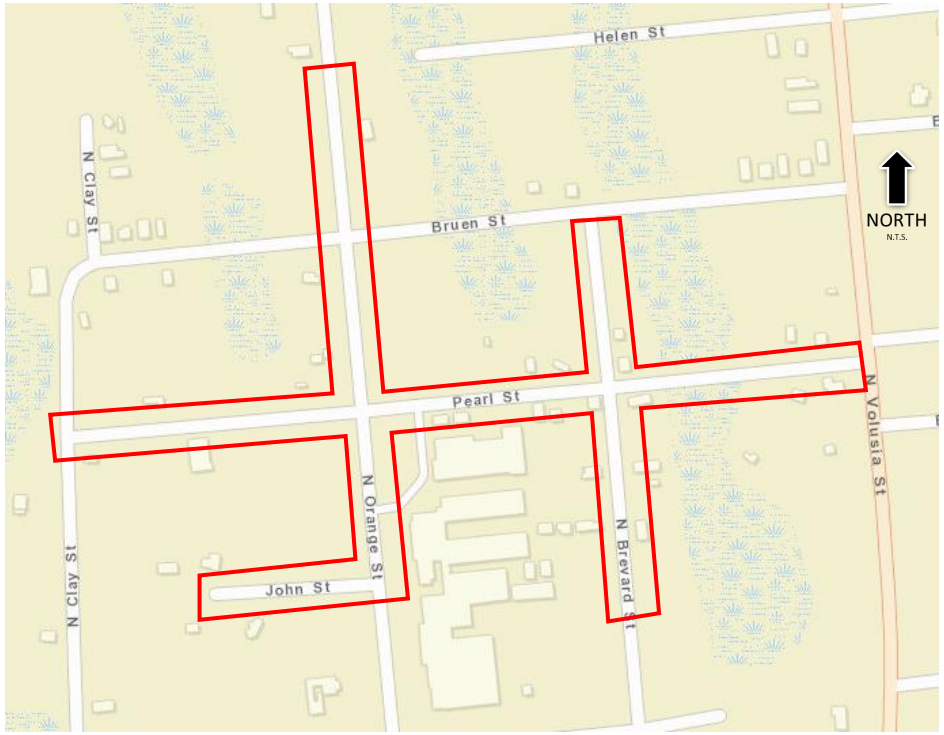
City of St. Augustine Pavement Management 2022



CIP Project Information Sheet

Pearl Street Gravity Sewer Improvements

The City acquired existing sewer infrastructure that includes a pump station and gravity sewer infrastructure around the perimeter of Webster Elementary School. The City has the opportunity to install gravity sewer main extensions off the existing infrastructure and a watermain replacement to serve the residents in the adjacent area. The project is currently in design and will build out the gravity sewer basin to the full extents possible and serve 42 existing residential homes. The proposed 6-inch watermain will replace the existing 2-inch watermain and tie into existing watermains to continue a loop system. Design and construction of this project is funded by city bond proceeds.



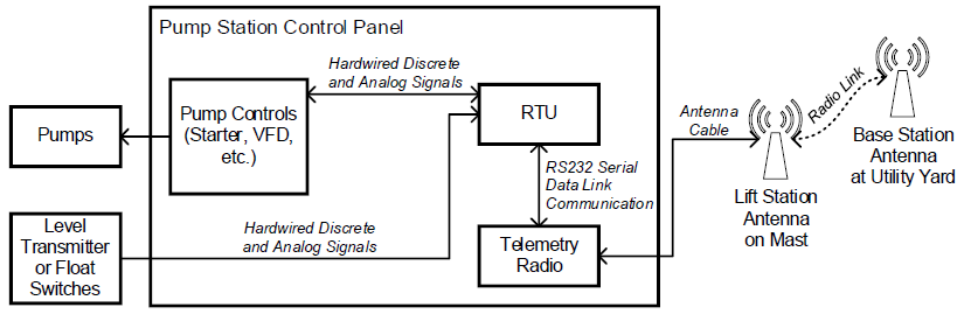
Design Cost:	$ 121,500
Construction Cost:	$ 2.5 M estimate
Project Status:	Design
Construction Duration:	TBD

CIP Project Information Sheet

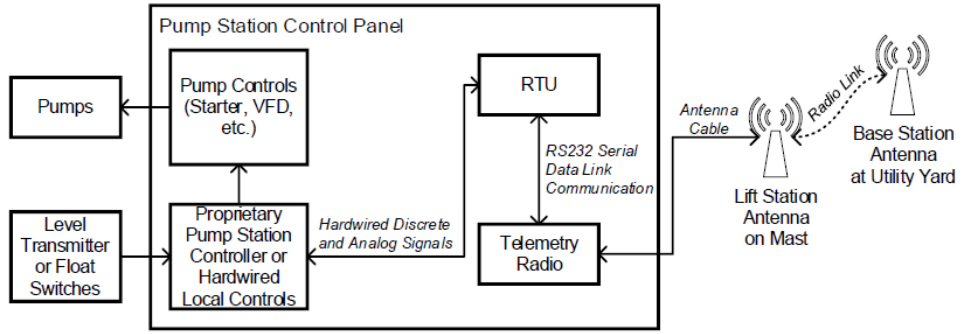
SCADA for Lift Stations, Water and Wastewater Treatment Plants

SCADA (Supervisory Control and Data Acquisition) is used to collect data and monitor the city's lift stations, water treatment plant, and wastewater treatment plant. Currently, the plants and operations are utilizing different systems and technologies of varying age and obsoleteness. This project will identify current issues and immediate fixes, before identifying and implementing a complete permanent solution. The first phase of this project has: identified and documented the current SCADA system and use; produced updated electrical and control panel standard drawings for city use.

Pump Station with Standalone RTU



Pump Station with RTU and Separate Controller or Hardwired Local Controls

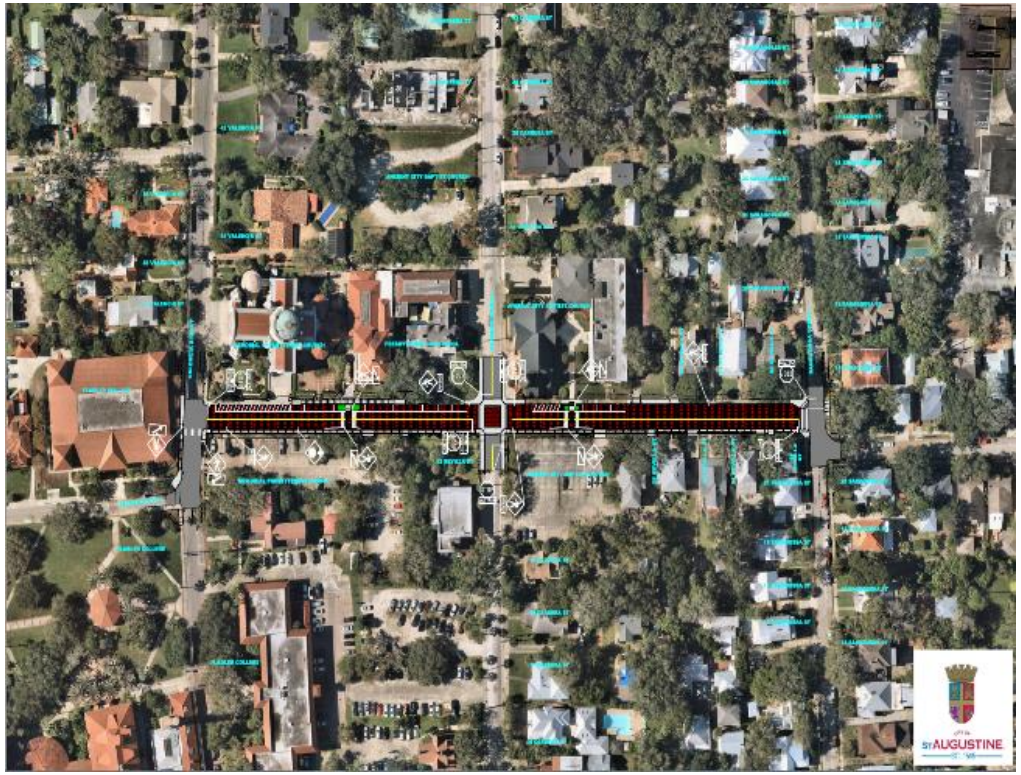


Design Cost:	$ 350,000
Construction Cost:	$ 250,000
Project Status:	Design
Construction Duration:	TBD

CIP Project Information Sheet

Sevilla Street Brick Roadway & Utility Improvements

The Sevilla Street improvements consist of cast iron water main replacement, gravity sewer replacement, stormwater improvements, and brick roadway replacement. Project will also include improvements to existing sidewalks, with elevated crosswalks and intersections.



Design Cost:	$ 110,000
Construction Cost:	$ 1.2 M estimate
Project Status:	Design
Construction Duration:	TBD

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.

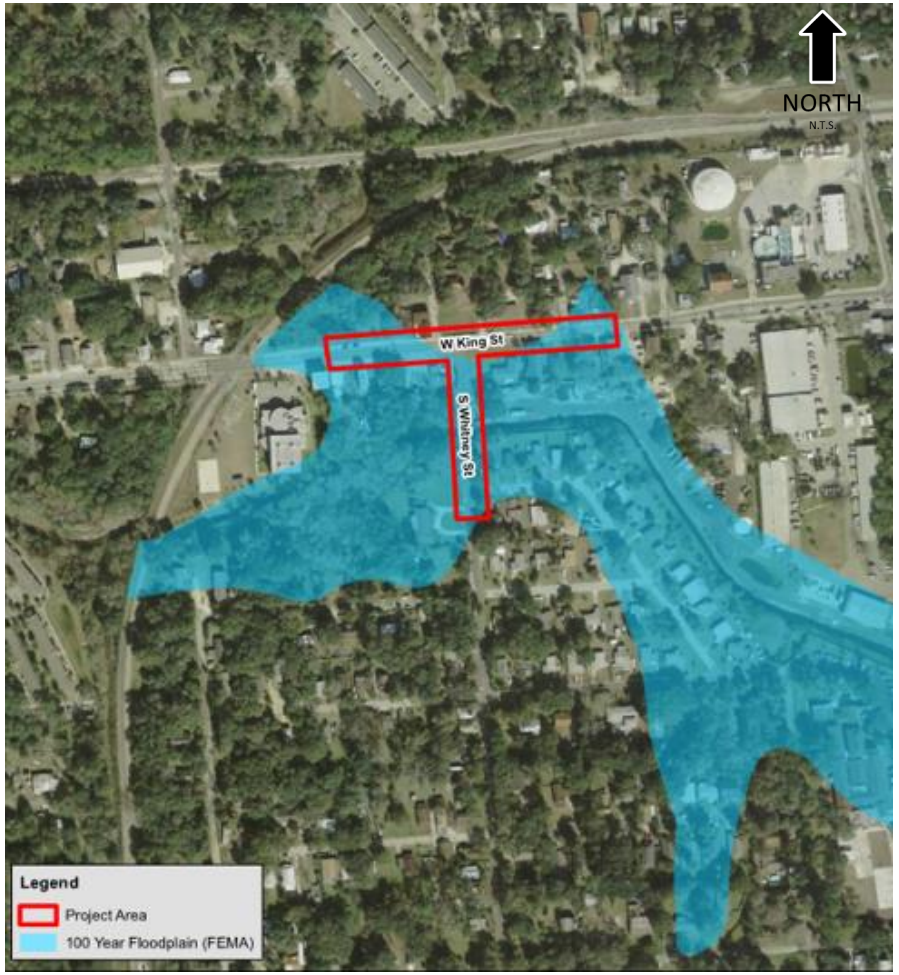
Design Cost:	$ 388,000 estimate
Construction Cost:	$ 2.4 M estimate
Project Status:	Solicitation – Design
Construction Duration:	TBD

Figure 1-1: Study Area and Pilot Area Extent
City of St. Augustine, FL

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 $463,198 and Resilient Florida program is granting $ 1.2 million to this project.



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

CIP Project Information Sheet

St. Francis Street Utility Improvements

St. Francis Street currently has a vitrified clay pipe (VCP) gravity sewer collection system that is oversized, shallow-sloped, with cementitious material in the invert of the mains. Sanitary sewer overflows and a collapsed main during trenchless repair qualifies for complete replacement. Project will consist of cast iron water main replacement, gravity sewer replacement, roadway (asphalt or brick) replacement, and stormwater improvements. Adjusting the grade and slope of the gravity sewer main will allow city to continue these hydraulic improvements along Cordova Street with the LMS project.

Design Cost:	$ 120,000 estimate
Construction Cost:	$ 1.1 M estimate
Project Status:	Design
Construction Duration:	TBD

CIP Project Information Sheet

Stormwater Master Plan – Phase 2

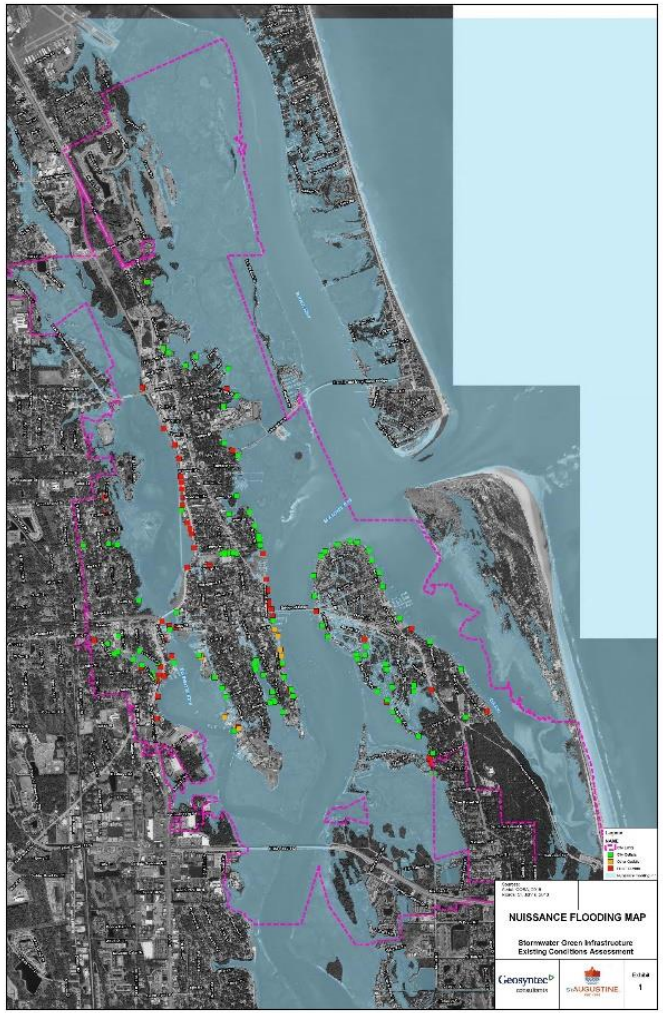
With the last stormwater master plan's data being from 2013, several flood events have taken place due to hurricanes, king tides and heavy rainfall. This proposed City-wide study will update the master plan to incorporate recent vulnerability assessments, resilience studies and a comprehensive plan update 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

Stormwater Outfall Tide Check-Valve Master Plan

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.

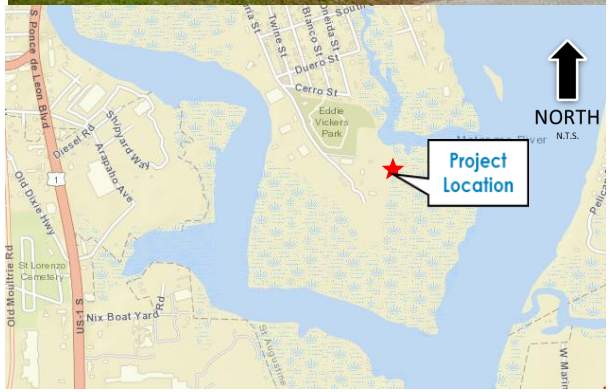


Design Cost:	$ TBD
Construction Cost:	$ 461,282 estimate
Project Status:	Solicitation – Design
Construction Duration:	2023 – 2026

CIP Project Information Sheet

Wastewater Treatment Plant Headworks Rehabilitation

The Wastewater Treatment Plant (WWTP) is the initial stage of the sanitary sewage treatment process. The headworks screens out trash, rags, and grit before it enters the treatment process, enhancing efficiency of the water treatment process. The headworks is the original 1987 structure. Rehabilitation will consist of replacing the mechanical screen, grit system, control panels, electrical lightening protection and structural concrete improvements. The project will also elevate critical equipment to 12 feet elevation to ensure operational integrity of the headworks in the event of a Category 2 storm surge event. Construction for this project is funded by city bond proceeds.

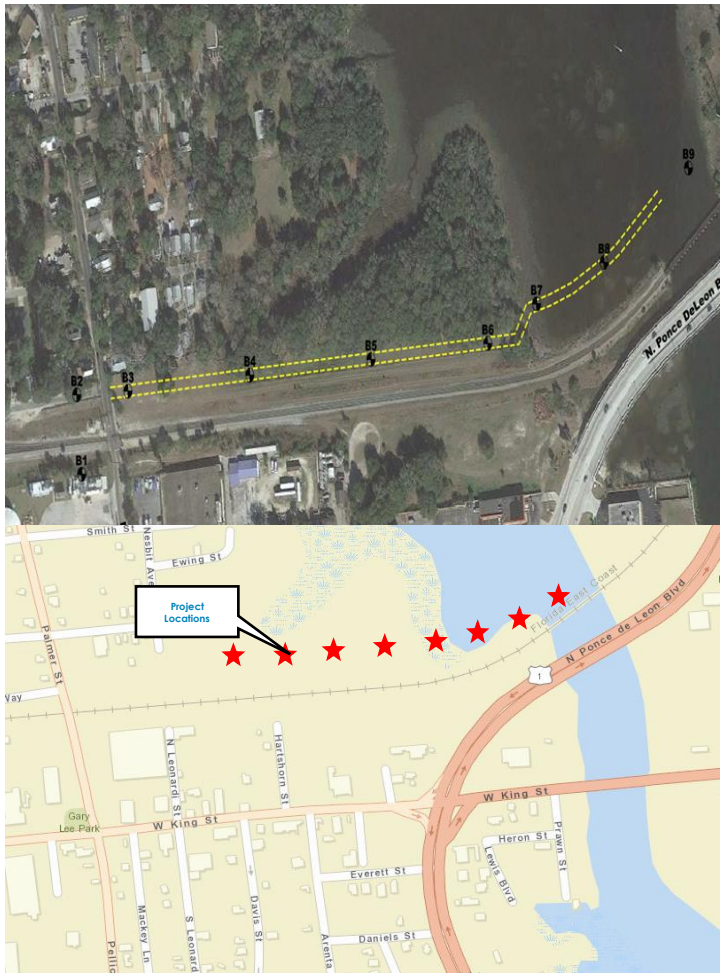


Design Cost:	$ 234,500
Construction Cost:	$ 4.0 M estimate
Project Status:	Construction
Construction Duration:	2022 – 2024

CIP Project Information Sheet

Water Treatment Plant Concentrate Outfall

This project will construct a permitted outfall pipe for the Water Treatment Plant's (WTP) low-pressure reverse osmosis (LPRO) concentrate. During production of the city's drinking water, the LPRO system produces approximately 300,000 gallons of brine concentrate per day. The brine is currently discharged to the City's sanitary sewer collection system and pumped to the wastewater treatment plant (WWTP). This concentrate outfall will eliminate 300,000 gallons per day of brine sent through the city's gravity sewers, lift stations, and WWTP. Construction of this project is funded by city bond proceeds.



Design Cost:	$ 161,300
Construction Cost:	$ 2.0 M estimate
Project Status:	Solicitation
Construction Duration:	TBD

CIP Project Information Sheet

Water Treatment Plant High Service Pump Motor Control Center and Emergency Generator Replacement

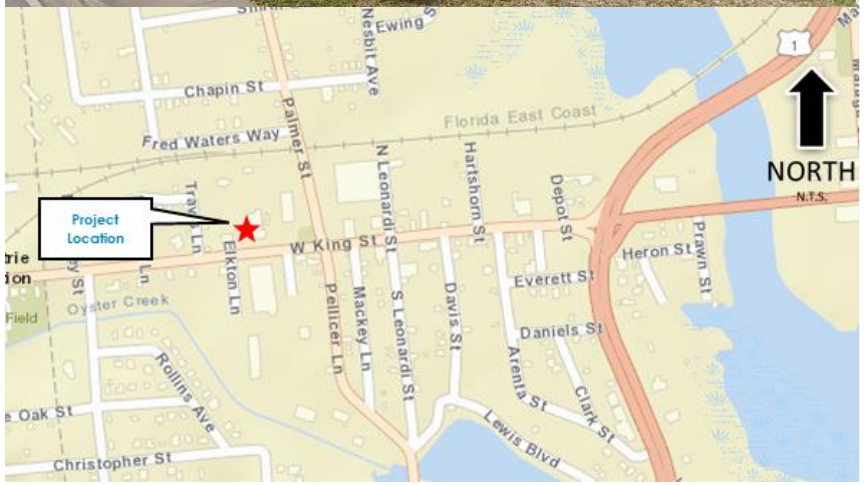
The Water Treatment Plant's (WTP) High Service Pump (HSP) Motor Control Center (MCC) is a critical component of delivering potable water to the distribution system. The existing MCC has reached end of life and does not provide fail safe distribution of potable water in the event of a power outage or surge. This project will completely replace the existing MCC and will be housed inside a climate-controlled environment. Variable frequency drives, programmable logic controllers, and human machine interfaces and control panels with annunciators, alarms, cable, and conduit will be installed. Additionally, a new emergency generator will be installed with an automatic transfer switch. Construction of this project is funded by city bond proceeds.

Design Cost:	$ 80,010
Construction Cost:	$ 1.5 M estimate
Project Status:	Construction
Construction Duration:	2022 – 2023

CIP Project Information Sheet

Water Treatment Plant Optimization

The City has been in a pilot program to test free chlorine for maintaining residual water distribution system instead of the historically used chloramine. FDEP approved the pilot program and has extended it. Data collected during the pilot program showed promising results with respect to residual chlorine at the end of pipeline while maintaining compliance with disinfection byproduct limits. The City wants to evaluate current operational strategies including those in use prior to the free chlorine pilot program. In addition, the City wishes to develop an Operating Plan moving forward that includes the use of free chlorine disinfection, and to enhance the operating staff's capabilities to understand the operating plan and adjust the plan in response to changing conditions.



Study Cost:	$ 72,220
Construction Cost:	$ TBD
Project Status:	Study
Study Duration:	84 days

CIP Project Information Sheet

West 3rd Street Gravity Sewer and Water Main Improvements

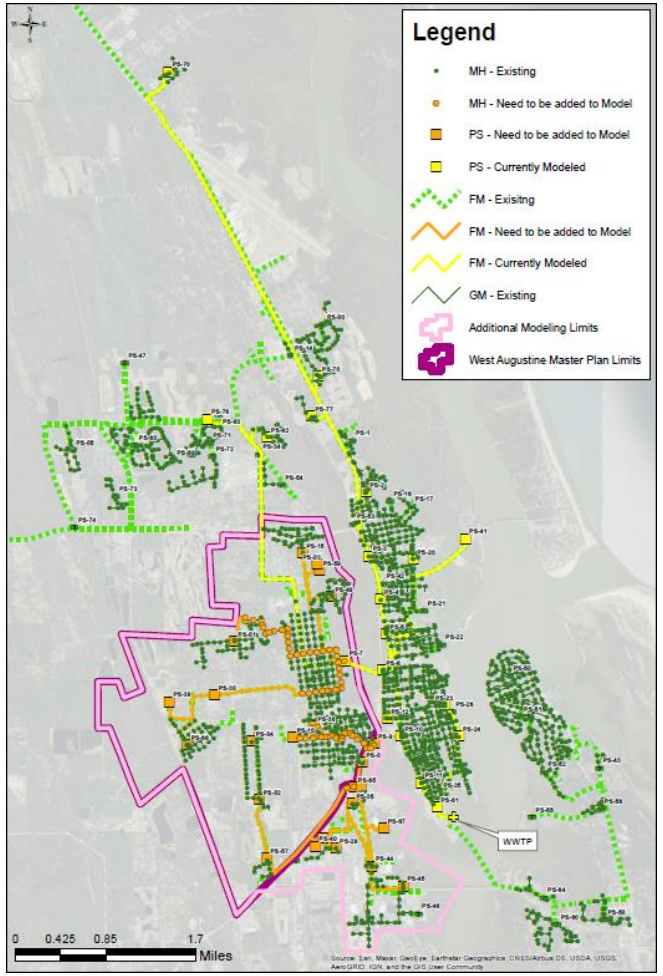
The West 3rd Street gravity sewer improvements will be an extension of the existing gravity sewer main. Improvements to the water main include replacing the existing 2-inch water main with a 6-inch watermain and tie-in existing water mains to continue a loop system. There will be 28 existing residential homes converted from septic to sewer. FDEP is providing a $300,000 grant for this project. Construction of this project is funded by city bond proceeds.

Design Cost:	$ 60,000
Construction Cost:	$ 1.2 M estimate
Project Status:	Design
Construction Duration:	Oct. 2022-June 2023

CIP Project Information Sheet

West Augustine Wastewater Master Plan and Hydraulic Model Update

A Wastewater Master Plan for the West Augustine area is being developed because many of the area residences and businesses are served by on-site septic systems. The primary goal of the Master Plan will be to provide a guide for a planned wastewater collection system that may be constructed in phases with associated costs that can support requests for funding from various loan or grant agencies. The ultimate goal of providing a City wastewater system to the area will be to improve water quality, community health and quality of life.



Design Cost:	$ 68,000
Construction Cost:	$ TBD
Project Status:	Design
Construction Duration:	TBD

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

Glossary of Terms

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