

Capital Improvement Plan: FY2021-2025

The Capital Improvement Plan (CIP) is a tentative, five-year outline of capital needs matched to the most likely funding source. It contains the requests of all departments for purchases of land, buildings, improvements, equipment and vehicles that are expected to cost at least \$25,000. In some cases, non-capital items are included in the CIP when the amount of the dollars requested are significant (greater than \$100,000), or are for major on-going programs (such as street resurfacing and sidewalk repair). The CIP includes five years of estimates as of the time the plan is adopted. This plan is revised on an annual basis to reflect the changing needs and resources of the City.

The benefits of having a five-year plan include:

- Advance identification of capital needs in order to arrange funding
- Promotion of priority setting in the decision making process
- Replacement of facilities and equipment according to an orderly plan
- Education of the City Council and the public as to upcoming capital needs

The development of the Capital Improvement Plan begins each year in late January when preliminary 5-year budget projections are prepared. Departments use the budget projections to determine the timing and affordability of projects in their 5-year capital improvement requests. In March, capital improvement requests are reviewed with each department by the City Manager. Budget projections are then revised to incorporate projects approved through this process and the projects are incorporated into each department's annual budget request.

Significant projects are discussed on the annual budget tour in late July / early August and the plan is included in the proposed budget considered for adoption by the City Council. The City's Capital Projects Team, consisting of the City Manager, Public Works Director, Planning and Development Director, Chief Financial Officer, City Engineer and Budget Officer meet monthly to monitor the progress of each ongoing project, identify possible future projects, and to resolve early any problems that may arise.

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When considering items for inclusion into the Capital Improvement Program, requested purchases are prioritized after answering the following questions:

1. Will it be needed to protect public health and safety, fulfill legal obligations, provide facilities and services, or achieve full use of existing facilities?
2. Will it increase efficiency of use of existing facilities, prevent or reduce the need for future capital outlay or promote development?
3. Will the project be necessary to maintain the current level of service or to aid in the implementation of any other policy set forth in the Comprehensive Plan?
4. Is the cost of the purchase reasonable in light of the questions above and will adequate funding be available at the time of purchase?

The following schedules are configured to show the annual and total costs of projects and the cost of capital items that have been identified for purchase in future years. Expenditures are summarized by department and descriptions of projects or purchases included in the plan follow each departmental summary. Although projects listed have a currently identified funding source, over the passage of time, the nature, amount and source of funding may change.

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CIP Summary, All Departments		2021	2022	2023	2024	2025	Total
Funding Sources:							
Beaches Energy Services Operating Revenues	410	\$ 7,920,000	\$ 8,434,670	\$ 9,113,930	\$ 6,930,429	\$ 6,671,087	\$ 39,070,115
Downtown Redevelopment Tax Increment Fund	181	755,750	3,939,900	5,778,150	4,631,200	515,000	15,620,000
Federal Equitable Sharing Fund	631	-	132,750	-	-	-	132,750
General Capital Projects Fund	315	1,436,400	2,433,296	1,319,720	1,576,960	773,000	7,539,376
General Fund Operating Revenues	001	213,000	238,000	972,000	142,000	225,000	1,790,000
Golf Course Fund	440	170,000	120,000	165,000	135,000	75,000	665,000
1/2 Cent Infrastructure Surtax	151	820,000	820,000	820,000	820,000	820,000	4,100,000
1/2 Cent Infrastructure Surtax Bond Proceeds	317	450,000	863,500	-	3,000,000	-	4,313,500
Local Option Gas Tax Revenues	150	310,000	310,000	310,000	310,000	310,000	1,550,000
Meter Division-Internal Service Charges	541	75,000	-	-	-	-	75,000
Natural Gas Fund	411	140,000	140,000	140,000	140,000	140,000	700,000
Operations & Maint. Internal Service Charges	550	-	38,000	-	-	-	38,000
Sanitation Fund	430	-	40,000	170,000	-	290,000	500,000
Southend Redevelopment Tax Increment Fund	182	2,805,000	2,055,000	3,855,000	1,674,000	4,676,000	15,065,000
Stormwater Operating Revenues	423	968,000	1,612,000	1,968,000	3,855,000	695,000	9,098,000
Unfunded - City of Jacksonville	-	350,000	-	-	-	475,000	825,000
Water & Sewer Utility Operating Revenues	420	3,569,525	3,236,000	4,723,000	1,283,000	1,912,000	14,723,525
Convention Development Fund	130	75,000	300,000	300,000	300,000	300,000	1,275,000
Total CIP Funding Sources - All Departments		\$20,057,675	\$24,713,116	\$29,634,800	\$24,797,589	\$17,877,087	\$117,080,266
Expenses:							
Beaches Energy Services		\$ 8,135,000	\$ 8,574,670	\$ 9,253,930	\$ 7,070,429	\$ 6,811,087	\$ 39,845,115
Finance Department		932,640	1,192,126	189,650	976,750	399,050	3,690,216
Police & Fire Departments		222,760	491,920	1,188,070	458,210	413,950	2,774,910
Parks & Recreation Department		583,000	728,000	615,000	625,000	515,000	3,066,000
Community Redevelopment Agency		4,140,275	6,858,400	9,633,150	9,305,200	5,191,000	35,128,025
Public Works Department		6,044,000	6,868,000	8,755,000	6,362,000	4,547,000	32,576,000
Total CIP - All Departments		\$ 20,057,675	\$ 24,713,116	\$ 29,634,800	\$ 24,797,589	\$ 17,877,087	\$ 117,080,266

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Beaches Energy Services		2021	2022	2023	2024	2025	Total
Funding Sources:							
Beaches Energy Services Operating Revenue	410	\$ 7,920,000	\$ 8,434,670	\$ 9,113,930	\$ 6,930,429	\$ 6,671,087	\$ 39,070,115
Meter Division-Internal Service Charges	541	75,000	-	-	-	-	75,000
Natural Gas Fund	411	140,000	140,000	140,000	140,000	140,000	700,000
Total CIP Funding Sources		\$8,135,000	\$8,574,670	\$9,253,930	\$7,070,429	\$6,811,087	\$39,845,115
Expenses:							
	Fund						
Engineering:							
Vehicle Replacement Program	410	\$ 35,000	\$ 35,000	\$ -	\$ -	\$ -	\$ 70,000
Advanced Smart Grid Infrastructure	410	-	300,000	309,000	318,270	327,818	1,255,088
BES/City Communication Infrastructure	410	400,000	412,000	424,360	437,091	-	1,673,451
		435,000	747,000	733,360	755,361	327,818	2,998,539
Construction & Maintenance:							
Vehicle Replacement Program	410	485,000	60,000	635,000	400,000	-	1,580,000
		485,000	60,000	635,000	400,000	-	1,580,000
Electric Capital Projects:							
Infrastructure to Support System Growth	410	1,250,000	1,287,500	1,326,125	1,365,909	1,406,886	6,636,420
Major Replacement Projects	410	2,389,000	2,529,170	2,040,545	2,103,162	2,167,056	11,228,933
		3,639,000	3,816,670	3,366,670	3,469,071	3,573,942	17,865,353
System Operations:							
Vehicle Replacement Program	410	-	-	-	-	-	-
Outage Management System	410	150,000	-	-	-	-	150,000
Distribution Management System	410	-	50,000	300,000	-	-	350,000
Regulatory Cyber & Physical Security	410	100,000	100,000	100,000	100,000	100,000	500,000
Building Renovations	410	-	250,000	25,000	25,000	-	300,000
		250,000	400,000	425,000	125,000	100,000	1,300,000
Relay / Substations:							
Vehicle Replacement Program	410	40,000	-	-	-	-	40,000
Subst. 26kV Breaker & Relay Upgrades	410	636,000	427,000	-	-	-	1,063,000
Subst. Capacitor Bank Upgrades	410	-	-	-	100,000	-	100,000
Subst. Battery Bank Replacement	410	-	36,000	38,000	-	40,000	114,000
Subst. Capacitor Bank Relay Upgrades	410	100,000	-	-	-	-	100,000
Substation Transformers	410	-	-	1,500,000	-	-	1,500,000
Motor Switch Replacement	410	380,000	238,000	-	-	-	618,000
Trans. Line Protective Relay Upgrades	410	200,000	250,000	-	-	-	450,000
Trans. Differential Protect. Relay Upgrd.	410	-	460,000	236,900	244,007	251,327	1,192,234
230kV & 138kV Circuit Breaker Upgrades	410	-	-	126,000	-	506,000	632,000
		1,356,000	1,411,000	1,900,900	344,007	797,327	5,809,234
Transmission:							
Trans. Line Protective Relay Upgrades	410	-	-	250,000	-	-	250,000
Trans. Differential Protect. Relay Upgrd.	410	-	230,000	-	-	-	230,000
Circuit Breaker Upgrades	410	385,000	-	-	-	-	385,000
Transmission Line Hardware Renewal and Replacement	410	550,000	1,100,000	1,133,000	1,166,990	1,202,000	5,151,990
Disturbance Monitoring and Reporting	410	150,000	-	-	-	-	150,000
		1,085,000	1,330,000	1,383,000	1,166,990	1,202,000	6,166,990
Regulatory Compliance:							
Reg. Compliance Plan Cyber Security	410	20,000	20,000	20,000	20,000	20,000	100,000
Reg. Compliance Plan (not capital)	410	650,000	650,000	650,000	650,000	650,000	3,250,000
		670,000	670,000	670,000	670,000	670,000	3,350,000
Total CIP - Electric		7,920,000	8,434,670	9,113,930	6,930,429	6,671,087	39,070,115
Natural Gas Fund:							
Natural Gas Distribution System	411	140,000	140,000	140,000	140,000	140,000	700,000
Total CIP - Natural Gas		140,000	140,000	140,000	140,000	140,000	700,000
Meter Division Internal Service Fund:							
Vehicle Replacement Program	541	75,000	-	-	-	-	75,000
Total CIP - Meter Division		75,000	-	-	-	-	75,000
Total CIP - Beaches Energy Services		\$8,135,000	\$8,574,670	\$9,253,930	\$7,070,429	\$6,811,087	\$39,845,115

Capital Improvement Plan: FY2021-2025

Project Title: Vehicle Replacement Program

Department/Division: Beaches Energy Services / All Divisions

Project Description and Reason Necessary: This is a program to replace vehicles due to annual operating expense, age, and condition.

Funding Source: Beaches Energy Services Operating Revenues

<u>Division</u> (FY Replacement)	<u>Truck#</u>	<u>Model</u> <u>Year</u>	<u>Description</u>	<u>Mileage/hours</u> <u>02/20/2020</u>	<u>Estimated</u> <u>Replacement</u> <u>Cost</u>
Engineering (2021)	207	2005	GMC Sierra	39,928	\$35,000
C&M (2021)	230	2010	INT Dura Star 4300 Bucket Truck	73,039	\$285,000
C&M (2021)	273	2011	40ft SM: Bucket Truck 4X4	98,901	\$200,000
Meter (2021)	227	2011	Chevy 4X4	90,901	\$40,000
Meter (2021)	288	2011	½ Ton Pick-up	93,841	\$35,000
Relay (2021)	241	2011	Chevy 2500 4X4	101,853	\$40,000
Engineering (2022)	258	2010	Ford F150 XL	63,000	\$35,000
C&M (2022)	240	1993	High-top Van	9,214	\$60,000
C&M (2023)	215	2013	Digger Derrek 6X6	26,029	\$350,000
C&M (2023)	218	2013	Bucket Truck 4X4	24,918	\$285,000
C&M (2024)	214	2014	40ft Bucket Truck	65,237	\$200,000
C&M (2024)	238	2014	40ft Bucket Truck	88,230	\$200,000
Total					\$1,765,000

Vehicle Replacement Summary:

	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Engineering	\$35,000	\$35,000				\$70,000
C&M	\$485,000	\$60,000	\$635,000	\$400,000		\$1,580,000
Relay	\$40,000					\$40,000
Total Electric Fund	\$560,000	\$95,000	\$635,000	\$400,000		\$1,690,000
Total Meter Fund	\$75,000					\$75,000
TOTAL	\$635,000	\$95,000	\$635,000	\$400,000		\$1,765,000

Capital Improvement Plan: FY2021-2025

Project Title: Advanced Smart Grid Infrastructure

Department/Division: Beaches Energy Services / Engineering

Project Description and Reason Necessary:

Modernizing the grid to make it “smarter” and more resilient through the use of cutting-edge technologies, equipment, and controls that communicate and work together to deliver electricity more reliably and efficiently can greatly reduce the frequency and duration of power outages, reduce storm impacts, and restore service faster when outages occur.

“Smart grid” technologies are made possible by two-way communication technologies, control systems, and computer processing. These advanced technologies include intelligent sensors that allow system operators to assess grid stability, advanced digital meters that provide better information and automatically report outages, relays that assist to identify and recover from faults, automated feeder switches that re-route power around problems, and batteries that store excess energy and make it available later to the grid to meet customer demand.

We have begun to research opportunities in this arena that will increase reliability and/or reduce costs. We are interested in purchasing smart devices to put out on the system in strategic locations. These devices could then be used to restore large sections of customers remotely in a very short amount of time. The smart devices would also be collecting valuable data that will one day help predict potential failures before they occur allowing us to schedule repairs prior to failure which will reduce unplanned outages. The cost of each device is estimated to be around \$50,000. So \$250,000 would allow us to install five smart devices on the system each year until they are installed on the entire system.

Funding Source: Beaches Energy Services Operating Revenues

Cost Item	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Smart Switching Devices (5 units)		\$250,000	\$257,500	\$265,225	\$273,182	\$1,045,907
Sensors		\$50,000	\$51,500	\$53,045	\$54,636	\$209,181
TOTAL		\$300,000	\$309,000	\$318,270	\$327,818	\$1,255,088

Capital Improvement Plan: FY2021-2025

Project Title: BES/City Communication Infrastructure

Department/Division: Beaches Energy Services / Engineering

Project Description and Reason Necessary:

Beaches Energy along with the City desire to build a wide area network (WAN) that will provide communications for all needs including first responders, wireless communication to mobile devices in the field, communication for devices installed in the field, and future development.

The project will consist of expanding the existing fiber infrastructure and utilizing and expanding the existing Fluid Mesh wireless backhaul.

In addition, Beaches Energy is ultimately looking for a solution that will integrate with all communication capable electric distribution devices in the field and the City's corporate and/or Supervisory Control & Data Acquisition (SCADA) networks. This will include researching and testing a communication network and devices in the field before selecting one through the proper procedures.

Funding Source: Beaches Energy Services Operating Revenues

Cost Item	FY2021	FY2022	FY2023	FY2024	FY2025	Total
Fiber Infrastructure Expansion	\$200,000	\$206,000	\$212,180	\$218,545		\$836,725
Upgrading Existing Fluid Mesh System	\$50,000	\$51,500	\$53,045	\$54,636		\$209,181
Expanding Fluid Mesh System	\$50,000	\$51,500	\$53,045	\$54,636		\$209,181
Electric Distribution Communication System	\$100,000	\$103,000	\$106,090	\$109,273		\$418,363
Total	\$400,000	\$412,000	\$424,360	\$437,091		\$1,673,451

Capital Improvement Plan: FY2021-2025

Project Title: Infrastructure to Support System Growth and Maintenance

Department/Division: Beaches Energy Services / Capital Improvements

Project Description and Reason Necessary:

Transformers: Transformers necessary for replacement or expansions to facilities.

Streetlights (New and replacement materials): As of September 30, 2019, BES rental and public streetlights located in Jacksonville Beach, Neptune Beach, Ponte Vedra Beach, and the Municipal Service District is a total of 5,613.

Residential and Commercial Improvements: Materials for the installation of new or upgraded residential or commercial improvements.

Electric Meters (New and replacement): Meters for residential and commercial customers.

Trouble Call and Miscellaneous: Materials such as wire, cable, poles, switchgear, enclosures, etc. necessary for the replacement of failed equipment or small capital improvements.

Funding Source: Beaches Energy Services Operating Revenues

Cost Item	FY2021	FY2022	FY2023	FY2024	FY2025	Total
Transformers	\$550,000	\$566,500	\$583,495	\$601,000	\$619,030	\$2,920,025
Electric Meters	\$50,000	\$51,500	\$53,045	\$54,636	\$56,275	\$265,457
Streetlights	\$150,000	\$154,500	\$159,135	\$163,909	\$168,826	\$796,370
Residential and Commercial	\$350,000	\$360,500	\$371,315	\$382,454	\$393,928	\$1,858,198
Trouble Calls and Miscellaneous	\$150,000	\$154,500	\$159,135	\$163,909	\$168,826	\$796,370
Total	\$1,250,000	\$1,287,500	\$1,326,125	\$1,365,909	\$1,406,886	\$6,636,420

Capital Improvement Plan: FY2021-2025

Project Title: Major Replacement Projects

Department/Division: Beaches Energy Services / Capital Improvements

Project Description and Reason Necessary:

In order to provide reliable service to our customers, Beaches Energy Services (BES) annually assesses its capacity to sustain increased load requirements. BES strives to maintain and upgrade its substations, transmission facilities, and distribution facilities.

Funding Source: Beaches Energy Services Operating Revenues

2021

Overhead Line Rebuild (Isabella Blvd) - \$350,000: Replace existing wood pole lines along Isabella Blvd. with concrete poles from Osceola Ave. to Jacksonville Drive. A small (hard to access) section connected to Jacksonville Drive will be converted to underground.

Overhead Line Rebuild (Jacksonville Drive) - \$700,000: Replace existing wood pole lines along Jacksonville Drive with underground lines from America Avenue to 3rd Street South.

2022

Overhead Line Rebuild (Solana Road) - \$550,000: Replace existing wood pole lines along Solana Road with underground lines from Powerline Road to SR A1A.

Overhead Line Rebuild (Arden Way and Tanglewood Road Area) - \$600,000: Replace existing wood pole lines with underground lines.

2023

Overhead Line Rebuild (Area West of Penman Road between 2nd Avenue North & 12th Avenue North) - \$620,000: Replace existing wood pole lines with underground lines.

2024

Overhead Line Rebuild (Area East of Penman Road between 13th Avenue North & 20th Avenue North) - \$640,000: Replace existing wood pole lines with underground lines.

Capital Improvement Plan: FY2021-2025

2025

Overhead Line Rebuild (Area East of Penman Road between 8th Avenue North & 13th Avenue North) - \$660,000: Replace existing wood pole lines with underground lines.

Annual Projects

Convert Overhead Lines to Underground - \$206,000 in FY2021, \$212,180 in FY2022, \$218,545 in FY2023, \$225,102 in FY2024 and \$231,855 in FY2025: Convert OH to UG in wooded areas / miscellaneous system improvement. As problem areas are discovered every year; either due to vegetation or other issues; Engineering with Construction and Maintenance will implement the necessary system improvement actions. Engineering with Construction and Maintenance will also coordinate with homeowners to encourage them to convert their existing overhead services to underground.

Cable Replacement Plan - \$566,500 in FY2021, \$583,495 in FY2022, \$601,000 in FY2023, \$619,030 in FY2024 and \$637,601 in FY2025: Replace existing primary cable that has reached the end of service life. An underground circuit assessment has identified the age and condition of all primary cable. The cable is prioritized and will be changed out proactively. This will enhance the overall reliability of the electric system.

Distribution Renewal and Replacement Plan - \$103,000 in FY2021, \$106,090 in FY2022, \$109,273 in FY2023, \$112,551 in FY2024 and \$115,927 in FY2025: Replacement of underground secondary connection boxes/blocks, overhead service cable/connections, and overhead/underground arrestors.

Distribution Automation Plan - \$103,000 in FY2021, \$106,090 in FY2022, \$109,273 in FY2023, \$112,551 in FY2024 and \$115,927 in FY2025: Install gang operated switches to improve sectionalizing of power lines and provide faster power restoration.

Switch Gear Replacement - \$154,500 in FY2021, \$159,135 in FY2022, \$163,909 in FY2023, \$168,826 in FY2024 and \$173,891 in FY2025: Replace existing SF6 pad mounted switchgear at various locations throughout the system with oil filled Vacuum Fault Interrupters (VFI). This project will create uniformity of all switchgears on the distribution system.

Electric Relocations Required by FDOT and Public Works Relocation Projects - \$206,000 in FY2021, \$212,180 in FY2022, \$218,545 in FY2023, \$225,102 in FY2024 and \$231,855 in FY2025: FDOT, City and County Public Works projects sometimes require relocation of electric facilities. Project ranges from road/bridge improvements or drainage/sewer/water main installations.

Capital Improvement Plan: FY2021-2025

Summary of Major Replacement Projects:

	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Storm Hardening Plan						
Overhead Line Rebuild (Isabella Blvd)	\$350,000					\$350,000
Overhead Line Rebuild (Jacksonville Drive)	\$700,000					\$700,000
Overhead Line Rebuild (Solana Road)		\$550,000				\$550,000
Overhead to Underground (Arden Way)		\$600,000				\$600,000
Overhead to Underground (West of Penman-2 nd Ave)			\$620,000			\$620,000
Overhead to Underground (East of Penman-13 th Ave)				\$640,000		\$640,000
Overhead to Underground (East of Penman 8 th Ave)					\$660,000	\$660,000
Subtotal - Storm Hardening Plan	\$1,050,000	\$1,150,000	\$620,000	\$640,000	\$660,000	\$4,120,000
Major Replacement Projects						
Convert OH to UG / Miscellaneous System Improvement	\$206,000	\$212,180	\$218,545	\$225,102	\$231,855	\$1,093,682
Cable Replacement Plan	\$566,500	\$583,495	\$601,000	\$619,030	\$637,601	\$3,007,626
Distribution Renewal and Replacement Plan	\$103,000	\$106,090	\$109,273	\$112,551	\$115,927	\$546,841
Distribution Automation Plan	\$103,000	\$106,090	\$109,273	\$112,551	\$115,927	\$546,841
Switchgear Replacement Program	\$154,500	\$159,135	\$163,909	\$168,826	\$173,891	\$820,261
Electric Relocations Required by FDOT, City & County	\$206,000	\$212,180	\$218,545	\$225,102	\$231,855	\$1,093,682
Subtotal - Major Replacement Projects	\$1,339,000	\$1,379,170	\$1,420,545	\$1,463,162	\$1,507,056	\$7,108,933
TOTAL	\$2,389,000	\$2,529,170	\$2,040,545	\$2,103,162	\$2,167,056	\$11,228,933

Capital Improvement Plan: FY2021-2025

Project Title: Outage Management System

Department/Division: Beaches Energy Services / System Operations

Project Description and Reason Necessary:

In FY20, phase 1, 2, and 3 of Beaches Energy implementing an outage management system were completed. This consisted of installing an outage management system named Responder and a graphic work design solution, AUD. AUD provides Beaches Energy the ability to update the electric distribution model as changes are made in the field. Responder allows customers to call in with outages and predicts outage locations.

The next phase is to integrate the outage management system with devices in the field that can “talk” to our Operations Center; that is, if the device has an unexpected state change, it will send a signal that would then update Responder so the operators will know about an outage near real time when it occurs. This phase consists of two parts. Responder and SCADA will need to be configured to allow for interoperability between the two systems.

Phase 4: Integrate Responder outage management system with the existing SCADA system.

Final Phase: Develop in-house, leverage existing applications, or select a vendor that will provide the customer interface including an Integrated Voice Response (IVR) system and the ability to receive notifications via other means like SMS. The amount entered assumes we could leverage the existing application OneSolve Code Red. This is an existing cost already.

Funding Source: Beaches Energy Services Operating Revenues

Cost Item	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
SCADA Integration	\$100,000					\$100,000
External Communication	\$50,000					\$50,000
Total	\$150,000					\$150,000

Future Operating Budget Impact:

	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Small Utility License ELA+	\$47,500	\$47,500	\$48,925	\$48,925	\$48,925	\$241,775
SBS AUD Licensing	\$12,000	\$12,360	\$12,731	\$13,113	\$13,506	\$63,710
Software Maint. for Customer Interface	\$16,000	\$16,480	\$16,974	\$17,484	\$18,008	\$84,946
Total	\$75,500	\$76,340	\$78,630	\$79,522	\$80,439	\$390,431

Capital Improvement Plan: FY2021-2025

Project Title: Distribution Management System

Department/Division: Beaches Energy Services / System Operations

Project Description and Reason Necessary:

Purchasing, installing, and integrating a Distribution Management System (DMS) Application into the existing Outage Management System (OMS) and the Supervisor Control and Data Acquisition System (SCADA).

Beaches Energy is continually striving to offer its customers the best in electric service availability, advanced options when it comes to integrating the rapidly increasing Distributed Energy Resources (DERs), and optimizing the system to keep costs low. DMS is an application that analyzes all available data from the electric system including SCADA, an advanced metering infrastructure, and distribution automation. It uses this data to predict specific outage areas and determine advanced switching plans. It is also able to detect imminent failures; such as, using power quality data from substation relays to predict a load-tap changer failure. Furthermore, DMS provides capabilities for detailed resource models that accurately profile load and generations, provide price-sensitive forecasting, and interface with controllers for various types of DERs like rooftop solar. Finally, DMS allows BES to optimize its grid by providing capabilities for load profiling, volt/volt-ampere reactive optimization, and distribution power flow. In conclusion, this will improve storm outage restoration, support the rapid increase in DERs and support demands response, and defer capital investments.

Funding Source: Beaches Energy Services Operating Revenues

Cost Item	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Distribution Management System		\$50,000	\$300,000			\$350,000

Future Operating Budget Impact:

	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
System Software Licensing, Support & Upgrades			\$24,000			\$24,000

Capital Improvement Plan: FY2021-2025

Project Title: Regulatory Cyber & Physical Security

Department/Division: Beaches Energy Services / System Operations

Project Description and Reason Necessary:

In order to be compliant with North American Electric Reliability Corporation (NERC) Critical Infrastructure Protection (CIP) standards which in turn will help us provide reliable service to our customers and maintain our system.

Cyber & Physical Security: In late 2019 through a Department of Energy & American Public Power Association (APPA), a grant was awarded to Burns & McDonnell Engineering Company to score Beaches Energy Services on our Physical & Cyber Security Risks. Some minor vulnerabilities were discovered.

Annual Formal Security Review:

Burns & McDonnell recommended conducting an annual review of existing security measures including a review and inspection of existing electronic security systems hardware, devices, and databases. Evaluate if existing measures (including policies and procedures once established) appropriately mitigates current risks and threats and appropriately satisfies the security requirements of Beaches Energy Services. Annual review findings can assist with making educated decisions regarding anticipated security needs and developing business case documentation.

The cost of the annual review is budgeted within our Regulatory Compliance annual operating budget. The budgeted amounts below are an estimate of the cost of hardware, software, services, etc. to mitigate any non-compliance noted in the annual review.

Funding Source: Beaches Energy Services Operating Revenues

Cost Item	FY2021	FY2022	FY2023	FY2024	FY2025	Total
Cyber & Physical Security	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$500,000

Capital Improvement Plan: FY2021-2025

Project Title: Renovations at System Operations Building

Department/Division: Beaches Energy Services / System Operations

Project Description and Reason Necessary:

The System Operations Building staffs our NERC Certified System Operators & Dispatchers 24/7/365. The building contains the original kitchen, restrooms & landscaping from the construction completed over 30 years ago. This structure houses the personnel & equipment to allow for monitoring & controlling of the entire Beaches Energy Services Electric Service area.

During storm events we double the buildings staff working in the Control Room & staff an emergency phone bank with 8-10 call takers working 12 hour shifts in the conference room. Additionally we have added an area for social media monitoring & customer updates during these events for up to 4 people.

The original building design has the accommodations for only two toilets. During times of emergency or weather events we have near 20-25 people using these facilities. In addition the staff who is in the resting stage has to sleep on the floors. The kitchen area is outdated & is not properly designed for the additional staffing of this size.

Improvements needed are to add at least 1 shower, toilet & sink for the restrooms area. The kitchen needs an updated design to accommodate a firehouse style improvements to include a buffet type bar countertop & cabinets which will allow for food service for a group of that size. We currently have a 30 gal electric water heater & the kitchen appliances are fed by propane even though we have BES natural gas service to the building. The kitchen needs commercial grade cooking equipment, building needs new flooring. A bunk room is also needed as well as the interior & exterior paint & landscaping needs to be updated.

The propane tank needs to be removed due to it being a possible target for physical attacks which would cause extreme damage the structure.

Funding Source: Beaches Energy Services Operating Revenues

Cost Item	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
System Operations Building Remodel		\$250,000				\$250,000
Additional Details/Repairs			\$25,000	\$25,000		\$50,000
Total		\$250,000	\$25,000	\$25,000		\$300,000

Capital Improvement Plan: FY2021-2025

Project Title: Substation 26kV Breaker & Relay Upgrades

Department/Division: Beaches Energy Services / Substation Distribution

Project Description and Reason Necessary:

Circuit breakers are required to provide system protection and isolation at the distribution level. The protective relays associated with each breaker provide protection of the breakers and all downstream or neighboring equipment. There are twelve (12) existing 26kV circuit breakers that use either SF6 or vacuum interrupters that are located inside the breakers. The existing interrupters can no longer be produced or rebuilt by the manufacturer. Currently, three (3) spare vacuum interrupters are available in inventory. The existing breakers and their protective relays are between 18 and 28 years old. The protective relays will be replaced with industry standard microprocessors relays:

FY 2021 Circuit Numbers – Ft Diego: 508, 509, 511, 512, 514, 518

FY 2021 Circuit Numbers – Guana: 525, 526, 527, 528, 529, 530

FY 2022 Circuit Numbers – Butler: 5C1, 5C2, 531, 533, 536, 539

Funding Source: Beaches Energy Services Operating Revenues

Cost Item	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Engineering and Testing	\$200,000	\$100,000				\$300,000
26kV Circuit Breakers & Relays	\$210,000	\$210,000				\$420,000
Construction	\$226,000	\$117,000				\$343,000
Total	\$636,000	\$427,000				\$1,063,000

Capital Improvement Plan: FY2021-2025

Project Title: Substation Capacitor Bank Upgrades

Department/Division: Beaches Energy Services / Substation Distribution

Project Description and Reason Necessary:

Utilities utilize capacitor banks to control the efficiency of power flow within their electric system. The Florida Municipal Power Agency requires Beaches Energy Services (BES) to maintain a system power factor according to the transmission agreement with Florida Power & Light. In order to comply with this, BES has installed capacitor banks located in our substations that are connected to the distribution system. The banks are composed of several single capacitors connected in parallel aggregating to a specific size as determined by engineering. These individual units fail and lose capacitance over time resulting in poor performance of the capacitor bank. In order to maintain the required system power factor, these units must be replaced.

FY 2024 – Ft. Diego, Butler, and Jacksonville Beach Substations

Funding Source: Beaches Energy Services Operating Revenues

Cost Item	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Fort Diego Substation				\$33,334		\$33,334
Butler Substation				\$33,333		\$33,333
Jacksonville Beach Substation				\$33,333		\$33,333
TOTAL				\$100,000		\$100,000

Capital Improvement Plan: FY2021-2025

Project Title: Substation Battery Bank Replacement

Department/Division: Beaches Energy Services / Substation Distribution

Project Description and Reason Necessary:

Battery banks serve as a backup power source for DC protection & control circuitry, which is used to operate substation equipment. The North American Electric Reliability Corporation (NERC) requires constant monitoring and testing of these banks. Battery bank life ranges from 12 to 20 years. BES is taking a proactive approach and recommendation of replacing Battery Banks at 15 years of age to prevent equipment failure.

FY 2022 – Jacksonville Beach Substation

FY 2023 – Ft. Diego Substation

FY 2025 – Butler Substation

Funding Source: Beaches Energy Services Operating Revenues

Cost Item	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Jacksonville Beach Substation		\$36,000				\$36,000
Ft. Diego Substation			\$38,000			\$38,000
Butler Substation					\$40,000	\$40,000
TOTAL		\$36,000	\$38,000		\$40,000	\$114,000

Capital Improvement Plan: FY2021-2025

Project Title: Substation Capacitor Bank Relay Upgrades

Department/Division: Beaches Energy Services / Substation Distribution

Project Description and Reason Necessary:

The relays associated with the protection and control of our substation capacitor banks have passed their expected life span of 20 years. Parts are obsolete and service is nonexistent, this project will replace six (6) protective relays and control equipment (two each at Butler, Jacksonville Beach, and Ft. Diego Substations). Engineering for Jacksonville Beach sub and Ft. Diego sub has already been completed. Upgrading and replacement is necessary to continue reliable control of our capacitor banks for proper system power factor control.

FY 2021 – Butler, Jacksonville Beach, and Ft. Diego Substations

Funding Source: Beaches Energy Services Operating Revenues

Cost Item	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Butler Substation: Engineering	\$10,000					\$10,000
Butler Substation: Construction	\$30,000					\$30,000
Jacksonville Beach Substation: Construction	\$30,000					\$30,000
Ft. Diego Substation: Construction	\$30,000					\$30,000
TOTAL	\$100,000					\$100,000

Capital Improvement Plan: FY2021-2025

Project Title: Substation Transformers

Department/Division: Beaches Energy Services / Substation Distribution

Project Description and Reason Necessary:

Recent events in Beaches Energy Services' system reinforced the need for an additional/spare substation transformer for the BES system as well as planned transformer replacements. The spare/planned replacement concept is especially critical during contingencies and emergency situations for switching feeders and customer loads to address system disturbances and outages. One of the original 50/56 MVA distribution substation power transformers that was installed in 1982 will need to be replaced and then evaluated to be a possible spare. BES' targeted first replacement is Ft. Diego TR-1 due to maintenance history and operational stress. However, a planned replacement transformer could be "plugged-in" to replace any one of BES' ten distribution substation power transformers since we standardized on rating and capability. The exact transformer to replace is difficult to determine but the need to budget for and procure a transformer is key since the manufacture's lead-time is approximately one year. Once the first of the original three transformers is replaced, BES intends to follow suit with the remaining two transformers within a five year period.

Engineering with the Construction and Maintenance Division will evaluate which transformer will be replaced.

Funding Source: Beaches Energy Services Operating Revenues

Cost Item	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
50/56 MVA Power Transformer			\$1,000,000			\$1,000,000
Engineering, Testing & Commissioning			\$125,000			\$125,000
Construction			\$375,000			\$375,000
TOTAL			\$1,500,000			\$1,500,000

Capital Improvement Plan: FY2021-2025

Project Title: Motor Switch Replacement

Department/Division: Beaches Energy Services / Substation Distribution

Project Description and Reason Necessary:

Motor-Operated Switches (MOS) are used for isolating and disconnecting substation power transformers in order to conduct maintenance, testing, and system restoration and reconfiguration during outages.

BES has identified the need to replace 14 MOS at four of its six substations due to a combination of age, degradation, and maintenance issues. Since the 14 MOS have reached their end of useful and practical life, replacement is necessary to ensure the reliability and safe operation of Beaches Energy Services' electric system.

Improved substation design and equipment prompted BES to reevaluate the current application of its MOS on a per-substation basis. Engineering recommendations are to replace eight of the 14 MOS with like for like equipment, and upgrade the remaining six MOS to Circuit Switchers to align with the preferred industry solution for substation power transformer protection and isolation.

Engineering for 10 of the 14 MOS has been completed. Procurement of all major equipment was completed in FY2017. The remaining engineering-procurement of construction materials, and installation of major equipment will be completed in FY2021 and FY2022.

Funding Source: Beaches Energy Services Operating Revenues

Cost Item	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
MOS Replacement	\$150,000					\$150,000
Ft. Diego Circuit Switcher Engineering and Testing	\$80,000					\$80,000
Ft. Diego MOS Replacement	\$150,000					\$150,000
Butler Circuit Switcher Engineering and Testing		\$83,000				\$83,000
Butler MOS Replacement		\$155,000				\$155,000
TOTAL	\$380,000	\$238,000				\$618,000

Capital Improvement Plan: FY2021-2025

Project Title: Transmission Line Protective Relay Upgrades

Department/Division: Beaches Energy Services / Substation Distribution (138kV) & Substation Transmission (230kV)

Project Description and Reason Necessary:

Protective relays provide protection from incipient faults such as lightning strikes and equipment malfunctions on the transmission system. The existing electromechanical relays are nearly 40 years old and need to be upgraded to more capable and modern microprocessor relays. As the industry has moved towards microprocessor relays, they have proven to be more versatile given their processing speed and capability to be customized to a particular operational application.

Beaches Energy Services, as a transmission owner, is regulated by North American Electric Reliability Corporation (NERC). Given the regulatory standards that transmission providers must comply with to provide secure and reliable operation of the bulk electric system, the existing electromechanical relays must be replaced.

FY 2021 – Fort Diego Substation to Butler Substation Line 803

FY 2022 – Jacksonville Beach Substation to Butler Substation Line 802

FY 2023 – Sampson Substation to JEA-Switzerland Substation Line 924

Funding Source: Beaches Energy Services Operating Revenues

Cost Item	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
138kV 803 Line	\$200,000					\$200,000
138kV 802 Line		\$250,000				\$250,000
230kV 924 Line			\$250,000			\$250,000
TOTAL	\$200,000	\$250,000	\$250,000			\$700,000

Cost Summary by Division

	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Substation Distribution (1204)	\$200,000	\$250,000				\$450,000
Substation Transmission (1229)			\$250,000			\$250,000
TOTAL	\$200,000	\$250,000	\$250,000			\$700,000

Capital Improvement Plan: FY2021-2025

Project Title: Transformer Differential Protective Relay Upgrades

Department/Division: Beaches Energy Services / Substation Distribution (138kV) & Substation Transmission (230kV)

Project Description and Reason Necessary:

Transformer differential protective relays provide protection from internal transformer faults caused by internal environmental conditions coupled with external system events. Transformer differential protective relays are the first line of defense in detecting and isolating transformer faults and are vital in protecting a utilities’ most expensive physical asset, the substation power transformer. The existing electromechanical relays used in this application are nearly 40 years old and need to be upgraded to more capable and modern microprocessor relays. As the industry has moved towards microprocessor relays, they have proven to be more versatile given their processing speed and capability to be customized to a particular operational application.

Beaches Energy Services, as a transmission owner and distribution provider, is regulated by North American Electric Reliability Corporation (NERC). Given the regulatory standards that we must comply with to provide secure and reliable operation of the bulk electric system and distribution system, the existing electromechanical relays must be replaced.

- FY 2022 – Sampson 230kV Transformer TR-1 Differential Relaying
- FY 2022 – Butler 138kV Transformer TR-1 & TR 2 Differential Relaying
- FY 2023 – Fort Diego 138kV Transformer TR-1 Differential Relaying
- FY 2024 – Fort Diego 138kV Transformer TR-2 Differential Relaying
- FY 2025 – Jax Beach 138kV Transformer TR-1 Differential Relaying

Funding Source: Beaches Energy Services Operating Revenues

Cost Item	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Sampson TR-1		\$230,000				\$230,000
Butler TR-1 & TR-2		\$460,000				\$460,000
Ft Diego - TR1			\$236,900			\$236,900
Ft Diego - TR2				\$244,007		\$244,007
Jax Beach TR-1					\$251,327	\$251,327
Total		\$690,000	\$236,900	\$244,007	\$251,327	\$1,422,234

Cost Summary by Division

	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Substation Distribution (1204)		\$460,000	\$236,900	\$244,007	\$251,327	\$1,192,234
Substation Transmission (1229)		\$230,000				\$230,000
TOTAL		\$690,000	\$236,900	\$244,007	\$251,327	\$1,422,234

Capital Improvement Plan: FY2021-2025

Project Title: 230kV and 138kV Circuit Breaker Upgrades

Department/Division: Beaches Energy Services / Substation Distribution (138kV) & Substation Transmission (230kV)

Project Description and Reason Necessary:

There is one (1) 138kV breaker at Fort Diego substation nearing 30 years old. Additionally, there are two (2) 138kV breakers and one (1) 230kV breaker at Sampson substation that are nearing 30 years old. Finding replacement parts has become challenging. Industry recommends breaker replacement at 30 years of service. Breakers are designed to interrupt faults detected by protective relays and provide a means of equipment isolation during normal and emergency operations. Misoperations are monitored by the North American Electric Reliability Corporation (NERC) via the Florida Reliability Coordinating Council (FRCC). Failure to maintain breaker equipment can lead to misoperations of the breaker, which can lead to instability of the bulk electric system and possible fines by NERC/FRCC. The reliability of these breakers must not be compromised.

FY 2021 - Sampson Circuit Breakers: 8W85, 805N & 805NT1

FY 2023 - Fort Diego Circuit Breaker: 806W

FY 2025 - Butler Circuit Breakers: 803S, 803T1, 802T2, 802N

Funding Source: Beaches Energy Services Operating Revenues

Cost Item	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Engineering, Testing & Commissioning	\$80,000		\$30,000		\$100,000	\$210,000
138kV Circuit Breakers	\$130,000		\$69,000		\$293,000	\$492,000
230kV Circuit Breaker	\$100,000					\$100,000
Construction	\$75,000		\$27,000		\$113,000	\$215,000
TOTAL	\$385,000		\$126,000		\$506,000	\$1,017,000

Cost Summary by Division

	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Substation Distribution (1204)			\$126,000		\$506,000	\$632,000
Substation Transmission (1229)	\$385,000					\$385,000
TOTAL	\$385,000		\$126,000		\$506,000	\$1,017,000

Capital Improvement Plan: FY2021-2025

Project Title: Transmission Line Hardware Renewal and Replacement

Department/Division: Beaches Energy Services / Substation Transmission

Project Description and Reason Necessary:

Some line sections of the transmission system are nearly 40 years old. In January 2020, all line sections were visually & infrared inspected for rusted/loose bolts, and the mechanical integrity of: brackets, guy wires, conductors, pole condition, insulators, and other equipment necessary for the safe and reliable operation of the transmission system.

Upon analysis and review of the inspection results, BES will develop a plan to prioritize construction and maintenance efforts to mitigate issues identified during the inspection. This budget line item allows BES to proactively address its transmission line hardware issues. This approach will allow BES to proactively identify and resolve transmission hardware issues to ensure the delivery of safe and reliable electric service to our community.

Funding Source: Beaches Energy Services Operating Revenues

Cost Item	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Transmission Line Hardware Renewal and Replacement	\$500,000	\$1,000,000	1,030,000	\$1,060,900	\$1,092,727	\$4,683,627
Engineering	\$50,000	\$100,000	\$103,000	\$106,090	\$109,273	\$468,363
TOTAL	\$550,000	\$1,100,000	\$1,133,000	\$1,166,990	\$1,202,000	\$5,151,990

Capital Improvement Plan: FY2021-2025

Project Title: Disturbance Monitoring and Reporting

Department/Division: Beaches Energy Services / Substation Transmission

Project Description and Reason Necessary:

Beaches Energy Services (BES) is required to be compliant with North American Electric Reliability Corporation (NERC) reliability standard PRC-002-2. NERC PRC-002-2 requires that transmission owners assess and identify where to monitor and record disturbances on the Bulk Electric System. In 2016, BES engineering performed the necessary calculations and identified the Sampson 230kV bus as the only location required to have disturbance monitoring and recording equipment per PRC-002-2. BES is required to have the disturbance monitoring and recording equipment in service **no later than** July 1, 2022. Upon completion of existing projects at Sampson substation in late 2020, BES will immediately commence coordinating a turn-key solution with the intention of completing this project in early 2021.

Funding Source: Beaches Energy Services Operating Revenues

Cost Item	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Disturbance Monitoring & Reporting Turn-key Solution	\$150,000					\$150,000
TOTAL	\$150,000					\$150,000

Capital Improvement Plan: FY2021-2025

Project Title: Regulatory Compliance Plan

Department/Division: Beaches Energy Services / Regulatory Compliance

Project Description and Reason Necessary:

In order to be compliant with North American Electric Reliability Corporation (NERC) Critical Infrastructure Protection (CIP) standards, which in turn will help us, provide reliable service to our customers and maintain our system.

Funding Source: Beaches Energy Services Operating Revenues

<i>Annual Projects</i>

Consulting Fees \$100,000 in FY2021 - FY2025: NERC continues to develop and modify the bulk electric system requirements. Consulting services would help aid in the process of development of policies and procedures, risk assessments, CIP administration and evidence preparations and document classification policy development. These services include: inventory assessment, policy and procedure development, physical security review, electronic security and network design review, information protection review, asset ownership review, low impact facilities NERC CIP compliance gap analysis, and medium impact facilities NERC CIP compliance gap analysis.

Centralized TOP (Transmission Operator) Agreement \$550,000 annual operating cost in FY2021 – FY2025: In preparation for the enforcement of NERC CIP version 5, BES has been working with FMPA on developing a response to satisfy these requirements. As a transmission owner/operator that has critical assets that impact the bulk electric system, BES must initiate measures that are mandated by NERC and FRCC. The new required CIP Low Impact TOP Services are included in FY 2021.

Regulatory Compliance Plan Summary:

Cost Item	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Consulting Fees	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$500,000
Centralized TOP - Annual Operating Costs	\$550,000	\$550,000	\$550,000	\$550,000	\$550,000	\$2,750,000
TOTAL	\$650,000	\$650,000	\$650,000	\$650,000	\$650,000	\$3,250,000

Capital Improvement Plan: FY2021-2025

Project Title: Natural Gas Distribution System

Department/Division: Beaches Energy Services / Natural Gas

Project Description and Reason Necessary:

The infrastructure for the natural gas distribution system growth may include service lines, main extensions, meter sets, and conversions of equipment; if determined feasible. The South Loop extension added in FY2017; and the main extension between Ponte Vedra Blvd. and Palm Valley completed FY2019, will allow Beaches Energy to continue to generate substantial growth while expanding its commercial and residential customer base.

Funding Source: Natural Gas Beaches Energy Services Operating Revenues

Cost Item	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Capital Improvements	\$140,000	\$140,000	\$140,000	\$140,000	\$140,000	\$700,000

Capital Improvement Plan: FY2021-2025

Information Systems, Finance, & Human Resources Departments		2021	2022	2023	2024	2025	Total
Funding Sources:							
General Capital Projects Fund IT Reserve	315	502,865	328,837	89,650	864,150	299,050	2,084,552
Gen. Capital Projects Fund Utility Billing	315	7,975	-	-	-	-	7,975
Gen. Cap. Projects Fund Building Systems	315	389,800	769,289	100,000	100,000	100,000	1,459,089
Gen. Capital Projects Fund Time Clock	315	32,000	56,000	-	12,600	-	100,600
Operations & Maintenance Fund	550	-	38,000	-	-	-	38,000
Total CIP Funding Sources		\$ 932,640	\$ 1,192,126	\$ 189,650	\$976,750	\$399,050	\$3,690,216
Expenses:							
	Fund						
Information Systems:							
Information Systems Master Plan	315	\$ 160,000	\$ 210,000	\$ -	\$ 775,000	\$ 210,000	\$ 1,355,000
Annual Computer Replacement Plan	315	90,150	89,950	89,650	89,150	89,050	447,950
Enterprise Resource Planning System	315	252,715	28,887	-	-	-	281,602
		502,865	328,837	89,650	864,150	299,050	2,084,552
Finance-Utility Billing:							
Major Equipment Replacements	315	7,975	-	-	-	-	7,975
		7,975	-	-	-	-	7,975
Finance-Property & Procurement:							
Vehicle Replacement Program	550	-	38,000	-	-	-	38,000
Major Bldg Systems repairs/replacements	315	339,800	719,289	50,000	50,000	50,000	1,209,089
Major Bldg Systems repairs/replacements (not capital)	315	50,000	50,000	50,000	50,000	50,000	250,000
		389,800	807,289	100,000	100,000	100,000	1,497,089
Human Resources:							
Time Clock Replacement Program	315	32,000	56,000	-	12,600	-	100,600
		32,000	56,000	-	12,600	-	100,600
Total CIP - Information Systems, Finance, & Human Resources		\$932,640	\$1,192,126	\$189,650	\$976,750	\$399,050	\$3,690,216

Capital Improvement Plan: FY2021-2025

Project Title: Information Systems Master Plan

Department/Division: Information Systems/Information Systems

Project Description and Reason Necessary: In 2011, the City implemented a master plan to guide the purchase and replacement of its information technology systems. Phase 1 of this plan included the purchase and installation of equipment at an offsite location that permits the City to continue to operate its information systems in the event of a disaster. Phase 2 of the plan consists of the routine replacement/upgrading of the following equipment:

2021

Update VxRail/Extend Service Contract - \$100,000: We purchased the current VxRail System in September 2016 and expanded capacity in 2019. This is a hyper-converged system that combines server, storage, and networking technology into one system. The VxRail has the flexibility for future integration and the ability to grow in measured steps for further expansion. At least every five years, we need to evaluate the need for expansion or updates to the capabilities on the VxRail hardware platform. This system houses the City's virtual server infrastructure, including the file server, print server, GIS systems, ERP software, and all other operational software.

Replace IBM Power 720+ Server - \$60,000: The City's current IBM server was purchased in 2015. This system houses the SunGard software system. The expected life had been eight years, but the vendor notified the City that it will no longer support this server after December 2020.

2022

Replace Switches - \$200,000: A switch moves data traffic between locations within the confines of the city network. We replaced the switches used to distribute data traffic to the desktop computers in 2017. Base on a 5-year life expectancy, we need to replace the switches again in 2022. *This purchase will not produce any future operating budget impact for annual maintenance because we will purchase the equipment with a 5-year warranty.*

Replace E-Mail Filter - \$10,000: We purchased the current e-mail filter in 2017 and it is scheduled for replacement in 2022 based on the 5-year network equipment replacement plan. *Annual maintenance costs will remain unchanged.*

2024

Replace EIS Servers at Police Department - \$175,000: We purchased the current EIS Servers in 2019. The EIS servers house the Police Department's dispatch, report generating, evidence tracking and operational software. With a 5-year life expectancy, we scheduled these servers for replacement in 2024. *There are no current or expected future budget impacts, as we purchase the equipment with a 5-year warranty.*

Replace VxRail System - \$600,000: We purchased the current VxRail System in 2016, and expanded capacity in 2019 and again in 2021, as well as extending the service contract in 2021 for an additional 3-year term. The VxRail system houses the City's virtual server infrastructure, including the file

Capital Improvement Plan: FY2021-2025

server, print server, GIS systems, ERP software, and all other operational software. *There are no current or expected future budget impacts, as we purchase the equipment with a 5-year warranty.*

2025

Replace Core Routers - \$150,000: Routers control the flow and volume of data traffic between intersection points (nodes). The City's primary nodes are City Hall, O&M Facility, Police Department, and Parks Department. We purchased the current core routers in 2020. With a 5 to 6-year life expectancy, the routers are scheduled for replacement in 2025. *Annual maintenance costs will remain unchanged.*

Replace Firewalls - \$60,000: Firewalls are physical appliances containing software that protects data and data systems from outside intrusions such as viruses, hackers, and other destructive actions. We purchased the current firewalls in 2020. The current models will reach end-of-life in 2025 and will need to be replaced/upgraded. *Annual maintenance costs will remain unchanged.*

Anticipated 10-year replacement cycle:

Project	2021	2022	2023	2024	2025	2026	2027	2028	2029
Replace Core Routers					X				
Replace EIS Servers (Police Department)				X					X
Replace Firewalls					X				
Replace Switches		X					X		
Replace E-Mail Filter		X					X		
Update VxRail	X								
Replace VxRail				X					

Funding Source: General Capital Projects Fund via transfers from General Fund, Electric, Water/Sewer, and Leased Property Funds

Project	FY2021	FY2022	FY2023	FY2024	FY2025	Total
Replace Core Routers					\$150,000	\$150,000
Replace Firewalls					\$60,000	\$60,000
Update VxRail	\$100,000					\$100,000
Replace Switches		\$200,000				\$200,000
Replace E-Mail Filter		\$10,000				\$10,000
Replace EIS Servers				\$175,000		\$175,000
Replace VxRail				\$600,000		\$600,000
Replace IBM Server	\$60,000					\$60,000
TOTAL	\$160,000	\$210,000	\$0	\$775,000	\$210,000	\$1,355,000

Capital Improvement Plan: FY2021-2025

Project Title: Annual Computer Replacement Plan

Department/Division: Information Systems/Information Systems

Project Description and Reason Necessary: The Information Systems Master Plan includes a 5-year replacement cycle for computers in order to maintain currency in technology throughout the city.

Maintaining current technology assures the interoperability of the City's software and operating systems with those of other federal, state and local agencies with whom the City exchanges information. This also helps eliminate the need to replace computers on an emergency basis and minimizes staff downtime caused by unplanned computer replacements or repairs.

All costs are based on FY2020 estimated pricing.

Funding Source: General Capital Projects Fund via transfers from General Fund, Electric, Water/Sewer, and Leased Property Funds

By Department:	FY2021		FY2022		FY2023		FY2024		FY2025		Total	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
BES	13	\$18,800	13	\$17,600	13	\$17,050	2	\$1,700	5	\$4,750	47	\$59,900
City Manager	1	\$850	0	\$0	3	\$4,850	3	\$6,000	1	\$850	8	\$12,550
City Clerk	2	\$2,200	0	\$0	2	\$1,700	3	\$2,550	0	\$0	7	\$6,450
Finance	4	\$4,400	16	\$19,100	12	\$14,700	10	\$13,300	5	\$4,750	47	\$56,250
IT	1	\$850	4	\$4,900	11	\$11,000	10	\$11,000	5	\$4,250	31	\$32,000
HR	1	\$850	3	\$2,550	0	\$0	5	\$5,750	0	\$0	9	\$9,150
Parks	2	\$2,200	5	\$4,250	7	\$6,450	6	\$5,100	1	\$850	21	\$18,850
Planning	3	\$4,050	2	\$2,200	6	\$5,100	3	\$3,050	1	\$1,350	15	\$15,750
Police	24	\$42,450	18	\$31,050	14	\$18,700	20	\$26,900	45	\$62,900	121	\$182,000
PW	10	\$13,500	8	\$8,300	9	\$10,100	11	\$13,800	8	\$9,350	46	\$55,050
TOTAL	61	\$90,150	69	\$89,950	77	\$89,650	73	\$89,150	71	\$89,050	351	\$447,950

Capital Improvement Plan: FY2021-2025

By Device Type:	FY2021		FY2022		FY2023		FY2024		FY2025		Total	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
Engineer Desktop	3	\$6,900	0	\$0	4	\$9,200	1	\$2,300	0	\$0	8	\$18,400
Laptop w/dock	19	\$25,650	23	\$31,050	15	\$20,250	23	\$31,050	7	\$9,450	87	\$117,450
Rugged	22	\$41,800	15	\$28,500	6	\$11,400	8	\$15,200	24	\$45,600	75	\$142,500
Laptop 2in1	0	\$0	0	\$0	4	\$8,000	5	\$10,000	0	\$0	9	\$18,000
Standard Desktop	16	\$13,600	28	\$23,800	48	\$40,800	36	\$30,600	40	\$34,000	168	\$142,800
Engineer Laptop	1	\$2,200	3	\$6,600	0	\$0	0	\$0	0	\$0	4	\$8,800
TOTAL	61	\$90,150	69	\$89,950	77	\$89,650	73	\$89,150	71	\$89,050	351	\$447,950

NOTE: The annual replacement schedule increased from \$70,000 to \$90,000 this year. We may need to consider increasing the transfers to this reserve.

Capital Improvement Plan: FY2021-2025

Project Title: Enterprise Resource Planning System

Department/Division: Information Systems/Information Systems

Project Description and Reason Necessary: Enterprise Resource Planning (ERP) is a business technology term for an information system based on a common database and software tools that enable information to be easily accessed, compared and shared throughout an organization. In 2017, we began implementation of an integrated, Windows-based ERP. We are implementing the ERP in two stages over approximately a 6-year period.

Stage 1: City Council approved a contract with Tyler Technologies in 2016 for the purchase and implementation of their Munis software system, which includes financial, human resources, payroll and utility billing modules. Full implementation of Stage 1 applications will be completed in 3 phases:

- Phase 1- Financials – online April 2018
- Phase 2 - Human Resources and Payroll – target online date July 2020
- Phase 3 - Utility Billing – target online date January 2021

Stage 2: This stage includes the purchase of GIS-based and mobile applications, including planning and development, permitting, business licenses, work orders and enterprise asset management. At the conclusion of Stage 1 implementation, the City will conduct a needs assessment and evaluate business processes for Stage 2 applications. Funding for this project is being accumulated via yearend transfers.

Funding Source: General Capital Projects Fund via transfers from the General Fund

	PRIOR	FY2021	FY2022	FY2023	FY2024	FY2025	Total
Stage 1							
• Software	\$564,622	\$50,939					\$50,939
• Hardware	\$180,350						\$0
• Services	\$1,330,772	\$101,776	\$28,887				\$130,663
Stage 2							
• Consulting Services		\$100,000					\$100,000
• Software, Hardware, & Services			TBD	TBD			
TOTAL	\$2,075,744	\$252,715	\$28,887	TBD	\$0	\$0	\$281,602

Capital Improvement Plan: FY2021-2025

Project Title: Utility Billing – Major Equipment Replacement Program

Department/Division: Finance/Utility Billing

Project Description and Reason Necessary: The Utility Billing division of the Finance Department operates specialized equipment needed for customer billing, payment receipting, and postage processing. The cost of this equipment makes it important to plan for and set aside reserves for its replacement. Within the next five years, the following equipment will need to be replaced:

- Neopost Postage Machine - Utility Billing utilizes mail-metering equipment to weigh and prepare postage for the mailing of all City department mail. The current equipment was purchased in October 2016 and will no longer be supported by the manufacturer, Neopost, after October 2021.

There will be no future impact on the operating budget as this would be a replacement machine and monies are already included in the operating budget for maintenance.

Funding Source: General Capital Project Fund Utility Billing Reserves

	FY2021	FY2022	FY2023	FY2024	FY2025	5-Year Total SUMMARY TOTAL
Balance, beginning of year:	\$138,079	\$130,104	\$130,104	\$130,104	\$130,104	<i>Begin:</i> \$138,079
Deposits, from Finance Internal Service Fund	\$0	\$0	\$0	\$0	\$0	<i>Add:</i> \$0
Est. Available Balance	\$138,079	\$130,104	\$130,104	\$130,104	\$130,104	<i>Total:</i> \$138,079
Withdrawals:						
• Neopost Postage Machine	\$7,975					<i>Less:</i> \$7,975
Balance, end of year:	\$130,104	\$130,104	\$130,104	\$130,104	\$130,104	<i>End:</i> \$130,104

Capital Improvement Plan: FY2021-2025

Project Title: Vehicle Replacement Program

Department/Division: Finance/Property & Procurement

Project Description and Reason Necessary: This is a program to replace vehicles due to age and condition while maintaining cost-effective fleet performance. Vehicles recommended for replacement are identified based on a combination of mileage, age, condition and cost-effective performance. The preferred replacement vehicle style is the Ford F250 SD ¾ ton pickup truck.

Funding Sources: General Fund and Operations and Maintenance Fund

Division (FY Replacement)	Fund Source	Vehicle #	Model Year	Description	Mileage 3/1/2020	Estimated Replacement Cost
Property and Procurement (FY21)	550	#312	2007	Ford F150 Pickup	134,868	\$38,000
TOTAL						\$38,000

Vehicle Replacement Summary by Funding Source:

	FY2021	FY2022	FY2023	FY2024	FY2025	Total
General Fund						\$0
Operations and Maintenance Fund		\$38,000				\$38,000
TOTAL	\$0	\$38,000	\$0	\$0	\$0	\$38,000

Capital Improvement Plan: FY2021-2025

Project Title: Buildings and Systems – Repair/Replacement/Maintenance

Department/Division: Finance/Property & Procurement

Project Description and Reason Necessary: The Property and Procurement Division is responsible for the management and maintenance of City-owned properties.

	Location	Address
1	City Hall	11 North Third St
2	Police Headquarters	101 Penman Rd
3	O&M Building	1460-A Shetter Avenue
4	Animal Control-Police Bldg.	1460-B Shetter Avenue
5	Meter Shop	1460-C Shetter Avenue
6	Garage	1460-D Shetter Avenue
7	Fire Station 1	325 2nd Avenue South
8	Fire Station 2	2500 South Beach Pkwy
9	Community Services Center	850 6th Avenue South
10	ARC Building	321 Penman Rd
11	Safe Harbor Restaurant	2510 2nd Avenue North
12	Archive Building	337 1st Avenue South
13	Seawalk Pavilion	75 North First Street
14	Parks and Recreation	2508 South Beach Parkway
15	Carver Center	777 5 th Avenue South
16	Golf Course – Club House	605 S. Penman Rd
17	Golf Course – Maintenance Bldgs	605 S. Penman Rd
18	Wingate Park Facilities	277 S. Penman Rd
19	Tennis Center	218 16 th Avenue South
20	Ocean Front Restrooms	2 nd Avenue North 5 th Avenue North Oceanfront Park
21	H. Warren Smith Memorial Cemetery	1538 2 nd Avenue North

Each building is inspected by City staff bi-annually to achieve desired maintenance and safety standards. Inspection includes thorough examination of the major building components. Those components are the roofing system, the heating ventilation and air conditioning (HVAC) system, the floor covering, the interior and exterior wall surfaces, the plumbing system and the electrical system. The first four components require replacement over time as each of these components has a limited useful life. Roofing systems and HVAC systems typically have useful lives between fifteen (15) years and twenty (20) years, whereas wall and floor surfaces can last between twenty (20) to twenty-five (25) years. Plumbing and electrical components have longer lifespans and typically do not require replacement over time. These are maintained through periodic inspection.

Capital Improvement Plan: FY2021-2025

The following capital improvements are projected over the next five years:

HVAC Systems:

Effective regular HVAC system maintenance programs can extend the life of the system beyond the typical fifteen (15) to twenty (20) years lifespan. Although all of our current systems are operating effectively, many of our systems have exceeded their expected useful lifespans. Following replacements are planned over the next five years based on age of current equipment:

HVAC Replacement Schedule						
	2021	2022	2023	2024	2025	TOTALS
Archives	\$ 6,900					\$ 6,900
Golf Cart Barn	\$ 3,450					\$ 3,450
Community Center	\$ 66,700					\$ 66,700
Water Plant 2	\$ 2,300					\$ 2,300
Animal Control	\$ 11,500					\$ 11,500
Comm Services	\$ 19,550					\$ 19,550
Golf Maintenance	\$ 26,450					\$ 26,450
Wingate Baseball	\$ 6,900					\$ 6,900
Carver Center	\$ 31,050					\$ 31,050
Cemetery		\$ 3,450				\$ 3,450
Gonzalez Park		\$ 5,750				\$ 5,750
Police Property		\$ 13,800				\$ 13,800
Wingate Football		\$ 19,550				\$ 19,550
Police Dept		\$155,250				\$155,250
Huguenot Park		\$ 8,050				\$ 8,050
Lifeguard Station		\$ 21,850				\$ 21,850
Pollution Control		\$ 48,300				\$ 48,300
TOTALS	\$174,800	\$276,000	\$0	\$0	\$0	\$450,800

Capital Improvement Plan: FY2021-2025

Animal Control Kennels:

Refinish existing kennel area in the O&M animal control building located at 1460B Shetter Avenue.

The scope of the work is as follows:

- Prep floors, walls, ceilings, doors and frames to include pressure washing, scraping loose paint, sanding and skimming as necessary.
- Repaint ceilings, walls and doors.
- Recoat floors with epoxy paint with non-slip finish.

This effort will rejuvenate the existing kennels in the heavily used animal control building. The approximate cost is \$25,000.

O&M Video Management System & Cameras:

Replace existing outdated CCTV cameras at the O&M facility and integrate new cameras to the existing video management system infrastructure. The solution will include the Network Video Recorder, management software, eighteen HD IP cameras with new cabling, and wireless network. Integrating into the existing video management system infrastructure will simplify management of the system, decrease maintenance costs, improve support speed, and allow employees to be knowledgeable on a standardized camera interface throughout the city. The approximate cost is \$90,000.

O&M Generator Replacement:

The generator and transfer switch at O&M are nearing the end of their useful life. The replacement generator is a new Caterpillar C15 500kW Diesel Engine Generator Set, Rated Standby 480 Volt, 3 Phase, 60Hz Tier 3 with a Siemens Utility Switchgear (Siemens Sm@rtGear Low Voltage Switchgear). The C15 diesel generator sets have been developed for mission critical, standby and prime applications. The engine produces reliable power and is certified 'Low Fuel Consumption'. The Low voltage switchgear is preconfigured, preprogrammed and factory tested metal-enclosed switchgear that provides out-of-the-box remote monitoring, configuration and control of the generator. The estimated replacement cost is \$393,289.

Physical Facility Security:

Funds to install physical security devices in City of Jacksonville Beach facilities. The City will develop a methodology for prioritizing city facilities based on their physical security risk. Security assessments will be conducted and facilities prioritized based on physical security risk. Existing security infrastructure such as cameras, locks and alarm systems may be upgraded and/or supplemented to address comprehensive citywide security needs. Annual estimated cost is \$50,000.

Interior and Exterior Wall Surfaces:

The combined area of the interior and exterior wall surfaces of the above-listed buildings exceeds 200,000 square feet. The City intends to paint approximately 20,000 square feet each year for the succeeding ten years. Approximate combined total cost to paint all buildings is estimated at \$250,000. Annual improvement would therefore cost approximately \$25,000 each year.

Capital Improvement Plan: FY2021-2025

Funding Sources: General Capital Projects Fund via transfers from the General Fund, Leased Facilities, Electric and Water/Sewer Funds.

General Capital Projects Fund – Building Maintenance Reserve Funding Progress:

	FY2021	FY2022	FY2023	FY2024	FY2025	5-Year SUMMARY TOTAL
Balance, beginning of year:	\$800,927	\$1,015,127	\$584,838	\$823,838	\$1,062,838	<i>Begin:</i> \$800,927
Deposits , from General Fund, Electric, Water/Sewer, & Leased Facilities	\$604,000	\$339,000	\$339,000	\$339,000	\$339,000	<i>Add:</i> \$1,960,000
Est. Available Balance	\$1,404,927	\$1,354,127	\$923,838	\$1,162,838	\$1,401,838	<i>Total:</i> \$2,760,927
Withdrawals:						
• HVAC Replacements	\$174,800	\$276,000				
• Animal Control Kennels	\$25,000					
• Video Management System & Cameras at O&M Facility	\$90,000					
• Generator Replacement at O&M Facility		\$393,289				
• Interior and Exterior Wall Surface Painting						
• Physical Facility Security Program	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	
SUBTOTAL CAPITAL	\$339,800	\$719,289	\$50,000	\$50,000	\$50,000	<i>Less:</i> \$1,209,089
• Interior and Exterior Wall Surface Painting	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	
• Minor Electrical, HVAC, Painting, and Plumbing Projects	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	
SUBTOTAL OPERATING	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	<i>Less:</i> \$250,000
Balance, end of year:	\$1,015,127	\$584,838	\$823,838	\$1,062,838	\$1,301,838	<i>End:</i> \$1,301,838

Capital Improvement Plan: FY2021-2025

Project Title: Time Clock Replacement Program

Department/Division: Human Resources

Project Description and Reason Necessary: The City introduced Time Clocks in 2018 to eliminate manual payroll data entry and to improve reporting accuracy. The Expected lifecycle of a Time Clock is up to four years. It is recommended that warranties match expected lifecycle as to minimize downtime when failures occur. Since July 2018, there have been five clock failures that required the item to be returned to the manufacturer, a process that takes at least 10 business days. At full Clock deployment, we anticipate up to six warranty returns per year. Because the initial Clocks were not purchased with extended warranties, the City will procure annual maintenance agreements for the existing Clocks.

To further mitigate Clock downtime, it is suggested that at least two spare Clocks be pre-configured and ready for hot-swap/install when failure/warranty requirement occurs. Using this approach, Clock outage at any COJB location should never be longer than the time necessary to physically swap the failed clock. Current operational footprint across COJB is 22 devices. Minimum total inventory is recommended at 25; two for hot-swap plus one for possible emerging requirements. Replacement cycle of current Clocks would be completed by FY2022 and would start over in FY2024.

Funding Source: General Capital Project Fund Time Clock Reserve via transfers from Human Resources Fund

	FY2021	FY2022	FY2023	FY2024	FY2025	5-Year Total SUMMARY TOTAL
Balance, beginning of year:	\$48,000	\$36,000	\$0	\$20,000	\$27,400	<i>Begin:</i> \$48,000
Deposits, from Human Resources Internal Service Fund	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	<i>Add:</i> \$100,000
Est. Available Balance	\$68,000	\$56,000	\$20,000	\$40,000	\$47,400	<i>Total:</i> \$148,000
Withdrawals:						
Time Clock Replacement (Device Count)	\$32,000 (8)	\$56,000 (14)		\$12,600 (3)		<i>Less:</i> \$100,600
Balance, end of year:	\$36,000	\$0	\$20,000	\$27,400	\$47,400	<i>End:</i> \$47,400

Future Operating Budget Impact:

Item	FY2021	FY2022	FY2023	FY2024	FY2025	Total
Existing Time Clock Maintenance Plans	\$4,700	\$400				\$5,100

Capital Improvement Plan: FY2021-2025

Police Department		2021	2022	2023	2024	2025	Total
Funding Sources:							
General Capital Projects Fund Police Reserve	001	\$ -	\$ 100,000	\$ 900,000	\$ 100,000	\$ 100,000	\$ 1,200,000
Gen. Capital Projects Police Reserve	315	222,760	259,170	288,070	358,210	313,950	1,442,160
Federal Equitable Sharing Fund	631	-	132,750	-	-	-	132,750
Total CIP Funding Sources		\$222,760	\$491,920	\$1,188,070	\$458,210	\$413,950	\$2,774,910
Expenses:							
	Fund						
Police:							
Vehicle Replacement Program-Detectives	315	\$ 22,760	\$ 22,760	\$ 22,760	\$ 22,760	\$ 22,760	\$ 113,800
Vehicle Replacement Program-Patrol	315	200,000	236,410	265,310	335,450	291,190	\$ 1,328,360
SWAT Special Operations Vehicle	631	-	132,750	-	-	-	132,750
Detective Division Furniture	001	-	-	-	-	100,000	100,000
Records Management and Computer Aided	001	-	100,000	900,000	-	-	1,000,000
Records Scanning Assistance	001	-	-	-	100,000	-	100,000
Total CIP - Police		\$ 222,760	\$ 491,920	\$ 1,188,070	\$ 458,210	\$ 413,950	\$ 2,774,910

Capital Improvement Plan: FY2021-2025

Project Title: Vehicle Replacement Program

Department/Division: Police

Project Description and Reason Necessary:

This is a program to replace vehicles due to age and condition and to maintain adequate and cost-effective fleet performance. Vehicles scheduled for replacement each year are identified based on a combination of mileage, condition and cost-effective performance. Specialty vehicles include, but are not limited to, property room van, evidence technician van, animal control truck, and Citizens on Patrol vehicle.

Currently, there are 45 vehicles operated by the Patrol Division, 14 vehicles operated by the Detective Division, 17 vehicles operated by the Services Division, and 1 vehicle operated by the Administrative Division for a total of 77 vehicles. The Patrol Division also operates 4 ATVs.

The program is currently transitioning away from automobiles to SUVs, as the SUVs are more readily available and are more practical. The planned replacement schedule of the fleet is shown in the following table. Chevrolet Impalas currently in use are being replaced with SUVs, and therefore, are shown at the estimated cost of an SUV.

Vehicles being replaced are assessed each year for useful estimated life and estimated future maintenance costs. Vehicles with the shortest estimated lives and the highest estimated maintenance costs are selected for replacement. For that reason, the specific vehicle being replaced is not identified in the table, as it is shown for other City departments.

Funding Source: General Capital Projects Fund

Division (FY Replacement)	Description	Estimated Replacement Cost
Police-General Fund	Replace 4-5 marked Patrol vehicles per FY	TBD based on funding
Police-General Fund	Replace 1 unmarked Detective vehicle per FY	\$22,760 per FY
Police-General Fund	Replace 1-2 Specialty vehicles (FY2022-FY2025)	TBD
Police-General Fund	Replace 1 Patrol ATV (FY2022-FY2025)	\$13,650 per FY
Police-Downtown CAPE	See Community Redevelopment Agency section of this plan for details	

Capital Improvement Plan: FY2021-2025

General Capital Projects Fund – Police Vehicle Reserve Funding Progress:

	FY2021	FY2022	FY2023	FY2024	FY2025	5-Year SUMMARY TOTAL
Balance, beginning of year:	\$200,000	\$167,240	\$98,070	\$0	(\$168,210)	<i>Begin:</i> \$200,000
Deposits, from General Fund	\$190,000	\$190,000	\$190,000	\$190,000	\$190,000	<i>Add:</i> \$950,000
Est. Available Balance	\$390,000	\$357,240	\$288,070	\$190,000	\$21,790	<i>Total:</i> \$1,150,000
Withdrawals:						
• Replace 4-5 marked Patrol vehicles per year	\$200,000	\$200,000	\$228,900	\$230,540	\$230,540	
• Replace 1 unmarked Detective vehicle per year	\$22,760	\$22,760	\$22,760	\$22,760	\$22,760	
• Replace 1-2 Specialty vehicles per year		\$22,760	\$22,760	\$91,260	\$47,000	
• Replace 1 Patrol ATV per year		\$13,650	\$13,650	\$13,650	\$13,650	<i>Less</i> \$1,442,160
Balance, end of year:	\$167,240	\$98,070	\$0	(\$168,210)	(\$292,160)	<i>End:</i> (\$292,160)

Capital Improvement Plan: FY2021-2025

Project Title: SWAT Special Operations Vehicle

Department/Division: Police

Project Description and Reason Necessary:

The Police Department is requesting to replace the Special Operations Vehicle. The current truck (used 2002 model, simple box truck) was purchased in 2006 after a major hostage/barricade incident occurred in the City. The box portion of the truck was converted for use as a command post, SWAT equipment storage, SWAT personnel transport, and hostage negotiations workspace. The vehicle's condition is deteriorating rapidly, and it is unreliable. (For additional information, please refer to the supporting documentation.)

Funding Source: Federal Equitable Sharing Fund

Cost Item	FY2021	<u>FY2022</u>	<u>FY2023</u>	<u>FY2024</u>	<u>FY2025</u>	TOTAL
Special Operations Vehicle Replacement		\$132,750				\$132,750

Future Operating Budget Impact: Aside from regular maintenance and fuel, no significant future operating budget impact will occur.

Capital Improvement Plan: FY2021-2025

Project Title: Detective Division Workstation/Furniture Replacement

Department/Division: Police

Project Description and Reason Necessary:

The Police Department headquarters building was constructed in 1997. The Detective Division was originally intended to accommodate eight total employees. Currently, 22 employees are assigned to the Detective Division, with 14 having actual workstations in the area. The main office space (center open area) was originally furnished to accommodate five detectives. This furniture was installed in 1997 when the building opened. Currently, the workstations/furniture are in disrepair, and replacement parts are now obsolete. Additionally, the space cannot adequately accommodate the total number of employees assigned to the division.

Funding Source: General Fund

Cost Item	FY2021	<u>FY2022</u>	<u>FY2023</u>	<u>FY2024</u>	<u>FY2025</u>	TOTAL
Detective Division Furniture					\$100,000	\$100,000

Future Operating Budget Impact: No significant future operating budget impact will occur.

Capital Improvement Plan: FY2021-2025

Project Title: Records Management Software (RMS) and Computer Aided Dispatch (CAD) Replacement Program

Department/Division: Police

Project Description and Reason Necessary:

The current system was purchased in 2009 and has never performed as required. Data conversion from two older systems to the current system caused innumerable merged records which facilitated the need to continue conducting manual searches for verification of records. Retrieving statistical reports consistently yields inconsistent data, and the system is not user friendly. Purchasing a well-researched, new RMS/CAD system would improve efficiency and accuracy of data entry, queries, reporting, and responding to public records requests, as well as decreasing the number of paper records.

Funding Source: General Fund

Cost Item	FY2021	<u>FY2022</u>	<u>FY2023</u>	<u>FY2024</u>	<u>FY2025</u>	TOTAL
RMS and CAD Systems		\$100,000	\$900,000			\$1,000,000

Future Operating Budget Impact:

Cost Item	FY2021	<u>FY2022</u>	<u>FY2023</u>	<u>FY2024</u>	<u>FY2025</u>	TOTAL
Annual Support Maintenance				\$50,000	\$50,000	\$100,000

NOTE: This project may need to be considered as an Information Systems project, moved to that section of the Capital Improvement Plan, and included in its budget. Timing and funding TBD.

Capital Improvement Plan: FY2021-2025

Project Title: Records Section Scanning, Indexing, Imaging, and Media Conversion Project

Department/Division: Police

Project Description and Reason Necessary:

Paper records (e.g., arrest dockets, offense reports, etc.) housed within the Records Section date back to 1940, and continue into the year 2020. Currently, the space in which those documents are housed is not large enough to adequately store the number of paper items. In order to access most of those documents, a manual search must be conducted. When a hurricane warning is activated for the City of Jacksonville Beach, paper records must be packed and transported to an external facility for preservation. It is expected that scanning/indexing all current documents, coupled with a replacement RMS/CAD system, will alleviate future space-management issues within the Records Section.

Funding Source: General Fund

Cost Item	FY2021	<u>FY2022</u>	<u>FY2023</u>	<u>FY2024</u>	<u>FY2025</u>	TOTAL
Records Scanning Project				\$100,000		\$100,000

Future Operating Budget Impact:

This cost will be considered in conjunction with the Records Management Software (RMS) and Computer Aided Dispatch (CAD) Replacement Program (previous page). The above cost is a payroll or contract labor-related cost.

Capital Improvement Plan: FY2021-2025

Parks & Recreation		2021	2022	2023	2024	2025	Total
Funding Sources:							
General Fund	001	\$ 153,000	\$ 98,000	\$ 30,000	\$ -	\$ 80,000	\$ 361,000
Gen. Capital Projects Parks Maint. Reserve	315	185,000	210,000	120,000	190,000	60,000	765,000
Golf Course Fund	440	170,000	120,000	165,000	135,000	75,000	665,000
Convention Development Fund	130	75,000	300,000	300,000	300,000	300,000	1,275,000
Total CIP Funding Sources		\$583,000	\$728,000	\$615,000	\$625,000	\$515,000	\$3,066,000
Expenses:							
	Fund						
Parks Administration							
Vehicle Replacement Program	001	\$ -	\$ 34,000	\$ -	\$ -	\$ -	\$ 34,000
		-	34,000	-	-	-	34,000
Ocean Rescue:							
Vehicle Replacement Program	001	53,000	34,000	-	-	-	87,000
		53,000	34,000	-	-	-	87,000
Grounds Maintenance:							
Vehicle Replacement Program	001	70,000	-	-	-	80,000	150,000
Heavy Equipment Replacement Program	001	30,000	30,000	30,000	-	-	90,000
Repair and Replacement Program: Playgrounds, Parks, & Grounds	315	185,000	210,000	120,000	190,000	60,000	765,000
Urban Trails Project	130	75,000	300,000	300,000	300,000	300,000	1,275,000
		360,000	540,000	450,000	490,000	440,000	2,280,000
Golf Course:							
Heavy Equipment Replacement Program	440	55,000	45,000	90,000	95,000	35,000	320,000
Golf Course Maint. & Improvements	440	115,000	75,000	75,000	40,000	40,000	345,000
		170,000	120,000	165,000	135,000	75,000	665,000
Total CIP - Parks & Recreation		\$583,000	\$728,000	\$615,000	\$625,000	\$515,000	\$3,066,000

Capital Improvement Plan: FY2021-2025

Project Title: Vehicle Replacement Program

Department/Division: Parks and Recreation

Project Description and Reason Necessary:

This is a program to replace vehicles due to annual operating expense, age, and condition.

Funding Source: General Fund, Operating Revenues and Fund Balance

	Division	#	Year	Model	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
1	Admin	601	2015	Silverado 4x4		\$34,000			
2	Ocean	604	2014	Silverado 4x4	\$34,000				
3	Ocean	606	2015	Silverado 4x4		\$34,000			
4	Ocean	609	2019	Colorado 4x4					
5	Ocean	612	2020	Club Car Utility					
6	Ocean	613	2020	Club Car Utility					
7	Ocean	614	2014	Club Car Utility	\$19,000				
8	Grounds	901	2020	Ford F-250 4x4					
9	Grounds	902	2020	Ford F-150					
10	Grounds	903	2019	Ford F150 4x4					
11	Grounds	904	2003	Ford F-250 4x4	\$35,000				
12	Grounds	908	2008	Ford F-250	\$35,000				
13	Grounds	909	2015	Silverado 2x4					\$35,000
14	Grounds	975	2005	F-550 Dump Truck					\$45,000
Totals					\$123,000	\$68,000	-	-	\$80,000

Due to the beach environment, Ocean Rescue trucks do not normally last long enough to meet the City's 10-year or 100,000-mile replacement test. Vehicles are evaluated annually for replacement and replacements are postponed for as long as the truck continues to operate in a cost-effective manner. The replacement cost of \$34,000 includes the vehicle cost of \$27,500 plus \$6,500 in ancillary costs to make the vehicle ready for service.

Funding Sources: General Fund

Division	FY2021	FY2022	FY2023	FY2024	FY2025	Total
Admin		\$34,000				\$34,000
Ocean Rescue	\$53,000	\$34,000				\$87,000
Grounds Maintenance	\$70,000				\$80,000	\$150,000
TOTAL	\$123,000	\$68,000	\$0	\$0	\$80,000	\$271,000

Capital Improvement Plan: FY2021-2025

Project Title: Heavy Equipment Replacement Program

Department/Division: Parks and Recreation – Grounds and Golf Course Maintenance

Project Description and Reason Necessary:

The Parks & Recreation Department is responsible for maintaining approximately 135 acres of grounds and turf at various City facilities, parks, ballfields and the golf course. Much of the equipment used to maintain the grounds is of a specialized nature and is replaced infrequently.

2021

Toro Groundsmaster Mowers (\$30,000) are used to cut large park areas. We currently have three (3) units in service that have high operating hours. We will begin a replacement program starting in year 2021 replacing one each year. (Funding source: General Fund).

A **Triplex Mower (\$42,000)** is used to mow greens, tees, collars and approaches. We currently have three greens mowers that are nearing the end of the designed lifespan. The purchase in **2021** will replace a 2002 Jacobsen greens mower and will include an extra set of reels costing \$2,000. (Funding source: Golf Course).

A **Dethatching Machine (\$13,000)** is used to maintain high cultural practice standards by mechanically removing thatch build up on tees and fairways. (Funding source: Golf Course).

2022

A **Greens Spray Rig (\$45,000)** is necessary for precision spray applications of herbicides, pesticides and insecticides on greens and fairways. The current equipment is 8-years old and should be replaced in about two (2) years. (Funding source: Golf Course).

2023

Triplex Mower (\$40,000) for mowing greens, tees, collars and approaches will replace a 2003 Jacobsen greens mower. (Funding source: Golf Course).

The **Tractor (\$50,000)** is used to pull all accessories that are used to mow roughs, fertilize and aerify the golf course. This purchase will replace the 2001 New Holland tractor. (Funding source: Golf Course).

Capital Improvement Plan: FY2021-2025

2024

Triplex Mower (\$40,000) for mowing greens, tees, collars and approaches will replace a 2013 Jacobsen greens mower. (Funding source: Golf Course).

Fairway Mower (\$55,000) will replace a 2014 Toro 5500 fairway mower. Typical lifespan for these mowers are eight (8) to ten (10) years. (Funding source: Golf Course).

2025

A **Top Dresser (\$35,000)** evenly applies materials such as fertilizer or sand to the surface of tees, ballfields, greens, or other park spaces. Newer models have smaller footprints, provide greater capacity, and allow for turf specific calibrations. These features in combination allow staff to work more efficiently and better protect the turf from heavy equipment (Funding source: Golf Course).

Description	FY2021	FY2022	FY2023	FY2024	FY2025	Total
Toro Groundsmaster Mower	\$30,000	\$30,000	\$30,000			\$90,000
Triplex Mower	\$42,000		\$40,000	\$40,000		\$122,000
Dethatching Machine	\$13,000					\$13,000
Pro Gator Spray Rig		\$45,000				\$45,000
Tractor			\$50,000			\$50,000
Fairway Mower				\$55,000		\$55,000
Top Dresser					\$35,000	\$35,000
TOTAL	\$85,000	\$75,000	\$120,000	\$95,000	\$35,000	\$410,000

Funding Sources: General Fund and Golf Course

	FY2021	FY2022	FY2023	FY2024	FY2025	Total
General Fund	\$30,000	\$30,000	\$30,000	\$0	\$0	\$90,000
Golf Course Fund	\$55,000	\$45,000	\$90,000	\$95,000	\$35,000	\$320,000
TOTAL	\$85,000	\$75,000	\$120,000	\$95,000	\$35,000	\$410,000

Capital Improvement Plan: FY2021-2025

Project Title: **Playgrounds, Parks and Grounds: Equipment and Facilities Repair & Replacement Program**

Department/Division: Parks & Recreation

Project Description and Reason Necessary:

This is a program to periodically augment, replace and improve equipment, structures and grounds for which Parks and Recreation is responsible throughout and the City. The decision to add new equipment, or replace, repair and/or refurbish existing equipment and grounds is made after considering safety, demand for the equipment and its current condition, age and amount of use.

2021

Oceanfront Restroom upgrades (\$60,000) – Restroom fixtures at all Oceanfront facilities need replacement due to age and wear and tear. The buildings need interior and exterior painting.

8th Tennis Court (\$80,000) – There are currently seven (7) tennis courts at Huguenot Park. An eighth court will provide greater flexibility in hosting tennis matches and teaching clinics. It will also accommodate the increased demand for court usage. The court construction will include vinyl coated fencing, windscreens and lighting.

½ Basketball Court (\$45,000) – The 8th tennis court will be located on the site of the current basketball court. A new half-basketball court will be constructed at the southeast corner of Huguenot Park to replace the current court.

2022

Tennis Court Lights (\$75,000) - The tennis court lights for the three east courts at Huguenot will need replacement by 2022 (about three years).

Carver Center Playground and Cameras (\$80,000) – This project replaces the current playground equipment at Carver Center and includes the installation of security cameras.

Carver Center additional Parking Spaces (\$30,000) – Parking at Carver Center is limited to eight (8) paved parking spaces. This project will double the current paved parking capacity to meet increased activity levels at the Center.

Oceanfront Shower Towers (\$50,000) – There are ten (10) shower towers along our oceanfront that are nearing the end of their useful life. In FY 2022 five (5) towers will be replaced at \$25,000 and the remaining five (5) will be replaced in FY 2023 for \$25,000.

Capital Improvement Plan: FY2021-2025

2023

Tall Pines Park water fountains and swing set (\$25,000) – This project replaces the aging swing set at Tall Pines Park and includes the addition of two (2) water fountains.

Landscape islands along A1A (\$70,000) - There are six landscape islands along A1A between 16th Avenue South and J Turner Butler Boulevard that should be revitalized. This would include the removal of excess soil and mulch, and replanting ornamental grasses and installation of new irrigation with associated controller.

2024 and 2025

Wingate Park Floodlights (\$130,000) – The floodlights at Wingate Park are obsolete and replacements are no longer available. This project will replace all current fixtures with energy efficient fixtures that have ten (10) years warranty.

Playground Replacements – Are scheduled at Huguenot Park (**\$60,000**) in **2024** and Rotary Park (**\$60,000**) in **2025**.

Funding Sources: General Capital Projects Fund via transfers from the General Fund

Description	FY2021	FY2022	FY2023	FY2024	FY2025	Total
Oceanfront Restroom upgrades	\$60,000					\$60,000
8th Tennis Court at Huguenot	\$80,000					\$80,000
Half Basketball Court at Huguenot	\$45,000					\$45,000
A1A Landscape beds			\$70,000			\$70,000
Tennis Court Lights		\$75,000				\$75,000
Carver Playground Equip & Cameras		\$80,000				\$80,000
Carver additional parking spaces		\$30,000				\$30,000
Replace Oceanfront Shower Towers		\$25,000	\$25,000			\$50,000
Replace Wingate Park Floodlights				\$130,000		\$130,000
Tall Pines water fountains & swings			\$25,000			\$25,000
Replace playground set at Huguenot				\$60,000		\$60,000
Replace playground at Rotary Park					\$60,000	\$60,000
TOTAL	\$185,000	\$210,000	\$120,000	\$190,000	\$60,000	\$765,000

Capital Improvement Plan: FY2021-2025

General Capital Projects Fund – Parks Maintenance Reserve Funding Progress:

	FY2021	FY2022	FY2023	FY2024	FY2025	5-Year Total SUMMARY TOTAL
Balance, beginning of year:	\$180,000	\$195,000	\$85,000	\$65,000	\$0	<i>Begin:</i> \$180,000
Deposits , from General Fund into Parks Maintenance Reserve	\$200,000	\$100,000	\$100,000	\$125,000	\$100,000	<i>Add:</i> \$625,000
Est. Available Balance	\$380,000	\$295,000	\$185,000	\$190,000	\$100,000	<i>Total:</i> \$805,000
Withdrawals:						
• Oceanfront Restroom Upgrades	\$60,000					
• Huguenot 8th Tennis Court	\$80,000					
• Half Basketball Court Huguenot	\$45,000					
• Tennis Court Lights		\$75,000				
• Carver Playground & Cameras		\$80,000				
• Carver additional parking spaces		\$30,000				
• Replace Oceanfront Showers		\$25,000	\$25,000			
• A1A Landscape Beds			\$70,000			
• Tall Pines water fountains, swings			\$25,000			
• Replace Wingate Park Floodlights				\$130,000		
• Replace playground at Huguenot				\$60,000		
• Replace playground at Rotary					\$60,000	
Total Withdrawals	\$185,000	\$210,000	\$120,000	\$190,000	\$60,000	<i>Less:</i> \$765,000
Balance, end of year:	\$195,000	\$85,000	\$65,000	\$0	\$40,000	<i>End:</i> \$40,000

Capital Improvement Plan: FY2021-2025

Project Title: Golf Course Maintenance and Improvements Projects

Department/Division: Parks & Recreation / Golf Course

Project Description and Reason Necessary:

This is a program to periodically add to, replace and improve the overall operation of the golf course. The decision to improve, repair or replace is derived from factors such as: demand, return on investment, safety, current conditions and age etc.

2021

Course Routing and Safety Improvements (\$40,000/year FY 2021/2025) - are the lifeblood of the golf course circulation system. They lead people from hole to hole and keep traffic patterns confined for ease of maintenance, as well as safety. Also, cart paths allow the golf course to remain open to cart traffic after large rain events or in the months that the turf is not growing. This is an annual project to increase coverage to cover all eighteen (18) holes. Currently only one third of the course has cart paths.

Pro Shop Improvements (\$35,000/year FY2021-2023) – These improvements include renovations to the restrooms, exterior paint including the wall along the entrance to the facility, as well as reconfiguration of the current space for restaurant and pro shop facilities.

Range Tee Improvements (\$25,000) – These improvements supplement the new range covers and provide for improved curbing, access and aesthetics around the driving range.

Halfway House Restrooms (\$15,000) – These improvements include replacement of fixtures as well as interior and exterior paint to the restrooms at the Halfway House on the golf course.

Funding Source: Golf Course Fund

Description	FY2021	FY2022	FY2023	FY2024	FY2025	Total
Routing and Safety	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$200,000
Pro Shop Improvements	\$35,000	\$35,000	\$35,000			\$105,000
Range Tee Improvements	\$25,000					\$25,000
Halfway House Restrooms	\$15,000					\$15,000
TOTAL	\$115,000	\$75,000	\$75,000	\$40,000	\$40,000	\$345,000

Capital Improvement Plan: FY2021-2025

Project Title: Urban Trails Project

Department/Division: Parks & Recreation

Project Description and Reason Necessary:

An urban trail is a multi-use public path which creates an active transportation corridor through a built environment. Urban trails are ideal for many uses including bicycling, walking, running, in-line skating, strollers and wheelchairs.

The purpose of an urban trail is to provide mobility for active transportation and create greenways through developed areas. They should interconnect to allow people new viable recreation and travel choices.

This project includes design fees in the amount of \$75,000 in FY 2021, thereafter construction of approximately 1.5 miles of trails each year beginning in 2022 through 2025 for approximately six (6) total miles of urban trails. Cost projections include asphalt trails 10 feet wide with markings, signage and striped street walks. Cost projections do not include amenities such as benches, night lighting, shade rest areas, drinking fountains and landscaping.

Description	FY2021	FY2022	FY2023	FY2024	FY2025	Total
Design Fees	\$75,000					\$75,000
Trail construction (1.5 miles each year)		\$300,000	\$300,000	\$300,000	\$300,000	\$1,275,000
TOTAL	\$75,000	\$300,000	\$300,000	\$300,000	\$300,000	\$1,275,000

Funding Source: General Fund

	FY2021	FY2022	FY2023	FY2024	FY2025	Total
General Fund	\$75,000	\$300,000	\$300,000	\$300,000	\$300,000	\$1,275,000
TOTAL	\$75,000	\$300,000	\$300,000	\$300,000	\$300,000	\$1,275,000

Capital Improvement Plan: FY2021-2025

Community Redevelopment Agency		2021	2022	2023	2024	2025	Total
Funding Sources:							
Downtown Tax Increment Fund	181	\$ 755,750	\$ 3,939,900	\$ 5,778,150	\$ 4,631,200	\$ 515,000	\$ 15,620,000
Southend Tax Increment Fund	182	2,805,000	2,055,000	3,855,000	1,674,000	4,676,000	15,065,000
1/2 Cent Infrastr. Surtax Bond Proceeds	317	450,000	863,500	-	3,000,000	-	4,313,500
Water & Sewer Utility Operating Revenues	420	129,525	-	-	-	-	129,525
Total CIP Funding Sources		\$4,140,275	\$6,858,400	\$9,633,150	\$9,305,200	\$5,191,000	\$35,128,025
Expenses:							
Fund							
<u>Downtown Redevelopment District</u>							
<i>Road & Associated Infrastructure</i>							
<i>Improvements:</i>							
Phases 3C & 3D (Redev. Funding)	181	\$ -	\$ 3,136,500	\$ 5,000,000	\$ 4,100,000	\$ -	\$ 12,236,500
Phases 3C & 3D (BJB Funding)	317	450,000	863,500	-	3,000,000	-	4,313,500
Phases 3C & 3D (W/S Funding)	420	129,525	-	-	-	-	129,525
Dune Walkovers	181	500,000	500,000	500,000	500,000	500,000	2,500,000
Beach Outfalls	181	200,000	200,000	200,000	-	-	600,000
Downtown CAPE Vehicle & Equipment Replacement Program	181	55,750	103,400	78,150	31,200	15,000	283,500
<u>South Beach Redevelopment District</u>							
<i>Road & Associated Infrastructure</i>							
<i>Improvements-Phases 3-6</i>							
South Beach Park Improvements	182	15,000	15,000	15,000	500,000	-	545,000
South Beach Park Maintenance (not capital)	182	40,000	40,000	40,000	40,000	40,000	200,000
Total CIP - CRA		\$ 4,140,275	\$ 6,858,400	\$ 9,633,150	\$ 9,305,200	\$ 5,191,000	\$ 35,128,025

The five-member Jacksonville Beach Community Redevelopment Agency (CRA) was established in 1978, pursuant to Chapter 163, Part III of the Florida Statutes. The CRA was created for the purpose of carrying out community redevelopment programs for the City. The Agency is responsible for managing the City's two redevelopment districts: Downtown and South Beach. Programs consist of a variety of redevelopment and community policing activities. The Agency receives administrative, engineering and project management support from the City's Planning & Development and Public Works departments. Work in the two redevelopment districts is carried out in coordination with the City Council and City Manager.

Both Community Redevelopment District programs are funded from appropriations based on increases in property tax revenues generated from within the two districts. The funds derived from the tax increments are held in separate trust funds administered by the Agency. Unless otherwise noted, the recommended funding source for these projects is from the Downtown or South Beach Tax Increment Fund. Other projects may be added in the future from the master plans for the Downtown/Southend Redevelopment Districts. In the future, listed projects may be deleted and/or shifted on time-line due to budgetary constraints.

Capital Improvement Plan: FY2021-2025

Project Title: *Community Redevelopment Agency – Downtown Redevelopment District Road & Associated Infrastructure Improvements*

Program Focus Area: Downtown District Public Infrastructure Improvements:

The initial focus of the CRA was the rejuvenation of the Downtown District. The redevelopment effort to date has been centered on improvements to the public infrastructure to facilitate private investments in the area. These projects are managed primarily by the Public Works Department.

Project Description and Reason Necessary: Within the City there are roads, which need to be rebuilt because of deterioration caused by aging, compromise of the base and excess elevation due to many overlays. The degree of required rebuilding differs with the condition of each road. When roads are identified for reconstruction, Public Works reviews other utility and traffic systems (water, wastewater, stormwater, pavement and road base, sidewalk, etc.) in the right-of-way for prudent upgrades and repairs to maximize return on investment. Estimated planning costs are variable until project scope, design, bid advertisement and bid award are complete.

- **Phase 3B Project:** 2nd St. N. from Beach Boulevard to 6th Ave. N. will be designed (FY24) and constructed at a future date.
- **Phase 3C Projects 2, 3, 4 and 5** (CRA funded): Limits include 3rd Street, 4th Avenue South, Street Ends, and 13th Avenue South and Downstream Improvements, if necessary. The scope of work for these phases includes improvements to sanitary sewer, water distribution, stormwater, roadways, alleys, street ends, permitting, stilling basins/ponds and downstream channels, and the stormwater pumps at the Central Basin, as necessary, and other identified ancillary public improvements throughout the area. Due to funding and construction constraints, Phase 3C is being constructed in phases. Project 1 is completed, Project 2 is under construction. FY20 Design included Phase 3C Projects 3, 4, and 5. Phase 3D Project 6 (City-funded) is scheduled for design in FY21.

Downstream Improvements include: removal and disposal of sediment from the 12th Ave. S. Basin; replace existing stormwater pumps, add new box culverts under 9th St. S., under the golf course cart path at 13th Ave. S. and under Fairway Lane; clear and widen the channel from the control structure (weir) to the Intracoastal waterway and rehabilitate the existing 30” outfall pipe from the Wastewater Treatment Plant.

- **Phase 3D Project 6** (City funded): Approximate design boundary consists of 3rd Street, 13th Avenue South, Street Ends, and 16th Avenue South (outside of, and adjacent to the south boundary of the Downtown Redevelopment District). The scope of work for these phases include improvements to sanitary sewer, water distribution, stormwater, roadways, alleys, and street ends throughout the area plus other identified ancillary public improvements throughout the area.

Capital Improvement Plan: FY2021-2025

Design phasing boundaries are currently:

Approximate Design Boundaries ⁽¹⁾				
Phase 3C:	<u>North</u>	<u>South</u>	<u>West</u>	<u>East</u>
Project 2	11 th Ave. S.	13 th Ave. S.	3 rd St.	Beach Street End
Project 3 ⁽²⁾	Downstream Improvements		Intracoastal Waterway	Central Basin
Project 4	7 th Ave. S.	11 th Ave. S.	3 rd St.	Beach Street End
Project 5	4 th Ave. S.	7 th Ave. S.	3 rd St.	Beach Street End
Phase 3D:				
Project 6	13 th Ave. S.	16 th Ave. S.	3 rd St.	Beach Boulevard
<p>⁽¹⁾ The scope of downstream improvements have been based on the design consultant's stormwater modeling & analysis results. The design and construction work may be incorporated into Projects 3 through 6.</p> <p>⁽²⁾ Project 3 will be 17.27% City funded and 82.73% CRA funded.</p>				

- Dune Walkovers:** There are forty-nine (49) existing dune walkovers located in Jacksonville Beach, twenty-eight (28) of which are located in the Downtown CRA district. Three (3) ADA dune walkovers were constructed within the CRA district in FY20. The design was also completed in FY20 for the non-ADA walkovers. \$500,000 per year is allocated for their construction, in Years FY21 through FY25.
- Beach Outfalls:** There are twenty-nine (29) existing beach outfalls within the City. There are fifteen (15) existing beach outfalls located inside the Downtown CRA District. It is the City's intent to replace all of them with in-line check valves to minimize water from backing up into the system, pending funding availability. The new outfall piping will also be extended underneath the primary dune east of the bulkhead to avoid the need to dig trenches through the dunes to facilitate the outfalls' discharge onto the beach following major rainfall events. The City is scheduled to receive a FDEM grant to offset a portion of the design fee.

Capital Improvement Plan: FY2021-2025

PROJECT <i>(Fund Source)</i>	PRIOR	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Phase 3B (DT TIF)							
<i>Design</i>	\$155,061				\$100,000		\$100,000
<i>Construct</i>	\$867,403						
<i>Const. Admin.</i>	\$110,808						
Phase 3C (DT TIF)							
<i>Project 1 Design</i>	\$336,093						
<i>Project 1 Const.</i>	\$6,354,864						
<i>Project 2 Design</i>	\$1,072,00						
<i>Project 2 Const.</i>	\$11,073,488						
<i>Projects 3-5 Design</i>	\$1,970,475		\$3,136,500	\$5,000,000	\$4,000,000		\$12,136,500
<i>Projects 3-5 Const.</i>	\$1,000,000						
Project 3 City Portion							
<i>Design(W/S)</i>		\$129,525					\$129,525
<i>Const.(BJB)</i>			\$863,500				\$863,500
Phase 3D (BJB)							
<i>Project 6 Design</i>		\$450,000					\$450,000
<i>Project 6 Const</i>					\$3,000,000		\$3,000,000
Dune Walkovers – Non ADA (DT TIF)							
<i>Design</i>	\$77,430						
<i>Construct.</i>	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$2,500,000
Beach Outfalls (DT TIF)							
<i>Design</i>	\$13,999						
<i>Construct</i>		\$200,000	\$200,000	\$200,000			\$600,000
Sub-Total DT TIF		\$700,000	\$3,836,500	\$5,700,000	\$4,600,000	\$500,000	\$15,336,500
by Funding W/S		\$129,525					\$129,525
Source BJB		\$450,000	\$863,500		\$3,000,000		\$4,313,500
GRAND TOTAL		\$1,279,525	\$4,700,000	\$5,700,000	\$7,600,000	\$500,000	\$19,779,525

Recommended Funding Source – Downtown Redevelopment Tax Increment Fund (DT TIF) with Water / Sewer & ½ Cent Infrastructure Surtax (BJB) Bonds and Florida Department of Emergency Management (FDEM) grant, funding work adjacent to the district’s south boundary.

NOTES:

1. These estimated planning costs are variable until project scope, design, bid advertisement and bid award are complete.
2. When roads are identified for reconstruction, Public Works reviews other utility and traffic systems (water, wastewater, stormwater, pavement and road base, sidewalk, etc.) in the right-of-way for prudent upgrades and repairs to maximize return on investment.
3. Other projects may be added in the future for other necessary road reconstruction. Listed projects may be deleted and/or shifted on time-line due to budgetary constraints.

Capital Improvement Plan: FY2021-2025

Project Title: Community Redevelopment Agency – Downtown Redevelopment District
Downtown Community Policing Initiative

Department/Division: Police Department/Community Redevelopment Agency – Downtown
Redevelopment District

Project Description and Reason Necessary:

The Downtown Community Policing Initiative, or Downtown CAPE, began a pilot project in November of 2006. It was subsequently expanded to eleven officers and permanently integrated into the Downtown Community Redevelopment Plan. The officers provide a concentrated presence in the Central Business District, but are authorized to provide police services throughout the Downtown Redevelopment District. Funding for this program is managed by the Police Department. Vehicles dedicated to the Downtown CAPE program will be replaced as projected in this plan. Currently, Downtown CAPE operates 11 marked vehicles and 2 ATVs.

The Downtown CAPE fleet currently consists of twenty-one vehicles:

- 5 Chevy Impalas
- 1 Chevy Tahoe
- 5 Ford SUVs
- 2 Honda ATVs
- 2 Quads
- 6 Segways

The program is currently transitioning away from automobiles to SUVs, as the SUVs are more readily available and are more practical for use in the Downtown area. The planned replacement schedule of the fleet is shown in the following table. Chevrolet Impalas currently in use are being replaced with SUVs, and therefore, are shown at the estimated cost of an SUV.

Vehicles being replaced are assessed each year for useful estimated life and estimated future maintenance costs. Vehicles with the shortest estimated lives and the highest estimated maintenance costs are selected for replacement. For that reason, vehicle numbers, model years and mileage are marked with asterisks, and the specific vehicle being replaced is not identified in the table.

Capital Improvement Plan: FY2021-2025

Division (FY Replacement)	Vehicle #	Model Year	Description	Mileage	Estimated Replacement Cost
Police-DT CAPE (2021)	*	*	Chevrolet Impala	*	\$47,650
Police-DT CAPE (2021)	*	*	Segway	*	\$8,100
Police-DT CAPE (2022)	*	*	Chevrolet Impala	*	\$47,650
Police-DT CAPE (2022)	*	*	Chevrolet Impala	*	\$47,650
Police-DT CAPE (2021)	*	*	Segway	*	\$8,100
Police-DT CAPE (2023)	*	*	Chevrolet Impala	*	\$47,650
Police-DT CAPE (2023)	*	*	Polaris Quad	*	\$14,300
Police-DT CAPE (2023)	*	*	Segway	*	\$8,100
Police-DT CAPE (2023)	*	*	Segway	*	\$8,100
Police-DT CAPE (2024)	*	*	Polaris ATV 2-Seater	*	\$15,000
Police-DT CAPE (2024)	*	*	Segway	*	\$8,100
Police-DT CAPE (2024)	*	*	Segway	*	\$8,100
Police-DT CAPE (2025)	*	*	Polaris ATV 2-Seater	*	\$15,000
TOTAL					\$283,500

Funding Source: Community Redevelopment Agency (CRA)

Item	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Downtown CAPE Vehicles	\$47,650	\$95,300	\$47,650			\$190,600
Downtown CAPE ATVs				\$15,000	\$15,000	\$30,000
Downtown CAPE Quads			\$14,300			\$14,300
Downtown CAPE Segways	\$8,100	\$8,100	\$16,200	\$16,200		\$48,600
TOTAL	\$55,750	\$103,400	\$78,150	\$31,200	\$15,000	\$283,500

Future Operating Budget Impact: No significant future operating budget impact will occur.

Capital Improvement Plan: FY2021-2025

Project Title: *Community Redevelopment Agency – South Beach Redevelopment District Road & Associated Infrastructure Improvements*

Since the adoption of the South Beach redevelopment plan in 1987, six major public-private projects have been completed (Riptide, South Beach Regional Shopping Center, South Beach Parkway Shopping Center, Ocean Cay, South Beach Mixed Use Development, Ocean Terrace and Paradise Key). In addition to the projects involving private enterprises, numerous public infrastructure projects have been constructed to support the redevelopment activity in the district. The infrastructure projects are managed primarily by the Public Works Department; parks facilities projects are managed by both the Public Works and the Parks & Recreation Departments.

Project Description and Reason Necessary: Within the City there are roads, which need to be rebuilt because of deterioration caused by aging, compromise of the base and excess elevation due to asphalt overlays. The degree of required rebuilding differs with the condition of each road. When roads are identified for reconstruction, Public Works reviews other utility and traffic systems (water, wastewater, stormwater, pavement and road base, sidewalk, etc.) in the right-of-way for prudent upgrades and repairs to maximize return on investment. Estimated planning costs are variable until project scope, design, bid advertisement and bid award are complete.

- **South Beach Parkway Roadway/ Stormwater Improvements Project (Phase 3):** The design of improvements to the South Beach Parkway Stormwater Pond (at Marsh Landing Parkway) that receives Ocean Terrace stormwater design is being reviewed by City staff, in the process of obtaining 3 temporary construction easement documents. Design fee was paid by the Ocean Terrace developer. *Construction of pond is being delayed until further evaluation of an alternate material to sheet piling is performed.*
- **Stormwater Piping and Roadway Improvements Project (Phase 4):** Drainage and roadway study in the area bounded by JT Butler Boulevard, South Beach Parkway, America Avenue with outfall to the west, and Republic Drive / Rip Tide Subdivision. Study has been completed. Anticipate significant drainage improvements in the area to reduce localized flooding coupled with reconstruction of roads to city standard to include curbing. Also, water & sewer systems are to be improved as necessary. *Ocean Terrace Drainage Design is underway for Jacksonville Drive from Grande Blvd. to South Beach Parkway. Additional design from America Avenue westward may also be performed pending outcome of this project.*
- **Stormwater/Roadway Improvements (Phase 5):** Roadway improvements include Marsh Landing Parkway, Isabella Boulevard from Jacksonville Drive to Osceola Avenue, and 34th Avenue South from Isabella Boulevard to dead end. Stormwater Improvements include South Basin Canal modifications and outfall ditch improvements from Osceola Avenue to Jacksonville Drive. South Basin Stormwater Outfall Channel Improvements include basin and downstream silt removal, pipe cleaning/rehabilitation and channel stabilization.

Capital Improvement Plan: FY2021-2025

- **Stormwater/Reuse Improvements (Phase 6):** Stormwater system improvements include Osceola Avenue from South Beach Parkway east to Sandra Drive, and Osceola Regional Pond modifications and reconstruction necessary at the JTB Basin pumping station and pond improvements.

PROJECT	PRIOR	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
South Beach Parkway Road Imps (Phase 3) <i>Ocean Terrace Pond Const.</i>		\$1,000,000					\$1,000,000
Stormwater/ Road Imps (Phase 4) <i>Study</i> <i>Design</i> <i>Construct</i>	\$81,000 \$200,000 \$2,000,000	\$100,000 \$1,500,000	\$150,000	\$1,500,000			\$3,250,000
Stormwater/Road Imps (Phase 5) <i>Design</i> <i>Construct</i>			\$300,000	\$1,750,000			\$2,050,000
South Basin Stormwater Outfall Channel Imps. (Ph. 5) <i>Design</i> <i>Construct</i>		\$150,000	\$50,000 1,500,000	\$50,000 \$500,000	\$50,000 \$500,000	\$500,000	\$3,300,000
Stormwater/Reuse Imps (Phase 6) <i>Design</i> <i>Construct</i>					\$584,000	\$4,136,000	\$4,720,000
TOTAL		\$2,750,000	\$2,000,000	\$3,800,000	\$1,134,000	\$4,636,000	\$14,320,000

Recommended Funding Source – Southend Tax Increment Fund (SE TIF). Foundation for project scoping is the South Beach Redevelopment Master Plan (also incorporating appropriate portions of the City’s Reuse Master Plan Study). Scope includes improvements to sanitary sewer, water distribution, reuse, stormwater and road systems throughout the area plus other identified ancillary public improvements.

NOTES:

1. These estimated planning costs are variable until project scope, design, bid advertisement and bid award are complete.
2. When roads are identified for reconstruction, Public Works reviews other utility and traffic systems (water, wastewater, stormwater, pavement and road base, sidewalk, etc.) in the right-of-way for prudent upgrades and repairs to maximize return on investment.
3. Other projects may be added in the future for other necessary road reconstruction. Listed projects may be deleted and/or shifted on time-line due to budgetary constraints.

Capital Improvement Plan: FY2021-2025

Project Title: *Community Redevelopment Agency – South Beach Redevelopment District*
South Beach Park Infrastructure Improvements and Maintenance Program

The South Beach Park area includes recreational opportunities for all ages. Beginning with the land acquisition for the park area, the South Beach Redevelopment plan has provided for the Skate Park, tennis courts, beach volleyball, exercise trails, splash pad, basketball courts, multi-use play field, picnic shelters, and restrooms. In March 2017, the Plan was amended to include maintenance of these Tax Increment Funded facilities and improvements.

Park Lighting: Lamp posts that light the walking trail will need to be replaced with new wiring, poles and lamps. There are twenty light posts around the park and the following projections include replacing five light posts each year beginning in 2020.

Sunshine Park Playground Replacement: Due to its current age, condition and usage, the wood structure will need to be removed in approximately three years. Screws, bolts and swing mechanisms are showing signs of age and corrosion. A new play structure or structures will then be installed, including the rejuvenation of all fall zone material and sand replacement.

Skate Park Maintenance: Maintenance of the Skate Park includes periodic applications of concrete sealer, repairing concrete cracks, sanding and paint coping rails, inspecting and repairing shade sail mechanisms as well as sanding and painting shade structures.

Artificial Turf: Annual recurring maintenance costs for the artificial turf include cleaning, brushing, and the addition of infill material.

Splash Pad, Restroom and Building Maintenance: Annually the Splash Pad and expanded Toddler Section will need the water features and fencing pressure washed and painted. The two pump stations and the filtration system require annual preventative maintenance and servicing. The Restroom Building will require ongoing graffiti removal as well as pressure washing and painting. The Community Service Building requires annual preventative maintenance on hurricane devices, generator system, etc.

Capital Improvement Plan: FY2021-2025

	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
IMPROVEMENT PROJECTS						
Park Lighting Replacement	\$15,000	\$15,000	\$15,000			\$45,000
Sunshine Park Playground Structure(s)				\$500,000	\$0	\$500,000
SUBTOTAL CAPITAL	\$15,000	\$15,000	\$15,000	\$500,000	\$0	\$545,000
MAINTENANCE PROGRAM						
Skate Park Maintenance	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$75,000
Artificial Turf Maintenance	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$25,000
Splash Pad, Restroom and Bldg. Maintenance	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$100,000
SUBTOTAL OPERATING	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$200,000
GRAND TOTAL						
	\$55,000	\$55,000	\$55,000	\$540,000	\$40,000	\$745,000

Capital Improvement Plan: FY2021-2025

Public Works		2021	2022	2023	2024	2025	Total
Funding Sources:							
Downtown Redevelopment Tax Increment	181	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Gen. Capital Projects Heavy Vehicle Reserve	315	96,000	-	385,000	52,000	-	533,000
General Capital Projects Road Reserve	315	-	810,000	337,000	-	-	1,147,000
General Fund Operating Revenues	001	60,000	40,000	42,000	42,000	45,000	229,000
Local Option Gas Tax Revenues	150	310,000	310,000	310,000	310,000	310,000	1,550,000
1/2 Cent Infrastructure Surtax	151	820,000	820,000	820,000	820,000	820,000	4,100,000
Sanitation Fund	430	-	40,000	170,000	-	290,000	500,000
Southend Redevelopment Tax Increment Fund	182	-	-	-	-	-	-
Stormwater Operating Revenues	423	968,000	1,612,000	1,968,000	3,855,000	695,000	9,098,000
Unfunded - City of Jacksonville	-	350,000	-	-	-	475,000	825,000
Water & Sewer Utility Operating Revenues	420	3,440,000	3,236,000	4,723,000	1,283,000	1,912,000	14,594,000
Total CIP Funding Sources		\$6,044,000	6,868,000	\$8,755,000	6,362,000	\$4,547,000	\$32,576,000
Expenses:							
Streets:							
Vehicle Replacement Program	001	\$ 60,000	\$ 40,000	\$ 42,000	\$ 42,000	\$ 45,000	\$ 229,000
Heavy Vehicle Replacement Program	315	96,000	-	385,000	52,000	-	533,000
Street/Sidewalk Maintenance (not capital)	150	310,000	310,000	310,000	310,000	310,000	1,550,000
Street/Sidewalk Maintenance (not capital)	151	750,000	750,000	750,000	750,000	750,000	3,750,000
New Sidewalks	151	70,000	70,000	70,000	70,000	70,000	350,000
Penman Road Area Road & Infrs. Impr.	unfunded	350,000	-	-	-	475,000	825,000
Total CIP - Roads & Streets		1,636,000	1,170,000	1,557,000	1,224,000	1,650,000	7,237,000
Distribution & Collection:							
Vehicle Replacement	420	65,000	38,000	-	-	407,000	510,000
Water Distribution & Sanitary Sewer Collection Systems Improvements:							
Water Main Replacement	420	460,000	400,000	260,000	500,000	600,000	2,220,000
Water Valve/ Sewer Maint Programs (not capital)	420	325,000	325,000	325,000	325,000	325,000	1,625,000
Water, Sewer & Stormwater Improvements	420	-	640,000	760,000	-	-	1,400,000
Water, Sewer & Stormwater Improvements	423	-	380,000	368,000	-	-	748,000
Water, Sewer & Stormwater Improvements	315	-	810,000	337,000	-	-	1,147,000
		850,000	2,593,000	2,050,000	825,000	1,332,000	7,650,000
Pollution Control Plant:							
Vehicle Replacement Program	420	-	-	-	-	-	-
Sewer Rehabilitation Program-Lift Stations	420	695,000	340,000	340,000	380,000	380,000	2,135,000
Wastewater Treatment Facility Impr.	420	770,000	1,180,000	1,500,000	40,000	200,000	3,690,000
		1,465,000	1,520,000	1,840,000	420,000	580,000	5,825,000
Water Plant:							
Vehicle Replacement Program	420	-	38,000	38,000	38,000	-	114,000
Water Plant Facility Improvements	420	125,000	275,000	1,500,000	-	-	1,900,000
		125,000	313,000	1,538,000	38,000	-	2,014,000
Capital Projects							
Relocate/ Rebuild Stations #7 & #8 and Demolish existing lift stations #7 & #20	420	1,000,000	-	-	-	-	1,000,000
		1,000,000	-	-	-	-	1,000,000
Total CIP - Water & Sewer		3,440,000	4,426,000	5,428,000	1,283,000	1,912,000	16,489,000
Stormwater							
Vehicle Replacement Program	423	85,000	87,000	-	160,000	-	332,000
Heavy Equipment	423	-	-	-	-	-	-
Generator 9th Ave Stormwater Station	423	-	-	-	-	-	-
Stormwater Collection & Treatment Impr.	423	588,000	850,000	1,305,000	3,400,000	400,000	6,543,000
Stormwater Collection & Treatment Improve	182	-	-	-	-	-	-
Stormwater Pipe Cleaning (not capital)	423	95,000	95,000	95,000	95,000	95,000	475,000
Stormwater Channel Cleaning (not capital)	423	200,000	200,000	200,000	200,000	200,000	1,000,000
Total CIP - Stormwater		968,000	1,232,000	1,600,000	3,855,000	695,000	8,350,000
Sanitation							
Vehicle Replacement Program	430	-	40,000	170,000	-	290,000	500,000
Total CIP - Public Works		\$ 6,044,000	\$ 6,868,000	\$ 8,755,000	\$ 6,362,000	\$ 4,547,000	\$ 32,576,000

Capital Improvement Plan: FY2021-2025

Project Title: Vehicle and Heavy Equipment Replacement Program

Department/Division: Public Works / All Divisions

Project Description and Reason Necessary: This is a program to replace vehicles due to increasing annual operating expenses, age, and condition.

Division (FY Replacement)	Fund Source	Truck #	Model Yr.	Description	Mileage (Hours) at 2/2019	Estimated Replacement Cost
Streets (2021)	001	515	2009	Ford Ranger	83,134	\$30,000
Streets (2021)	001	550	2009	Ford Ranger	120,757	\$30,000
Streets (2022)	001	565	2010	F-150 4x4	95,931	\$40,000
Streets (2023)	001	514	2011	F-150 4x4	52,777	\$42,000
Streets (2024)	001	524	2014	F-150 4x4	39,535	\$42,000
Streets (2025)	001	526	2015	PU – RAM2500 4x4	26,084	\$45,000
Sanitation (2022)	430	555	2010	F-150 4x4	84,302	\$40,000
Sanitation (2023)	430	510	2013	International 4300 Clam Bucket Truck	68,924	\$170,000
Sanitation (2025)	430	546	2020	Elgin Crosswind J1 street sweeper	428	\$290,000
Stormwater (2021)	423	ST-91 (Streets)	1997	Acme Trailer Mounted 8” Pump	(1,600hrs)	\$85,000
Stormwater (2022)	423	ST-95 (Streets)	2001	Acme Trailer Mounted 8”/10” Pump	(1,456hrs)	\$87,000
Stormwater (2024)	423	535	2014	CAT Challenger Boom Arm Mower	(224hrs)	\$160,000
Water (2022)	420	593	2011	2011 F-150	54,182	\$38,000
Water (2023)	420	599	2009	Chevy Silverado	33,289	\$38,000
Water (2024)	420	598	2014	Dodge Ram 2500	19,586	\$38,000
D&C (2021)	420	502	2006	Ford F-150 1/2- ton Pickup truck	97,233	\$30,000
D&C (2021)	420	506	2007	Ford F-250 ½ ton Truck w/utility body	65,202	\$35,000
D&C (2022)	420	590	2011	Ford F-250 ¾-ton Truck w/utility body	79,906	\$38,000
D&C (2025)	420	541	2015	F250 ¾ ton Ext cab w/util. body	37,556	\$32,000
D&C (2025)	420	542	2015	114SD Vac-Con	4917	\$375,000
				TOTAL:		\$1,685,000

Capital Improvement Plan: FY2021-2025

Vehicle Replacement Summary:

DIVISION (<i>Fund Source</i>)	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
STREETS DIVISION						
General Fund:	\$60,000	\$40,000	\$42,000	\$42,000	\$45,000	\$229,000
Sanitation Fund:		\$40,000	\$170,000		\$290,000	\$500,000
Stormwater Fund:	\$85,000	\$87,000		\$160,000		\$332,000
Streets Division Subtotal:	\$145,000	\$167,000	\$212,000	\$202,000	\$335,000	\$1,061,000
WATER & SEWER FUND						
D&C Division:	\$65,000	\$38,000			\$407,000	\$510,000
Water Plant Division:		\$38,000	\$38,000	\$38,000		\$114,000
Water & Sewer Fund Subtotal:	\$65,000	\$76,000	\$38,000	\$38,000	\$407,000	\$624,000
TOTAL:	\$210,000	\$243,000	\$250,000	\$240,000	\$742,000	\$1,685,000

Capital Improvement Plan: FY2021-2025

Project Title: Heavy Equipment and Vehicle Replacement/Maintenance and Funding Program

Department/Division: Public Works / Streets

Project Description and Reason Necessary: The Streets Division of the Public Works Department operates a number of specialized vehicles and equipment funded by the General Fund that are necessary to move debris and to maintain the City’s roads and utility systems. The cost of these major equipment items makes it important to plan for their replacement by reserving a portion of their replacement cost on an annual basis until the vehicle or heavy equipment’s replacement cost has been accumulated. The estimated life for each of these items is approximately 5-10 years. Vehicles and heavy equipment included in this program are those funded by the General Fund and costing more than **\$50,000**.

The plan below estimates most replacements on a 10-year cycle. However, in order to make the most economical use of the vehicle, its life may be extended, depending on its annual repair and maintenance costs. This planned replacement program also minimizes the need to borrow money to replace expensive vehicles.

Estimated replacement costs are updated annually and it is prudent to plan for an average annual cost increase of three percent (3%) when determining annual reserves.

No significant operating budget impact will occur.

Description	Truck #	Year	Replacement Yr.	Mileage (hours) at 2/2019	Estimated Replacement Cost	Estimated Trade-in Value	Net Est. Cost
John Deere Tractor & Bushhog	ST-32	2005	2021	1,261hrs	\$96,000		\$96,000
Caterpillar 4x4 Backhoe	527	2017	2023	1,243hrs	\$125,000	\$35,000	\$90,000
Caterpillar Excavator	534	2018	2023	205hrs	\$260,000	\$75,000	\$185,000
Hamm HD-Roller	ST-73	2003	2024	158hrs	\$52,000		\$52,000
				TOTAL	\$533,000	\$110,000	\$423,000

Capital Improvement Plan: FY2021-2025

General Capital Projects Fund – Streets Heavy Equipment Reserve Funding Progress:

Streets Division	FY2021	FY2022	FY2023	FY2024	FY2025
Balance beginning of year:	\$217,948	\$221,948	\$321,948	\$36,948	\$84,948
Deposits from General Fund into Streets Heavy Equipment Reserve	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Est. Available Balance	\$317,948	\$321,948	\$421,948	\$136,948	\$184,948
Withdrawals:					
John Deere 4320 4X4 Tractor					
John Deere 5520 Tractor & Bushhog	\$96,000				
Caterpillar 4x4 Backhoe			\$125,000		
Caterpillar Excavator			\$260,000		
Hamm HD-Roller				\$52,000	
Total Withdrawals	\$96,000	\$0	\$385,000	\$52,000	\$0
End-of-year Balance	\$221,948	\$321,948	\$36,948	\$84,948	\$184,948

Capital Improvement Plan: FY2021-2025

Project Title: Pavement Maintenance, Striping, and Sidewalk Program

Department/Division: Public Works / Streets

Project Description and Reason Necessary: The City has an inventory of about 88 miles of road and 33.7 miles of sidewalk. The City programs annual maintenance on a portion of its public pavement (streets, parking lots, and sidewalks).

- Street Maintenance:
 - Roadway: Over the past decade or so, this program has consisted of a combination of hot-in-place recycling, mill & overlay, overlay, resurfacing or sealing, and asphalt rejuvenation. In the past, maintenance was programmed for an average of approximately 10% to 15 % of the inventory. In the short to intermediate term, staff anticipates that mill & overlay, overlay and asphalt rejuvenation approaches will be the primary focus.

A Pavement Management Survey is currently underway and is expected to be completed by FY2020. Funds will be expended based on a plan developed from the results of this survey. For FY2021 and beyond, streets maintenance funds will be tied to specific projects identified through the pavement management plan.
 - Traffic Striping: The City restripes streets that are resurfaced or overlaid, and restripes existing striping on streets as necessary.
- Sidewalk Maintenance: The sidewalk maintenance program consists of repairing existing sidewalks, based on the severity of deterioration.
- New Sidewalk: In the past, the City annually funded programs to construct new sidewalks for the City's Safety Sidewalk Master Plan and other key sections that connect to the master plan or that prudently connect existing sidewalk sections.

Note: Installation of new sidewalk on 15th Avenue North (3rd Street N. to Penman Road) is to be integrated with intersection improvements designed in the Penman Road commercial area project and the FDOT A1A drainage project design with a bridge over the 8th Street Drainage Channel.

Funding Source: Local Option Gas Tax (LOGT) and ½-cent Infrastructure Surtax (BJB). See next page for other road improvements.

PROJECT (Fund Source)	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Street Maintenance (LOGT)	\$275,000	\$275,000	\$275,000	\$275,000	\$275,000	\$1,375,000
(Not Capital) (BJB)	\$750,000	\$750,000	\$750,000	\$750,000	\$750,000	\$3,750,000
Sidewalk Maint. (LOGT)	\$35,000	\$35,000	\$35,000	\$35,000	\$35,000	\$175,000
(Not Capital)						
New Sidewalks (BJB)	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$350,000
(Capital)						
TOTAL	\$1,130,000	\$1,130,000	\$1,130,000	\$1,130,000	\$1,130,000	\$5,650,000

Capital Improvement Plan: FY2021-2025

Project Title: Road & Associated Infrastructure Improvements

Department/Division: Public Works / Streets

Project Description and Reason Necessary: Within the City there are roads that need to be rebuilt because of deterioration caused by aging, compromise of the base and excess elevation due to many overlays. The degree of required rebuilding differs with the condition of each road. It is recommended that rebuilding of roads be accomplished in conjunction with improvements to underground utilities when possible.

Penman Road Commercial Area Improvements: *Recommended Project funding is General Capital Projects Fund road reserve, 1/2-cent Infrastructure Surtax (BJB), Stormwater Fund, Water & Sewer Fund.* The scope of work for this project includes improvements to replace old deteriorated force main and gravity main to eliminate six residences on septic tanks. Project is centered on the 15th Avenue North intersection with general north-south limits approximately 11th to 18th Avenues North. Project includes traffic study and design, followed by construction. Study is underway with design start to follow soon after.

Funding Source(s): 1/2-cent Infrastructure Surtax (BJB) for design work. City of Jacksonville funding for construction costs.

Penman Rd. Commercial Area	PRIOR	FY2021	FY2022	FY2023	FY2024	FY2025	Total
Study/Conceptual Design (BJB)	\$317,758						
Construction (City of Jacksonville- unfunded)		\$350,000				\$475,000	\$825,000
TOTAL		\$350,000	\$0	\$0	\$0	\$475,000	\$825,000

NOTES:

1. The above estimated planning costs are variable until project scope, design, bid advertisement and bid award are complete.
2. When roads are identified for reconstruction, Public Works reviews other utility and traffic systems (water, wastewater, stormwater, pavement and road base, sidewalk, public right-of-way parking, etc.) in the right-of-way for prudent upgrades and repairs to maximize return on investment.
3. Other projects may be added in the future for other necessary road reconstruction. Listed projects may be deleted and/or shifted on time-line due to budgetary constraints.

Capital Improvement Plan: FY2021-2025

Project Title: Relocate / Rebuild Sanitary Sewage Lift Stations #7 & #8
In order to Demolish Existing Lift Stations #7 and #20

Department/Division: Public Works / Capital Projects

Project Description and Reason Necessary:

The City's wastewater collection system, consisting of 1,990 sewer manholes, 85 miles of sewer mains, 18 miles of force mains, and 38 sewage lift stations, endures a harsh/corrosive environment due to hydrogen sulfide gas.

- Sewer manholes are routinely being identified for rehabilitation.
- Sewer mains identified in previous studies (1989 Water & Wastewater Study, 1992 & 1995 Infiltration & Inflow Studies, and 2004 Hydraulic Study) are deteriorated, cracked and leaking clay / cast iron pipes, constructed many decades ago, and are well beyond the normal life cycle. Sewer mains and services are also subject to tree/shrub root penetrations, especially those in backyard alleys / easements.
- Sewage lift stations are programmed for periodic rehabilitation that includes wet wells, electrical, mechanical and pumping systems, force main piping and other site improvements.

Existing Lift Stations #7, #8 and #20 are in the 5-year window for rehabilitation. Staff determined that a viable alternative is to invest the rehabilitation funding into abandoning the existing LS#7, constructing a new LS#7, abandoning the existing LS#20, and rehabbing the existing LS#8. The locations of these lift station sites are:

<u>Lift Station Sites</u>	<u>General Location</u>
Existing LS #7 (to be abandoned)	N. 18 th Ave. and 3 rd St.
Existing LS #8 (to be rehabilitated)	N. 18 th Ave. at San Pablo Elementary School
Existing LS #20 (to be abandoned)	N. 15 th Ave. and 4 th St.
New LS #7 at Vacant BES Site (to be constructed)	N. 18 th Ave. and 4 th St.

Abandoning the existing LS#7, constructing a new LS#7, abandoning the existing LS#20, and rehabbing the existing LS#8 will result in more cost effective long-term maintenance and continuing service during power outages. Currently, it is planned to construct the project in 2 phases. The following chart gives an overview of the scope in each phase:

Capital Improvement Plan: FY2021-2025

<u>PHASE</u>	<u>OVERVIEW</u>
LS #7: <ul style="list-style-type: none"> • Build New LS #7 • Demolish Old LS #7 and Old LS #20 	<i>Design underway; Construction programmed for FY2020</i> <ul style="list-style-type: none"> ○ Build new LS #7 with generator on city property (N. 4th St. & 18th Ave.) ○ Build new wastewater gravity main on North 18th Avenue (State Road A1A to 4th Street) to discharge into new LS #7 ○ Replace wastewater gravity main on N. 4th Street (13th to 18th Aves.) ○ Build new wastewater force main on N. 4th Street ○ Replace & upgrade stormwater gravity mains ○ Replace & upgrade potable water mains ○ Demolish old LS #7 & old LS #20 ○ Rebuild roadway and curbing ○ Stormwater improvements on N. 13th & 14th Avenues (3rd to 4th Streets)
LS #8: <ul style="list-style-type: none"> • Rehabilitate Existing LS #8 • Construct new sewer force main to manifold with new LS #7 	<i>Design underway; Construction programmed for FY2020 & FY2021</i> <ul style="list-style-type: none"> ○ Rehabilitate existing LS #8 ○ Rebuild roadway and curbing ○ Construct new force main on 18th Avenue North from LS #8 to manifold with new force main from LS #7
NOTE: <i>Phasing is necessary so that project is flexible to integrate with possible route(s) for FDOT AIA Drainage Improvement Project.</i>	

Funding Source: Water & Sewer Fund

PROJECT	PRIOR	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
LS #7 <i>Design</i> <i>Construct</i>	\$205,220 \$2,200,000						
LS #8 <i>Design</i> <i>Construct</i>	\$152,997	\$1,000,000					\$1,000,000
TOTAL CAPITAL:		\$1,000,000	\$0	\$0	\$0	\$0	\$1,000,000

Capital Improvement Plan: FY2021-2025

Project Title: Water Distribution & Sanitary Sewer Collection Systems Improvements

Department/Division: Public Works / Distribution & Collection

Project Description and Reason Necessary:

Water Distribution System Improvements: *Recommended Funding Source – Water/Sewer.* The City’s water distribution system consists of approximately 110 miles of water mains, 2,736 water valves 11,246 water service laterals 936 fire hydrants and two (2) elevated water tanks. Various existing water mains in some areas require replacement because they are old, tuberculated, galvanized 2” and/or unlined/deteriorated cast iron 4” or larger in size. Tuberculation is the development of small mounds of corrosion products (rust) on the inside of galvanized or unlined cast iron pipes, decreasing the diameter. This causes significant loss of water pressure and volume. The water lines are to be replaced with varied sizes of PVC pipes (6” or larger when needed for firefighting requirements). Subject to available time and funding resources, the City programs a major water main replacement project to be contracted and one or two small water line replacement projects for City or contract forces to accomplish. **The City has made great strides over the past years in replacing old tuberculated, galvanized and unlined cast iron lines. This is an ongoing, multi-year program.**

Water Main Replacement Projects at Various Locations: *Recommended funding source – Water & Sewer Fund.* Each project includes replacing old galvanized, old cast iron, and asbestos cement (AC) water mains with new 6” or greater PVC water mains and valves. New fire hydrants installed as necessary. Ancillary sidewalk and asphalt road crossing work as necessary.

Project	Water Main Replacement		Project Area		
	Old Type	Est. Length	ALONG	FROM	TO
2nd Ave. N. Water Main (20th St N. to the west) Design (2023) & Const. (2024)*	2” pipe	Install 2500 ft. of 8” PVC pipe (<i>delay to size for future development</i>)	• 2 nd Ave. North	20 th St. North	Dead end (boat ramp)
Water Main Imp. FY21 W/S funding Design 2020 Construct 2021	2” galvanized	3,700 ft.	<ul style="list-style-type: none"> • 21st St. North • Seabreeze Ave Seagrape Dr. • Rita Rae Ln. • 21st Ave. South • 36th Ave South 	9 th Ave. North Trudee Dee Ln. Seabreeze Ave. Seabreeze Ave. 1 st St. South 1 st St. South	Dead End Evans Dr. Trudee Dee Ln. Seagrape Dr. 2 nd St. South Ocean Dr.

Capital Improvement Plan: FY2021-2025

Project	Water Main Replacement		Project Area		
	Old Type	Est. Length	ALONG	FROM	TO
FY22-W/S funding Design (2021) Construct (2022)	2" galvanized 6" Cast Iron	2,400 Install 3-12" Valves 2-12" valves	<ul style="list-style-type: none"> • 6th St. North • 6th St. North • 21st Ave. South • 2nd St. South • 2nd St. South • Gordon Ave. 	4 th Ave. North 2 nd Ave. North 1 st St. South 21 st Ave. South 21 st Ave. South Water Tower	6 th Ave North Beach Blvd. 2 nd St South 22 nd Ave. South 17 th Ave. South
FY23-W/S funding No Design Needed	1" Services 1" Services	20 Services Replace 1" water services	<ul style="list-style-type: none"> • 2nd St. South • Jax Beach Section A 		
Water and Sewer Main Imp. FY25 W/S funding Design (2024) & Const. (2025)	8" Cast Iron water main, 6"/8" clay sewer mains	Replace approximately 2,500 feet of 8" tuberculated C.I. Water mains and 1,200 feet of sanitary sewer main.	1 st Street North	9 th Ave. 15 th Ave. 19 th Ave.	11 th Ave. 18 th Ave. 20 th Ave.

* Waiting to see what and when Beach Marine is going to build.

Sanitary Sewer Collection System Improvements: *Recommended Funding Source – Water/Sewer.*

The City's wastewater collection system consists of approximately 85 miles of sewer mains and 1,990 manholes, 38 sewage lift stations with 18 miles of force mains. Manholes are routinely being identified for rehabilitation. Sewer mains identified in previous studies (1989 Water & Wastewater Study, 1992 & 1995 Infiltration & Inflow Studies, and 2004 Hydraulic Study) are deteriorated, cracked and leaking clay / cast iron pipes, constructed many decades ago, and are well beyond the normal life cycle. **Relining and replacing as necessary reduces sewer backups, infiltration, and inflow from groundwater and rains, which in turn reduces the operational load and long-term wear and tear on the sewage lift stations and the City's wastewater treatment facility.** This places less pollution load upon the environment. **This is an ongoing, multi-year program.**

Capital Improvement Plan: FY2021-2025

Water Main Replacement (Fund Source)	PRIOR	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
2nd Ave. N. Water Main Imprvs. (W/S) <i>Design</i> <i>Construct</i>				\$60,000	\$400,000		\$460,000
Water Main Improvements FY21-WM (W/S) <i>Design</i> <i>Construct</i>	\$60,000	\$400,000					\$400,000
FY22-WM (W/S) <i>Design</i> <i>Construct</i>		\$60,000	\$400,000				\$460,000
FY23-WM <i>Construct</i> No Design Needed				\$200,000			\$200,000
Water Main Improvements FY25-WM (W/S) <i>Design</i> <i>Construct</i>					\$100,000	\$600,000	\$700,000
TOTAL <i>W/S funding</i>		\$460,000	\$400,000	\$260,000	\$500,000	\$600,000	\$2,220,000

NOT CAPITAL	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Water Valve Maintenance Program ¹ (W/S)	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$125,000
Sanitary Sewer System Maintenance Program ² (W/S)	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$1,500,000
TOTAL NOT CAPITAL	\$325,000	\$325,000	\$325,000	\$325,000	\$325,000	\$1,625,000

¹The annual **Water Valve Maintenance Program** consists of exercising approximately 25% of the valve inventory and subsequently replacing damaged/broken valves as necessary.

²The annual **Sanitary Sewer System Maintenance Program** consists of inspecting approximately 10% of the manhole inventory and subsequently relining/ reconstructing manholes as necessary. It also includes cleaning/televising sewer mains/services, lining clay sewer mains in backyard easements to reduce infiltration, and making point repairs as necessary.

Capital Improvement Plan: FY2021-2025

Project Title: Water, Sewer and Stormwater Main Improvements

Department/Division: Public Works / Distribution & Collection

Project Description and Reason Necessary:

10th Street South (5th Ave. S to 12th Ave. S) Improvements: The scope of work for this project includes improvements to the road, stormwater, sanitary sewer and water distribution systems plus other ancillary public improvements throughout and nearby the project area. Project area encompasses 10th Street South from Beach Boulevard to 12th Avenue South and the avenues connecting 9th and 10th Streets. NOTE: There is an area of contaminated soil that must be addressed for which it is difficult to estimate cost.

10 th Street South 5 th Ave. S. to 12 th Ave. S. (Fund Source)	PRIOR	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Construction (W/S)	\$121,070		\$640,000				\$640,000
(SW)	\$87,670		\$380,000				\$380,000
(GCP)	\$170,00		\$810,000				\$810,000
TOTAL:		\$0	\$1,830,000	\$0	\$0	\$0	\$1,830,000

Funding Source: General Capital Projects Fund road reserve, Water & Sewer Fund, Stormwater Fund, and General Capital Projects Fund road reserve.

10th Street South (Beach Blvd. to 5th Ave. S) Improvements: The scope of work for this project includes improvements to the roadway, stormwater, sanitary sewer and water distribution systems plus other ancillary public improvements throughout and nearby the project area.

Type of work	Description of work	Project Area		
		ALONG	FROM	TO
Water	Construct new water mains; grout fill existing water mains; add new water services, fire hydrants, valves, fittings and connections to existing water mains	• 10 th St. S.	Beach Blvd.	5 th Ave. S.
Sewer	Construct new, and remove existing, sewer mains in alleys; add new sewer services, manholes and concrete pavement	• Between 9 th and 10 th St. S.	Beach Blvd.	5 th Ave. S.
Stormwater/ Roadways	Construct new, and remove existing, stormwater piping; add new curb and gutter; add new asphalt pavement	• 10 th St. S. • 11 th St. S. • 2 nd Ave. S. • 3 rd Ave. S. • 4 th Ave. S.	2 nd Ave. S. 4 th Ave. S. 9 th St. S. 9 th St. S. 9 th St. S.	5 th Ave. S. 5 th Ave. S. 10 th St. S. 10 th St. S. 11 th St. S.

Funding Source: General Capital Projects Fund road reserve, Water & Sewer Fund, Stormwater Fund, and General Capital Projects Fund road reserve

Capital Improvement Plan: FY2021-2025

10th Street South Beach Blvd. to 5th Ave. S. <i>(Fund Source)</i>	PRIOR	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Design <i>(W/S)</i>	\$105,000						
<i>(SW)</i>	\$50,000						
<i>(GCP)</i>	\$45,000						
Construction <i>(W/S)</i>				\$760,000			\$760,000
<i>(SW)</i>				\$368,000			\$368,000
<i>(GCP)</i>				\$337,000			\$337,000
TOTAL:		\$0	\$0	\$1,465,000	\$0	\$0	\$1,465,000

Capital Improvement Plan: FY2021-2025

Project Title: Sanitary Sewer Lift Stations Rehabilitation Program

Department/Division: Public Works / Pollution Control Plant

Project Description and Reason Necessary: The City has an inventory of 38 sewage lift stations and about 1,990 manholes. Sewage lift stations and manholes endure a harsh/corrosive environment due to hydrogen sulfide gas. Periodic rehabilitation of lift station wet wells and manholes are necessary to maintain structural integrity. Rehabilitation includes, but is not limited to, structural and surface repair and coating of the wet wells and manholes with the corrosion resistant product such as Spectrashield, having a 10-year warranty (or similar product). In addition, pumps, piping, controls, fencing, and surface improvements at the lift stations are to be replaced or maintained as necessary. The current program strategy is to rehabilitate lift stations on an average of every 10 years.

- **LS #29:** *Project originally programmed for construction FY2019.* This is a duplex submersible station located at 396 Marsh Landing Pkwy. The wet well was coated with Spectrashield in 1998. This station needs a complete rehab. The wet well sides are bulging indicating that the wet well is deteriorating and becoming compromised. The wet well piping has been repaired numerous times and is in poor condition. The valve vault and valves need replacement, as does the control panel. This station requires new wet well (Spectrashield), new valves, piping, valve vault, control panel, and upgrade SCADA system.
- **LS #17:** *Project originally programmed for construction FY2018.* The station is a duplex submersible pump station with two Gorman-Rupp submersible pumps located at 3351 Anhinga Court. The force main discharges to a manhole, which is located on Osceola Avenue at Merrill Boulevard, and then flows by gravity to Lift Station # 14. The lift station has an 8-foot diameter wet well, which has been coated with Spectrashield and appears to be in reasonably good condition. The control cabinet is deteriorated. There is limited access to this station. During heavy rainfall events, the station is inaccessible. Discharge piping is PVC except for ductile/cast iron fittings that show signs of rust. This station is in poor shape and needs a total rehabilitation including new piping, pumps/motors, valves, flow meter, electrical controls, SCADA instrumentation, generator, fencing and access road.
- **LS #23:** *Construction FY 2020.* This is a duplex submersible lift station located at 1290 12th Street N., with the wet well in the middle of the street cul-de-sac. The pumps and control panel were replaced in 2001 and were oversized to handle stormwater infiltration and intrusion. Subsequently, the stormwater inflow issues have been properly resolved. The wet well hatches were replaced in 2016 because of their deteriorated condition. Currently, this lift station has a number of issues and does not meet Jacksonville Beach lift station or Dataflow design specifications. The Spectrashield coating in the wet well is deteriorating and needs repair. The pumps are too large for the hatch size and the rails must be disassembled to remove the pumps. The control panel is attached to a light pole and the (Dataflow) telemetry antenna is at an improper height and not installed correctly. This station requires new smaller capacity pumps/motors, piping, valves, control panel and new SCADA system.

Capital Improvement Plan: FY2021-2025

- **LS #33:** *Project programmed for FY2020/2021 (Under Construction 2020).* This station is located at Ocean Cay Unit 2 SD (at Isabella Blvd.). It is a duplex submersible station built in 1998. This station is obsolete. The pumps are too small for the flows and have a hard time keeping up during heavy rains. The rails are old “T” type rails which make removing and reinstalling the pumps labor intensive. The control panel is outmoded and becoming problematic. The fencing is in bad shape and the valves are deteriorating. This station needs to be replaced with a new duplex submersible station with above ground discharge piping as is our new rehab protocol.
- **LS #34:** *Project programmed for FY 2022-2023 (Under Construction 2020).* This is a duplex submersible station located at 323 Lions Club Rd. The station was built in 1995. It has had numerous pump replacements. The wet well is too small and needs to be replaced. The station was originally built to serve the Parks and Recreation offices and the Lions Club. Since then, the Parks and Rec. building has been converted to a senior daycare facility with an added bathroom and additional clients occupying the building all day. The pumps and controls do not meet the City’s current requirements. The pumps are single phase and not good quality pumps. The station needs to be converted to a three-phase station to eliminate the need to stock parts unique to this station and to allow for operation that is more reliable. This station requires new larger wet well (coated with Spectrashield), new pumps/motors, piping, valves, control panel, SCADA system, fencing, and access road.
- **LS #28:** *Project programmed for 2023-2024 (Under Construction 2020).* This is a Gorman Rupp station, also called a doghouse station, located at 1241 Blue Heron Ln N. This station, built in 1994, is the last above ground station in our system and presents all of the problems associated with this type of station. These problems include vacuum leaks, belt replacement, and difficulty pulling pumps because of the small enclosure size. The control panel is not far enough off the ground and area flooding makes it impossible to power the station until water subsides. This station needs to be converted to a submersible station with new pumps, valves, piping, control panel and wet well.
- **LS #5:** *Project programmed for 2024-2025.* This is a duplex station located at 50 S. 37th Ave. The station was constructed in 1984 and an upgrade was completed in 1996 when it was converted from dry pit pumps to a submersible station. The generator was replaced in 2018. The well coating is deteriorating and at very least in need of new coating. The pumps are now obsolete and in need of replacement. The guide rails have been repaired many times and are also in need of replacement. The check valves are no longer manufactured and cannot be replaced without modifying the discharge piping. This station needs a complete rehab including new wet well or well repair, new pumps, valves, piping, control panel, and fencing.
- **LS #21:** *Project Programmed for FY2025/2026.* This is a duplex submersible station located at 4235-50 Marsh Landing Boulevard. It was built in July 2000, the wet well needs to be Spectrashield, pumps need to be replaced and control panel needs to be replaced. Concrete driveway needs to be replaced.

Capital Improvement Plan: FY2021-2025

FUTURE LIFT STATION PROJECTS:

- **LS#11:** located at 251 N. 20th Street (FY2026-2027)
- **LS #24:** located at 3750 South Third Street (FY2027-2028)
- **LS #25:** located at 1781 The Greens Way (FY2028-2029)
- **LS #13:** located at 49 Fairway Lane (FY2029-2030)
- **LS #30:** located at existing BES building at the substation at 4400 South Beach Parkway (FY2030-2031)
- **LS #35:** located at Jardin de Mer Condos (FY2031-2032)
- **LS #19:** located at 33 Rosewood Drive (FY2032-2033)

Funding Source: Water & Sewer Fund

PROJECT (Fund Source)		PRIOR	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
LS 8 (W/S)	90% Design Construct	\$100,000	\$650,000					\$650,000
LS #7 (W/S)	Design Construct	\$205,220 \$2,200,000						
LS #33 (W/S)	Design Construct		\$45,000	\$300,000				\$345,000
LS #34 (W/S)	Design Construct			\$40,000	\$300,000			\$340,000
LS #28 (W/S)	Design Construct				\$40,000	\$300,000		\$340,000
LS #5 (W/S)	Design Construct					\$80,000	\$300,000	\$380,000
LS #21 (W/S)	Design Construct						\$80,000	\$80,000
TOTAL CAPITAL:			\$695,000	\$340,000	\$340,000	\$380,000	\$380,000	\$2,135,000

Capital Improvement Plan: FY2021-2025

Project Title: Wastewater Treatment Facility Improvements Program

Department/Division: Public Works / Pollution Control Plant

Project Description and Reason Necessary:

- **Sludge Dewatering Facility Replacement:** The Pollution Control Plant currently uses a belt filter press system for residual (sludge) dewatering. This facility was installed in 1996. It included a steel building with a lean-to, stairway with platform, an overhead conveyer system for truck loading and a 1.5 meter belt filter press with appurtenances. The building, lean-to and stairs/platform have significantly deteriorated due to corrosion from exposure to sludge operations. During the PCP upgrade in 2009, the building's "skin" was removed and replaced with concrete block. The roof, ventilation fan substructure and metal supports (plus the previously mentioned stairs and lean-to) are deteriorated to the point that structural integrity is questionable. Due to the age of the facility (22 years, the belt press and conveyer are reaching the end of their useful life. Staff recommends that the existing facility be replaced with a centrifuge dewatering system including a closed pipe screw mechanism with an overhead telescoping discharge manifold for filling trucks. (Redundant system / major components budgeted for FY23)
- **Modifications to the Chlorine Contact Tanks and Chlorination/De-Chlorination Systems:** The existing chlorination system was sized for the lower, continuous flow of the old plant. The new plant releases effluent in larger volumes, which must be chlorinated immediately, causing inefficient overuse of chlorine and thus a higher rate of deterioration of the chlorination system and chlorine contact tanks. In addition, the flow inside the square tank is circular and does not efficiently mix the chlorine with the effluent. Planned improvements to the chlorination/de-chlorination systems and chlorine contact tanks will improve the efficiency of disinfection of the treated effluent, reducing chemical, repair and maintenance costs.
- **Wastewater Treatment Plant Outfall Piping:** Clean and televise approximately 3,100 L.F. of 30" RCP pipe. Repair/rehabilitate existing 30" outfall pipe at discharge point. Repair existing pipes as necessary.
- **Invent Mixer Foundations:** SBR Rehabilitation Programming for SBR's #1, #2, #3, & #4.

Capital Improvement Plan: FY2021-2025

Funding Source: Water & Sewer Fund

IMPROVEMENT PROJECT	PRIOR	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Sludge Dewatering Facility Replacement #1 and 2 <i>Design</i> <i>Construct</i>		\$150,000	\$1,000,000				\$1,150,000
Modifications to North and South Chlorine Contact Tanks <i>Design</i> <i>Construct</i> <i>Removal of gas CL2</i>			\$180,000	\$1,500,000			\$1,680,000
Digester Stairs <i>Design</i> <i>Construct</i>		\$175,000					\$175,000
Digester and Air Piping <i>Design</i> <i>Construct</i>		\$345,000					\$345,000
Wastewater Treatment Plant Outfall Piping		\$100,000					\$100,000
Invent Mixers Foundations SBR 1 <i>Design</i> <i>Construct</i>					\$40,000	\$100,000	\$140,000
Invent Mixers Foundations SBR 2 <i>Design</i> <i>Construct</i>						\$100,000	\$100,000
TOTAL:		\$770,000	\$1,180,000	\$1,500,000	\$40,000	\$200,000	\$3,690,000
<p><i>The above planning costs are variable until project scope, design, bid / quotes advertisement, and quotes / bid awards are complete. SBR Invent foundations are unstable. start evaluation of foundations</i></p>							

Capital Improvement Plan: FY2021-2025

Project Title: Raw Water Wells Improvements Program

Department/Division: Public Works / Water Plant

Project Description and Reason Necessary:

Each of the City's two (2) water treatment plants are supplied with raw water from three (3) wells. Constructed in the late 1950s, Well #11 is the deepest of the City's wells at a depth of 1,204 feet. The five (5) other wells average 900 feet in depth.

Raw Water Well #11 is located at 590 Shetter Avenue in Jacksonville Beach Florida. The well was constructed in 1946 and a pump was added in 1991. Well #11 is a target of concern for the Health Department, St. Johns River Water Management District and the City. The well's water quality has declined significantly because of increasing chlorides from salt-water intrusion. The chloride levels in Well #11 samples average 150 mg/l, while our other wells average 12 mg/l. The maximum contaminant level (MCL) for chlorides allowed is 250 mg/l. The City's Consumptive Use Permit, issued by St. John's River Water Management District, requires that the City back fill Well #11 to the upper Floridian aquifer or abandon the well by March 2020.

In December 2016, *Johnson Engineering, Inc.* performed a geophysical survey of Well #11. The survey findings noted that back plugging Well #11 to the upper Floridian aquifer will significantly reduce well production. The video logging revealed a hole in the well casing at 293.4 feet below land surface. There is high potential that this hole will lead to increased future contamination. Alternatives are:

- At Well #11, place a smaller casing inside the well. (This will constrict flow capacity more.) (*This old 1946 well might later need de-calcification and retesting.*)
- Drill a new well at the previously approved Well #16 site and back plug / abandon Well #11.

Staff determined that the better long term option is to abandon Well #11 and drill the new replacement Well #16. This project consists of:

Planning Commission granted Conditional Use Approval. At Well #16 location, drill new well to 900 feet and construct on site header (well house, pumps, piping, etc.). Extend / construct new Raw Water Main (2,400 feet +/-) from Well #15 site (southeast part of Gonzales Park) to the new Well #16 site (11th St. S. & 8th Ave.). Complete back plug and abandon old Well #11.

- (*FY2017*) Permission granted from SJRWMD to continue operation of Well #11 with reduced flow.
- (*FY2017*) Extension granted from SJRWMD to expire on **March 31, 2020**
- (*FY2017*) Planning Commission, Conditional Use Approval granted.
- (*FY2018/19*) PWC Engineering review and update 2000 design for Well #16 and extension of raw water main from Well #15 (southeast portion of Gonzales Park) to Well #16 location (8th Ave. N. & 11th St.).

Capital Improvement Plan: FY2021-2025

- (FY2019) Four Waters Engineering (PO 190750 - \$65,465.00) to design, manage and coordinate the completion of new production water Well #16, the new well building, landscaping of the well site and the abandonment of Well #11.
- (FY2020) At Well #16 location, drill new well to 900 feet and construct on site header (pumps, piping, etc.)
- (Original FY2020-Completion Actually FY2021) Complete back plug and abandon old Well #11.

St. John's River Water Management District has re-activated Well #16 from our previous Consumptive Use Permit (CUP) as the replacement well location. Will need modification to our current CUP based on resizing of new well.

Funding Source: Water & Sewer Fund

PROJECT	PRIOR	FY2021	FY2022	FY2023	FY2024	FY2025	Total
Well #16 - Drill well to 900 ft. / Construct On-site Header (pump, motor, piping)	\$650,000 *	Bid rejected 2020-2021					
Well #11 - Complete back-plug and abandon	\$60,000						
TOTAL CAPITAL:		\$0	\$0	\$0	\$0	\$0	\$0
The above planning costs are variable until project scope, design, bid advertisement & bid award are complete.							

***We are currently revising and re-bidding Well #16 with the expectation that construction will cost \$1,000,000**

Capital Improvement Plan: FY2021-2025

Project Title: Water Plant Improvements Program

Department/Division: Public Works / Water Plant

Project Description and Reason Necessary:

- **Concrete Block Building:** (FY 2020). A mobile generator is necessary to provide emergency electrical power for both Raw Water Wells and Stormwater Pump Stations. Loss of power at these sites would reduce the capacity to provide essential services to the public. Currently, the only mobile generator is exposed to weather, rain, etc. A second mobile generator was ordered in fiscal year 2020. In order to protect these mobile generators, a storage facility is required. The concrete block building shall be a high quality, 30'x50'x10', concrete block building, vertical roof, a 36"x80" lockable entrance door, two window openings, 100 amp breaker panel and two garage doors. The building is designed for the highest wind loads, 30'x50'x6", 3000psi mono concrete slab with smooth finish, and 12"x12" footers with (2) #5 continuous rebar.
- **Water Master Plan:** (FY 2021). The City's water well and distribution system consists of over 109 miles of water mains, 927 fire hydrants, 2,736 water valves and approximately 11,193 water services. There have been a number of expansions, modifications and rehabilitation projects since the last study was prepared. The Water Master Plan will provide an updated assessment of the water system infrastructure to better understand the current system hydraulics, identify increased tuberculation and pipe degradation to ensure the current level of service is being met in an efficient manner, and the future projected service needs are identified. The assessment will result in a Capital Improvement Plan, which will provide recommendation for needed rehabilitation of existing facilities and upgrades for growth.
- **Generator Fuel Storage Tank Replacement; Water Well # 14.** (FY 2022). The generator sits atop the fuel storage tank. The harsh conditions and outdoor environment is causing replacement to be warranted.
- **WTP Disinfection System Alternatives Evaluation.** (FY2022 / FY2023). Both City water treatment plants (WTPs) and the Pollution Control Plant (PCP) currently use gaseous chlorine (ton cylinders) for disinfection. Although gaseous chlorine is an effective disinfectant delivery method, it can pose a significant public safety concern if a catastrophic chlorine gas cylinder leak occurs. Thus, the City wishes to evaluate alternatives to improve the safety of its disinfection operations while meeting disinfection regulatory requirements.
- **Softening Study.** (FY TBD). This project is to consider the alternatives for central softening of water at both Water Treatment Plant locations.

Capital Improvement Plan: FY2021-2025

Funding Source: Water & Sewer Fund

PROJECT	PRIOR	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Concrete Block Building	\$110,000						\$0
Water Master Plan		\$125,000					\$125,000
Generator Fuel Storage Tank Replacement			\$125,000				\$125,000
Professional Engineering Services - WTP Disinfection System Alternatives Evaluation Plus 20% contingency							
<i>Study</i>	\$10,200						
<i>Design</i>			\$150,000				
<i>Construct</i>				\$1,500,000			\$1,650,000
Softening Study						TBD	TBD
TOTAL		\$125,000	\$275,000	\$1,500,000		\$0	\$1,900,000

Capital Improvement Plan: FY2021-2025

Project Title: Stormwater Collection & Treatment System Improvements Program

Department / Division: Public Works / Stormwater

Project Description and Reason Necessary:

For over a decade, the City has been steadily improving its stormwater collection systems through a program of study, design, and construction under the auspices of Phases 1, 2 & 3 of its Stormwater Master Plan and staff field experiences and history. Project priorities and design approaches may be adjusted based on field-collected data, funding availability, and estimated project costs.

Projects are funded one at a time, as funds are available. Project costs have continually been increasing over the past several years. Fund cash balance is carefully monitored. Some projects are anticipated to be deferred or delayed due to funding constraints.

Stormwater Improvements at Various Locations:

- **Stormwater Master Plan:** (FY 2021). There have been a number of expansions, modifications and rehabilitation projects since the last study was prepared prior to 2000. The Stormwater Master Plan will provide an updated assessment of the stormwater system infrastructure to better understand the current system hydraulics, impacts of current and planned development and assess impacts of projected sea level rise. The assessment will result in a Capital Improvement Plan, which will provide recommendation for needed rehabilitation of existing facilities and upgrades for growth and the changing environment.
- **Isabella Boulevard (35th Avenue South to Jacksonville Drive):** (FY 2021). Project consists of installation of approximately 450 linear feet of 42-inch RCP storm sewer piping, three (3) manholes, filling in of existing ditch, and sodding removal and replacement.
- **4th Street South (1st Avenue South to 6th Avenue South):** (FY 2022-2024). Project consists of removal and replacement of approximately 2,100 linear feet of 24 to 48-inch storm sewer piping, manholes, inlets, curb and gutter and asphalt pavement. Water and sewer mains may also have to be replaced in this area.
- **Dune Walkovers:** (FY2021-2028). There are forty-nine (49) dune walkovers within the City. There are twenty-one (21) dune walkovers outside the Downtown CRA District. The City's intent is to replace them with a plastic decking material to minimize maintenance and prolong its life.
- **Beach Outfalls:** (FY 2021-2028). There are twenty-nine (29) existing beach outfalls within the City. There are fourteen (14) existing beach outfalls located outside the Downtown CRA District. It is the City's intent to replace all of them with in-line check valves to minimize water from backing up into the system, pending funding availability. The City is scheduled to receive a FDEM grant in the amount of \$41,310 to offset the design fee.
- **Evans Drive Area Stormwater Improvements:** (FY 2021-2022). Cleaning/Televising of five (5) stormwater outfalls consisting of approximately 1,000lf of PVC/RCP; installing in-line check valves and construction of new piping as necessary to minimize area flooding.

Capital Improvement Plan: FY2021-2025

- **Beach Blvd Stormwater Vault:** (FY 2021). The recent renovations of the stormwater vault at Beach Boulevard, between 2nd Street and 3rd Street has shown that there is 2-3 feet of sediment in the vault that needs removed to increase capacity and establish operational capacity.
- **Generator Fuel Storage Tank; Madrid Pump Station.** (FY 2023). The generator sits atop the fuel storage tank. The harsh conditions and outdoor environment is causing replacement to be warranted.

Funding Sources: Stormwater Fund

PROJECT		PRIOR	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Stormwater Master Plan	<i>Study</i>		\$125,000					\$125,000
Isabella (35 th Ave to Jax Dr)	<i>Design Construct</i>		\$40,000	\$200,000				\$240,000
4th St S. (1 st -6 th Ave S)	<i>Design Construct</i>			\$200,000	\$450,000	\$3,000,000		\$3,650,000
Non-ADA Dune Walkovers (Qty 21)	<i>Design Construct</i>	\$61,944	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$1,000,000
Beach Outfalls (Qty 14)	<i>Design Construct</i>	\$13,066		\$200,000	\$200,000	\$200,000	\$200,000	\$800,000
Evans Dr Area Stormwater Imprvs.	<i>Design Construct</i>			\$50,000	\$305,000			\$355,000
Generator Fuel Storage Tank - Madrid					\$150,000			\$150,000
Beach Boulevard Stormwater Vault Plus 20% Contingency	<i>Construct</i>		\$223,000					\$223,000
TOTAL CAPITAL			\$588,000	\$850,000	\$1,305,000	\$3,400,000	\$400,000	\$6,543,000

PROJECT (NOT CAPITAL)	FY2021	FY2022	FY2023	FY2024	FY2025	TOTAL
Pipe Cleaning	\$95,000	\$95,000	\$95,000	\$95,000	\$95,000	\$475,000
Channel Cleaning and Maintenance	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$1,000,000
TOTAL NOT CAPITAL	\$295,000	\$295,000	\$295,000	\$295,000	\$295,000	\$1,475,000