



Agenda Report

2725 Judge Fran Jamieson
Way
Viera, FL 32940

Public Hearing

H.1.

4/7/2026

Subject:

Public Hearing, re: Approval of Resolution for Adoption of State Revolving Fund (SRF) Wastewater Facility Plans for the following South Beaches Projects: (1) Deep Injection Well Improvements (District 3), (2) Wastewater Treatment Facility to Advanced Wastewater Treatment (AWT) Conversion-6 MGD Treatment Train (District 3), and (3) Riverside Drive Force Main Improvements-Riverside Drive 30-inch Parallel Force Main (Districts 4 & 5) as required by the Florida Department of Environmental Protection.

Fiscal Impact:

The estimated capital cost to be financed by SRF for each South Beaches project is as follows:

- Deep Injection Well Improvements - \$23,911,406
- Wastewater Treatment Facility to AWT Conversion - 6 MGD Treatment Train - \$22,920,257
- Riverside Drive Force Main Improvements - Riverside Drive 30-inch Parallel Force Main - \$19,736,302

Pending SRF selection for project (s) and funding amount allocation.

Dept/Office:

Utility Services

Requested Action:

It is requested that the Board of County Commissioners conduct a public hearing for approval of a resolution adopting the Facility Plans for the following South Beaches Projects: (1) Deep Injection Well Improvements, (2) Wastewater Treatment Facility to AWT Conversion-6 MGD Treatment Train, and (3) Riverside Drive Force Main Improvements-Riverside Drive 30-inch Parallel Force Main.

Summary Explanation and Background:

The Utility Services Department has various projects underway, which are required by State and Federal law related wastewater nutrient reduction. Although SRF typically caps its loan amount to utility departments at approximately \$25M, it is an option for funding the projects, even though it may be a partial fund. The advantage of SRF is that it is a low-interest loan through the State via the Environmental Protection Agency. Typically, the interest rate is 2-3% less than the bond market.

During the January 13, 2026, Board meeting, approval was given for the Department to apply for SRF funding for the Utility Services Projects that are outlined in this agenda item. As part of the SRF application process, the municipality is to complete a Facility Plan. Facility Plans are required to demonstrate that the proposed project is technically sound, cost-effective, and the best solution to meet regulatory and environmental requirements. With the approval of the Facility Plan, a resolution will be adopted. This resolution has been reviewed and approved by the County Attorney's Office and was advertised in Florida Today on March 19, 2026.

Additionally, as part of the SRF process, a public hearing is required to be held to explain the proposed projects, the capital cost, the long-term financial impact on the customers, and give the public to participate in evaluating the project alternatives.

In addition to seeking SRF funding, the Department has been actively pursuing grant funding for these projects and has received the following funds to support these projects:

- South Beaches Deep Injection Well Improvements - \$2M FDEP grant for design
- South Beaches Wastewater Treatment Facility to AWT Conversion - 6 MGD Treatment Train - \$14M FDEP grant for design and construction
- Riverside Drive Force Main Improvements - \$1.8M ARPA for design, \$14M FDEP grant for design and construction

Attachments:

Attachment 1 - Facility Plan - South Beaches Deep Injection Well Improvements

Attachment 2 - Board Resolution Deep Injection Well Improvements

Attachment 3 - Facility Plan - South Beaches Wastewater Treatment Facility to AWT Conversion-6 MGD Treatment Train

Attachment 4 - Board Resolution Wastewater Treatment Facility to AWT Conversion-6 MGD Treatment Train

Attachment 5 - Facility Plan - South Beaches Riverside Drive Force Main Improvements-30-inch Parallel Force Main

Attachment 6 - Board Resolution Riverside Drive Force Main Improvements-Riverside 30-inch Parallel Force Main

Clerk to the Board Instructions:

E-mail Clerk Memo to Karina Perez at: karina.perez@brevardfl.gov and mail original to Utility Services, Attention: Karina Perez.



Kimberly Powell, Clerk to the Board, 400 South Street • P.O. Box 999, Titusville, Florida 32781-0999

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Kimberly.Powell@brevardclerk.us

April 8, 2026

M E M O R A N D U M

TO: Edward Fontanin, Utility Services Director

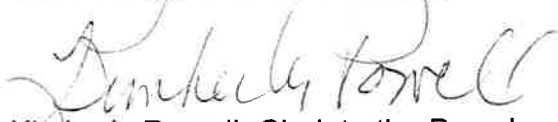
RE: Item H.1., Public Hearing Resolutions for Adoption of State Revolving Fund (SRF) of Wastewater Facility Plans for the South Beaches Projects, as Required by Florida Department of Environmental Protection (FDEP)

The Board of County Commissioners, in regular session on April 7, 2026, conducted the public hearing; adopted Resolution No. 26-026, for Deep Injection Well improvements; adopted Resolution No. 26-027, for Wastewater Treatment Facility to Advanced Wastewater Treatment (AWT) Conversion-6 MGD Treatment Train; and adopted Resolution No. 26-028, for Riverside Drive Force Main Improvements - Riverside Drive 30-inch Parallel Force Main. Enclosed is a fully-executed Resolution of each.

Your continued cooperation is always appreciated.

Sincerely,

BOARD OF COUNTY COMMISSIONERS
RACHEL M. SADOFF, CLERK



Kimberly Powell, Clerk to the Board

/ds

Encls. (3)

cc: Finance
Budget

**South Beaches:
Deep Injection Well
Improvements**

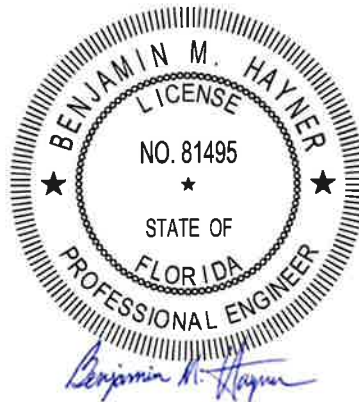
Brevard County 2026 Facility Plan

March 2026



In accordance with Chapter 471 of Florida Statutes, this Facility Plan for the Brevard County South Beaches Wastewater Treatment Facility Deep Injection Well Improvements, has been prepared under the direct supervision of a Professional Engineer registered in the State of Florida.

REGISTERED ENGINEERS
STATE OF FLORIDA
CDM Smith Inc.
101 Southhall Lane, Suite 200
Maitland, Florida 32751



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CDM Smith Inc.
Florida Registered Professional
Engineer No. 81495

THIS ITEM HAS BEEN DIGITALLY SIGNED AND
SEALED BY BENJAMIN M. HAYNER ON THE DATE
ADJACENT TO THE SEAL.

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Appendices

Appendix A – South Beaches Regional WWTF Deep Injection Well Environmental Review
Appendix B – Finance Plan for Deep Injection Well
Appendix C – Finance Plan for Deep Injection Well Effluent Pump Station
Appendix D - Board of County Commissioners of Brevard County Resolution Number 2026-000

Section 1

Introduction

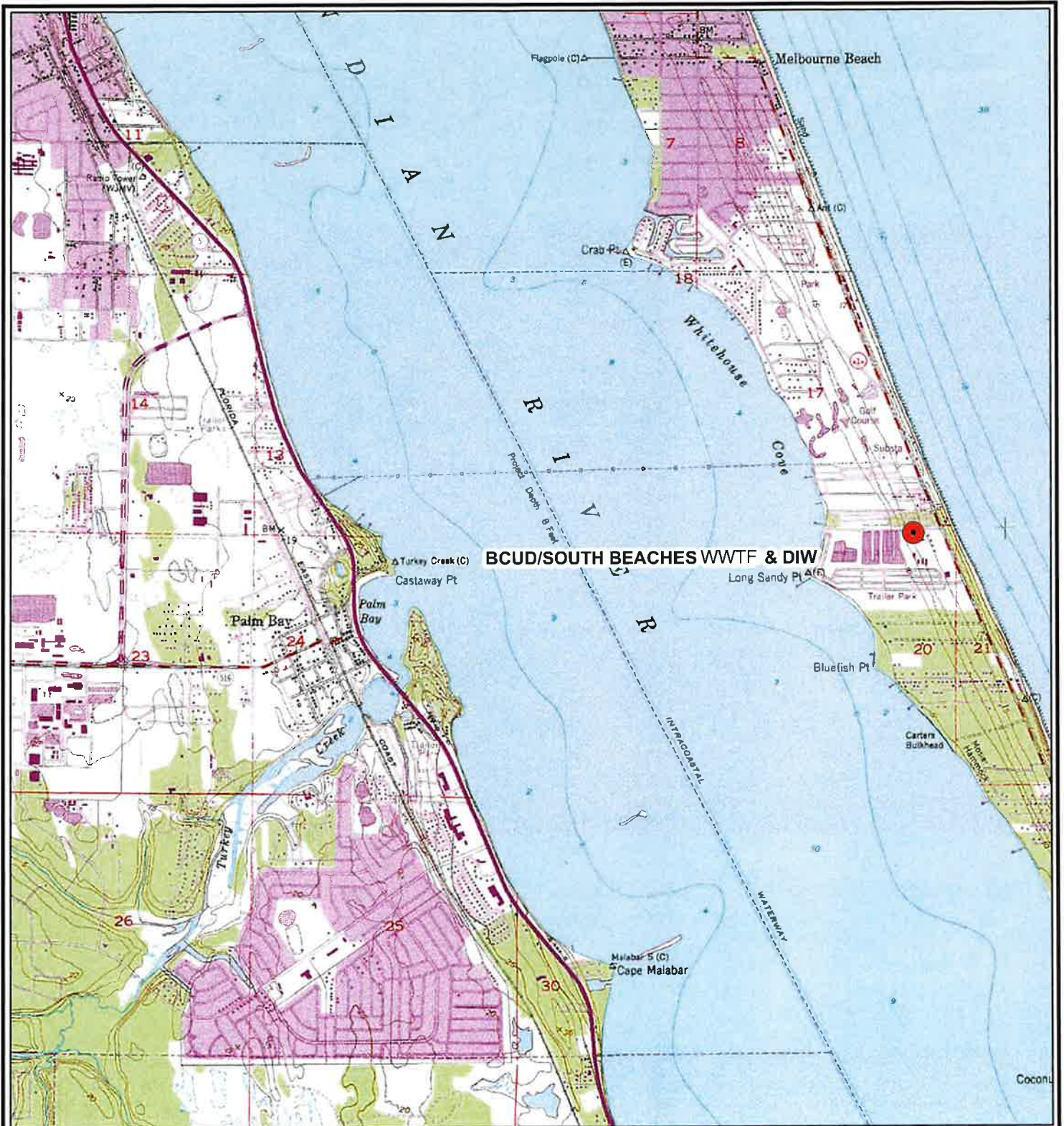
1.1 Objective and Project Background

The purpose of this facility plan update is to clearly describe Brevard County's (County) implementation of wastewater facilities for the disposal of secondary treated effluent at the South Beaches Wastewater Treatment Facility (SBWWTF). The County owns and operates SBWWTF located in Melbourne Beach. The SBWWTF is located on South Highway A1A approximately 3.7 miles south of State Road 192 in eastern Brevard County. SBWWTF is located in Section 20, Township 28S, and Range 38E. The location of the SBWWTF is shown on **Figure 1-1**.

The current primary method for disposing of secondary treated effluent at the SBWWTF is reuse. If the effluent flow rate exceeds demand for reuse, the injection well system serves as an alternative means of disposal as well as for disposal of any effluent that does not meet public access standards. The current injection well system consisting of one Class I municipal injection well (IW-1), effluent pumping station, two monitor wells, and control and monitoring instrumentation, has a permitted disposal capacity of 12.73 million gallons per day (MGD). Emergency discharges of the treated effluent can occur during extreme weather events to the adjacent Indian River Lagoon (IRL), which the Florida Department of Environmental Protection (FDEP) has designated an impaired water body.

The project includes two phases. Phase I is for the construction of a second Class I municipal deep injection well (DIW-2) and Phase II is for the construction of a new effluent pump station at the South Beaches Wastewater Treatment Facility (SBWWTF). These improvements will expand the facility's effluent disposal capacity and are necessary to provide reliable, long-term disposal for secondary treated effluent, eliminate routine and emergency surface water discharges to the Indian River Lagoon, and achieve compliance with Florida Statutes 403.064 and 403.086.

The facility plan update will satisfy the Florida Department of Environmental Protection's requirements as summarized within Section 62-503.700(2) F.A.C. for the State Revolving Loan Program. Brevard County is interested in pursuing State Revolving Fund (SRF) loan money to finance the proposed project stated above.



SBRWWTP IW-1 Coordinates:
 Latitude 28° 02' 27.082", Longitude -80° 32' 49.186"
 SBRWWTP IW-2 Coordinates:
 Latitude 28° 02' 28.155", Longitude -80° 32' 47.142"
 Source: USGS 7.5" Topographic Map

0 0.5 1 Mile



Legend

● SBWWTF

1.2 Project Need

This facility plan update is intended to define the County's approach to implementing critical capital improvements to its wastewater treatment infrastructure for the disposal of secondary treated effluent at the South Beaches Wastewater Treatment Facility (SBWWTF). The proposed improvements encompass the final design and construction of a second deep injection well (DIW-2), along with a new pump station, to support the County's goal of fully eliminating wastewater discharges to the Indian River Lagoon. These actions are required to achieve compliance with Florida Statutes 403.064 and 403.086.

The project scope also includes:

- Retirement of the existing effluent disposal pump station.
- Preparation of comprehensive engineering drawings and technical specifications consistent with Chapter 62-528, F.A.C.
- Elimination of Indian River Lagoon Discharges: Provide infrastructure necessary to discontinue wastewater discharges to the Indian River Lagoon in accordance with state law.
- Regulatory Compliance: Ensure wastewater and stormwater systems meet current Florida Statutes and applicable Florida Administrative Code requirements.
- Infrastructure Modernization: Replace and decommission outdated effluent disposal facilities while constructing a second deep injection well and improving treated effluent pumping capacity.

Section 2

Existing Conditions

2.1 Description of Planning Area

The service area for the SBWWTF encompasses the municipalities of Satellite Beach, Indian Harbour Beach, Indialantic, Melbourne Beach, a portion of the City of Melbourne, as well as several areas of unincorporated Brevard County. The service area is bounded by the Atlantic Ocean to the east, the Indian River Lagoon to the west, Patrick Air Force Base to the north and the south line of Section 28, Township 28 S, Range 28 E on the south. The south boundary of the service area is also the north line of a barrier island included in the Coastal Barrier Resources Act (CBRA). A review of County Geographic Information System (GIS) data shows that the system was installed in the 1950's and has been added to over time. The SBWWTF service area development is suburban in nature, dominated by single-family residential subdivisions and commercial development typically associated with residential development. Natural barriers and land development barriers regulated by the Federal Government Military Interdepartmental Purchase Request confine the service area. The County has shown good faith in maintaining the collection system in such a way to minimize issues with neighbors and odor nuisance and complaints are infrequent. **Figure 2-1** provides an overview of the South Beaches collection system including lift stations, manholes and both gravity pipe and force mains. No satellite collection systems are connected to the facility collection system. The County uses ArcGIS for inventory management for all collection system facilities. These files are viewed and utilized on a daily basis to conduct system operations and maintenance. **Table 2-1** provides a summary of the South Beaches collection system assets from the County's GIS.



CDM
Smith



Figure 2-1
South Beaches WWTF
Wastewater Collection System

Table 2-1 Summary of South Beaches Collection System from GIS

Collection System Asset	Quantity
Length of Gravity Sewer Main (LF)	994,068
Length of Force Main (LF)	206,186
Number of Manhole Structures	3,543
Number of County-Owned Lift Stations	55
Number of Private Lift Stations	19

The gravity and force main range in size from 2 to 30 inches in diameter. The majority of the piping is vitrified clay pipe (VCP). There is also some ductile iron pipe (DIP), polyvinyl chloride (PVC) pipe, high-density polyethylene (HDPE) pipe, cast iron pipe (CIP), and asbestos cement pipe (ACP).

Each of the fifty-five (55) County-owned lift stations connected to the SBWWTF are monitored via the County's Supervisory Control and Data Acquisition (SCADA) system. Wastewater is collected and conveyed to the SBWWTF located at 2800 South Highway A1A, Melbourne Beach, FL. The facility provides high-level treatment and the production of a high-quality effluent that is primarily disposed of via land application (irrigation) with the remainder disposed through a deep underground injection well. The historical flows to SBWWTF have remained flat to slightly decreasing due to the County's ongoing efforts with reducing Inflow and Infiltration (I/I) into the system. In addition, future demand projections show slight decreases based on the past 10 years of historical plant flow and due to the service area being mostly built out.

2.1.1 Climate and Topography

Brevard County is located along Florida's east-central coast and experiences a subtropical climate characterized by warm temperatures, high humidity, and distinct wet and dry seasons. Average annual temperatures generally range from the mid-60s °F in winter to the low-90s °F in summer, with most of the annual rainfall occurring between May and October during the wet season, often associated with convective thunderstorms and tropical weather systems. The County's low-lying coastal topography is generally flat, with ground elevations typically ranging from sea level to approximately 30 feet above mean sea level, gradually rising westward toward the St. Johns River basin. The eastern portion of the County is dominated by barrier islands, coastal lagoons, and estuarine systems, while the central and western areas consist primarily of poorly drained flatwoods, wetlands, and floodplain landscapes associated with the upper St. Johns River. These climatic conditions and low elevations influence stormwater runoff patterns, floodplain hydrology, and infrastructure design considerations, particularly for wastewater and stormwater management facilities located near sensitive surface waters.

2.1.2 Surface Water Hydrology

Several surface waters within Brevard County receive elevated regulatory protection and are experiencing documented water quality impairment. The Indian River Lagoon and Banana River are designated Outstanding Florida Waters (OFWs) under Chapter 62-302, Florida Administrative Code, and portions of Turkey Creek and the St. Johns River within the County

carry similar protective status, requiring that discharges and stormwater systems be designed to prevent any degradation of existing water quality. In addition, multiple surface waters in Brevard County—including segments of the Indian River Lagoon, Banana River, Turkey Creek, Eau Gallie River, and Crane Creek, as well as selected lakes and canal systems are listed as impaired waters under Section 303(d) of the Clean Water Act due primarily to nutrient enrichment, dissolved oxygen deficiencies, and other pollutants. These waterbodies are subject to adopted Total Maximum Daily Loads (TMDLs) and Basin Management Action Plans (BMAPs) administered by the Florida Department of Environmental Protection and the St. Johns River Water Management District, which necessitate enhanced wastewater and stormwater management practices to reduce pollutant loading and protect sensitive receiving waters.

2.1.3 Air Quality

Air quality in Brevard County is in attainment with all National Ambient Air Quality Standards (NAAQS) under the Clean Air Act and is not designated by the U.S. Environmental Protection Agency as a nonattainment or maintenance area for any criteria pollutants. This designation reflects generally low ambient concentrations of ozone, particulate matter, carbon monoxide, sulfur dioxide, nitrogen dioxide, and lead across the County.

2.1.4 Wetlands and Floodplains

Brevard County contains extensive wetland systems and floodplains associated with the Indian River Lagoon, Banana River, and the St. Johns River basin, including freshwater marshes, swamps, floodplain wetlands, and estuarine wetlands. Large portions of the western and central County lie within FEMA-designated 100-year floodplains, particularly along the St. Johns River floodplain, while coastal areas are influenced by tidal flooding, storm surge, and low-lying topography. These wetlands and floodplains provide critical flood storage, water quality treatment, and habitat functions, and their presence necessitates careful siting and design of wastewater and stormwater infrastructure to minimize impacts and ensure compliance with applicable federal, state, and local regulations.

2.1.5 Soils, Geology, and Groundwater

Brevard County is underlain by unconsolidated sandy soils and sediments derived from marine and coastal deposition, with surface soils consisting primarily of poorly drained sands, flatwoods soils, and organic soils associated with wetlands and floodplains. The County's geology is characterized by shallow sedimentary layers overlying limestone formations of the Floridan Aquifer system, with the intermediate aquifer system locally present as a confining unit separating surficial groundwater from deeper groundwater resources. Groundwater in Brevard County occurs within both the surficial aquifer system, which is generally shallow and hydraulically connected to surface waters, and the Floridan Aquifer, which in coastal areas commonly contains brackish water and is primarily utilized for deep injection wells and limited potable supply under regulated conditions.

2.1.6 Source Water Protection

Source water protection in Brevard County is implemented in accordance with the Safe Drinking Water Act and Florida law to protect public potable water supplies from contamination. Primary drinking water sources within the County include the surficial aquifer system and the Floridan

Aquifer system, which are protected through Wellhead Protection Areas (WHPAs) delineated by the Florida Department of Environmental Protection (FDEP) for public water supply wells. Within these areas, land uses and activities with the potential to adversely affect groundwater quality are regulated through a combination of local land development controls, FDEP drinking water regulations, and groundwater management and permitting programs administered by the St. Johns River Water Management District (SJRWMD). These source water protection measures are intended to minimize contaminant risks to existing and future potable water supplies and are consistent with FDEP SRF Facility Plan requirements.

2.1.7 Impact on Historic and Archeological Resources

It is not expected that any portion of the projects mentioned in this report will impact any historic or archeological resources. Any historic or archeological findings will be reported and handled in accordance with local and state regulations.

2.1.8 Impact upon Flora, Fauna, Threatened or Endangered Plant or Animal Species

CDM Smith conducted a database search and field visit to assess the potential for protected species. The focus of the evaluation was to determine the potential for state or federally protected animal species or their habitats to occur within the project area.

The protected species evaluation included review of recorded occurrences in the vicinity of the project area and review of soil, land use, and natural communities' data with reference to suitable habitat for species of potential occurrence. These data sources included NRCS soil web mapper (NRCS 2025); the U.S. Fish and Wildlife Service (USFWS) NWI database (2025); St. Johns River Water Management District Land Use data (FDEP 2023); the Florida Natural Areas Inventory (FNAI) database (2025); the USFWS Information for Planning and Conservation (IPaC) database (2025); and aerial photography (Google Earth, 2025). Reference Appendix A for the technical memorandum titled "South Beaches Regional WWTF Deep Injection Well Environmental Review" for more information.

Section 3

Wastewater System

3.1 Description of Existing System

The original facility at the SBWWTF was a 2.0 MGD activated sludge plant constructed in 1968. In 1985, a 1.0 MGD ring-steel activated sludge plant was added to the site and was later decommissioned in 2003 and removed altogether in 2022. In 1991, a 6.0 MGD oxidation ditch plant was constructed on site and became the primary treatment process. The current permitted configuration of the facility is a 6.0 MGD oxidation ditch plant with a 2.0 MGD activated sludge plant that operates in parallel. The 2.0 MGD activated sludge plant has been offline since October 2020. Plans are currently underway to convert the 2.0 MGD activated sludge plant into Advanced Wastewater Treatment (AWT) to restore capacity, improve efficiency, and ensure the quality of treated wastewater.

Due to the volumes of wastewater being processed and since direct discharge to surface waters is no longer an acceptable long-term or continuous solution per Section 403.064(17) Florida Statutes, utilities are continually evaluating effluent disposal solutions that are more sensitive to the environment as well as developing water conservation methodologies. Highly treated wastewater effluent, or reclaimed water, has been recognized as an economical and beneficial source of water for residential, commercial, and agricultural irrigation purposes. Deep Well Injection (DWI) has also been found to be an acceptable disposal method in coastal regions where the volume of treated effluent typically exceeds the reclaimed water demand. South Beaches primary means of effluent disposal is through their Class I deep injection well, which was placed in operation in April 1987 and recently re-rated to 12.7 MGD capacity. The facility also discharges to a public access reuse (PAR) system, constructed in 1984, and provides high quality reuse water for irrigation up to 3.0 MGD.

3.2 Treatment Facilities

3.2.1 Preliminary Treatment

The SBWWTF is equipped with an automatically cleaned Huber step bar screen and a manually cleaned bar screen functioning in a backup role. Screened sewage is de-gritted in a grit separation unit. Screenings and grit removed by these processes is collected and disposed at a permitted Class I Landfill.

3.2.2 Biological Oxidation

The SBWWTF is classified as a Secondary Treatment plus Filtration Facility (Category I, Class A), utilizing two (2) parallel wastewater treatment plants to treat the incoming raw wastewater from the service area, as described below, and meets all Class II Reliability criteria.

- A 6.0 MGD AADF dual-train Carrousel® Oxidation Ditch Treatment System utilizing mechanical surface aerators to provide oxygenation and mixing of the Mixed Liquor Suspended Solids (MLSS).

- A 2.0 MGD AADF Conventional Activated Sludge Process Treatment System consisting of one large plug-flow basin (5 passes) with anoxic and aerobic zones using centrifugal blowers and coarse bubble diffusers. A project is currently in the design phase to upgrade this system to Advanced Wastewater Treatment (AWT) using biological nutrient removal (BNR).

Both wastewater treatment plants process the incoming raw wastewater and generate an effluent meeting all FDEP requirements. Design and current raw wastewater flow for the SBWWTF are shown in **Table 3-1**:

Table 3-1 Design and Current Raw Wastewater Flows at the South Beaches WWTF

Flow Condition	Raw Wastewater Flow Rate (MGD) Aug 2024-Jul 2025	
	Design	Actual Operation
Annual Average Daily Flow (AADF)	8.00	6.19
Maximum Daily Flow (MDF)	12.00*	14.35**/12.48***
Peak Hourly Flow (PHF)	18.00	16.72**/15.14***

Notes: *MDF assumed to be 150% of the AADF
 **Occurred during Hurricane Milton (Oct 2024)
 ***Maximum and Peak flows (Storm Adjusted)

A review of the historical raw wastewater flows to the South Beaches WWTF, during the past five (5) years (2020-2025) and during the last twelve (12) months are summarized in **Table 3-2**.

Table 3-2 Historical Flows at the South Beaches WWTF

Raw Wastewater Flow Condition	South Beaches WWTF Raw Wastewater Flow (MGD)	
	Aug 2020 - July 2025	Aug 2024 – July 2025
Average Daily Flow	6.19	5.80
Maximum Daily Flow	14.35*/13.51**	14.35*/12.48**
Minimum Day Flow	1.09	1.08
Monthly ADF Range	4.77 – 8.38	4.65 – 8.40
3-Month ADF Range	4.88 – 7.91	4.89 – 7.39
AADF Range (monthly rolling average)	4.75 – 9.25	4.75 – 8.54

Notes: *Occurred during Hurricane Milton (Oct 2024)
 **Maximum Daily Flow (Storm Adjusted)

3.2.3 Return Activated Sludge

Each activated sludge plant has independent return activated sludge pumps. In 2003, a return activated sludge line was connected to the influent force main at the plant entrance for the purposes of reducing hydrogen sulfide (H₂S) before the pretreatment process.

3.2.4 Filtration

The facility has three (3) mixed media filters (anthracite sand) originally rated at average capacity of 1.0 MGD, or 3.0 MGD total. Influent to the filters is supplied by gravity flow from the 6.0 MGD treatment train clarifiers' effluent splitter box. This splitter box has two (2) adjustable weirs that control flows to both the filters and secondary effluent chlorine contact chamber (CCC)/equalization tank. Only the public access reuse water produced at the facility is filtered. Effluent discharged to the deep injection well is not filtered. Filter backwash is captured in two (2) backwash recovery tanks and returned to the plant influent pump station.

3.2.5 Disinfection and Dechlorination

The facility uses sodium hypochlorite for disinfection of effluent sent to the public access reuse system.

3.2.6 Effluent Reuse and Disposal

The facility uses a combination of deep well injection and public access reuse for effluent disposal. The effluent disposal systems are permitted through the facility's FDEP Operations Permit (FL0040622) and FDEP Underground Injection Control Operating Permit (185898-005-UO/1M) as indicted below:

Underground Injection System (U-001): An existing 12.7 MGD Annual Average Daily Flow (AADF) permitted capacity Deep Injection Well (DIW) system consisting of one (1) Class I underground injection well (2,916 feet deep) permitted under FDEP Permit No. 01858980-004 discharging to a Class G-IV ground water. The DIW is located at Latitude 28° 02' 27" N, Longitude 80° 32' 49" W. An effluent equalization tank is used in conjunction with this operation.

Land Application System (R-001): An existing 3.0 MGD AADF permitted capacity slow-rate public access re-use system. R-001 is a reuse system, which consists of a reclaimed water transmission/distribution system for public access irrigation within the Reuse Service Area. Filtered tertiary effluent meeting the High-Level Disinfection standard is stored in an on-site 0.6 MG ground storage tank and is delivered to reuse customers via high service pumps. Reclaimed water is also pumped to an existing retention pond system located at the Spessard Holland Golf Course that is not interconnected to the stormwater management system. These ponds have a combined storage capacity of 4.31 MG. The 4.31 MG retention pond system consists of seven (7) ponds that are interconnected with underground pipes at the golf course.

During mechanical integrity testing (MIT) of the Deep Injection Well, a portion of the treated effluent may be temporarily diverted to an onsite unlined holding pond. The pond has an approximate area of 3.8 acres and a storage capacity of 5.4 million gallons. This pond is designed solely for temporary containment during MIT and is not permitted for routine discharge to surface waters.

Effluent retained in the holding pond will be managed in accordance with permit requirements, including dechlorination using sodium bisulfite prior any controlled release or transfer. Any discharge or bypass event must comply with FDEP emergency provisions, including notification and reporting requirements, and cannot exceed the duration and conditions specified in the permit.

Permitted discharge point (D-001) and the associated weir to the Indian River Lagoon are not authorized under the current permit for routine or planned discharge. All effluent disposal must occur through approved methods (e.g., deep well injection) unless otherwise directed by FDEP under emergency conditions. A consent order was issued in July of 2025 requiring the County to only utilize the D-001 for significant weather events only and to fully utilize and facilitate the disposal capacity of the existing deep injection well. The consent order also requires the County to submit a request for a permit modification to eliminate the surface water discharge component of the Permit (D-001) following the installation of pumping equipment required to fully facilitate the disposal capacity of the deep injection well.

Wastewater flow projections for the South Beaches Wastewater Management System, shown in **Table 3-3**, were developed using the assumptions outlined in Section 3, “Future Conditions,” SBWWTF historical flows and Brevard County’s wastewater flow methodology.

Table 3-3 South Beaches Wastewater Treatment Facility Flow Projections*

Design Year	Flow Through Plant (MGD)	Reserved Capacity (MGD)	Total Flow Through Plant - AADF (MGD)	Projected Max 3-Month Flow (MGD)	Maximum Monthly Flow (MGD)
2026	6.198	0.007	6.205	7.092	7.291
2028	6.197	0.007	6.204	7.091	7.289
2030	6.196	0.007	6.203	7.090	7.288
2032	6.194	0.007	6.201	7.087	7.286
2034	6.193	0.007	6.200	7.087	7.285
2036	6.192	0.007	6.199	7.085	7.284
2038	6.191	0.007	6.198	7.084	7.282
2040	6.189	0.007	6.196	7.082	7.280
2045	6.186	0.007	6.193	7.079	7.277

Note: *Brevard County ERC Factor of 200 gpd/ERC; BEBR population density of 2.3 capita/dwelling; slight decrease in flows through 2045 estimated at -0.01% determined using the slope of the 10-year historical plant flow trendline. Project Maximum 3-Month and Maximum Month Flow factors utilized were 1.143 and 1.175, respectively (storm adjusted).

3.3 Alternative Analysis

3.3.1 Background and Summary

The SBWWTF produces secondary treated effluent that is reused through golf course irrigation and/or disposed of through deep well injection. **Figure 3-1** presents the project site vicinity map, including the location of the SBWWTP, existing deep injection well and monitor wells. Treatment process upgrades and construction of a second deep injection well are planned for the facility.



**Figure 3-1
South Beaches WWTF
Site Map**

In January 2023, the County contracted with CDM Smith Inc. (CDM Smith) to evaluate the different effluent disposal alternatives at the SBWWTF and are consistent with Florida Statutes 403.064 (*Reuse of Reclaimed Water*) and 403.086 (Sewage Disposal Facilities; Advanced and Secondary Waste Treatment) regarding the elimination of wastewater discharge to the Indian River Lagoon. CDM Smith identified potential treatment technologies and evaluated the advantages, disadvantages, and capital cost estimates for each treatment technology.

CDM Smith and the County participated in an effluent disposal evaluation workshop in November 2023, where the County determined an option best aligned with their disposal goals and needs. Further presentation of the evaluation of the effluent disposal options is outlined below.

3.3.2 Effluent Disposal Options

CDM Smith evaluated and presented nine effluent disposal options to discuss with the County. The effluent disposal options are summarized below:

- Aquifer Recharge,
- Salinity Barrier,
- Aquifer Storage and Recovery,
- Direct Potable Reuse,
- Indirect Potable Reuse,
- Reclaimed Water Distribution Expansion,
- Additional Storage,
- Second Deep Injection Well, and
- Infiltration & Inflow Program.

The regulatory and treatment requirements, advantages, disadvantages, and approximate cost for each option is presented below.

3.3.3 Aquifer Recharge

Aquifer recharge (AR) is a treatment technology that replenishes water in an aquifer by injecting treated water into AR wells likely located in the Upper Floridan aquifer.

Regulatory and Treatment Requirements

Treatment requirements depend on the concentration of Total Dissolved Solids (TDS) in groundwater in the receiving aquifer.

Aquifers containing groundwater with less than or equal to 3,000 mg/L TDS must meet the full treatment requirements (including primary drinking water standards), and high-level disinfection (HLD) contained in FAC 62-610.560, and FAC 62-610.563(3). Additionally, full treatment requires the following: Total Nitrogen (TN) $\leq$ 10 mg/L, Total Organic Carbon (TOC) $\leq$ 3 mg/L, and Total Organic Halogen (TOX) $\leq$ 0.2mg/L.

Aquifers with TDS levels 3,000-10,000 mg/L must meet principal treatment of secondary treated wastewater effluent with HLD under FAC 62-610.560 and FAC 62-610.563(2). Aquifers with this level of TDS do not have to meet the TOC and TOX requirements of full treatment. Principal treatment requires TN to be 10 mg/L or less.

Low-Pressure Reverse Osmosis (LPRO) membrane treatment and Advanced Oxidation Process (AOP) treatment technologies are likely needed to meet the full treatment requirements. In addition to the LPRO and AOP treatment technologies, aquifer recharge requires multiple barriers and pathogen removal approaches to protect public health and safety. Six to twelve months of pilot testing and evaluation of removal of emerging contaminants for full treatment is required.

Advantages

Aquifer recharge would be more practical the closer that it is located to the South Beaches Wastewater Treatment Plant. This treatment technology can also offset drawdowns from water supply withdrawals and aid in the beneficial reuse of reclaimed water for aquifer recharge.

Disadvantages

The risk of vertical migration of the injected water (aquifer recharge) is problematic in that a higher level of treatment (e.g., principal vs. full treatment) would be required. The aquifer recharge will also need placement in the aquifer upgradient to water supply wellfields to send the purified effluent to the nearest recharge location. It is unlikely that this option would provide substantial benefit to the County since there are no water supply wells nearby to the WWTP.

Cost

The following estimated construction costs for an aquifer recharge system are presented below:

- 8 MGD RO/Membrane Plant with AOP (\$20/gal) - \$160 Million
- Principal treatment with HLD - \$20-30 Million
- Aquifer recharge wells (6-8 wells) - \$8 Million

3.3.4 Salinity Barrier

Salinity barrier systems inject reclaimed water into aquifers to create freshwater barriers to impede landward or upward migration of salt water into potable aquifers containing fresh groundwater.

Regulatory and Treatment Requirements

Secondary wastewater treatment and HLD for principal treatment is required for groundwater with TDS levels of 1,000 to 3,000 mg/L pursuant to FAC 62-610.562(4) and 62-610.563(3). Principal treatment requires the parameter of TN to be 10 mg/L or less. Salinity barriers also have location constraints and cannot be placed within 1,000 feet of any potable supply well.

Advantages

For heavily stressed coastal aquifers, salinity barrier systems enable freshwater to replenish aquifer systems while restraining the movement of saltwater. Salinity Barriers are not required to meet TOC and TOX requirements of full treatment.

Disadvantages

Salinity Barriers pose more risk in the permitting process, as there are restrictive discharge limitations for parameters included as drinking water standards. Also, there would have to be a demonstrated need for a salinity barrier such as lateral saltwater intrusion from the IRL or vertically from depth in the aquifer affecting water supply wells nearby. The permitting challenges, restrictive discharge limitations, limited applicability, and maintenance challenges indicate salinity barriers to be a challenging and costly effluent disposal option for the County.

Cost

The following estimated costs for a salinity barrier are listed below:

- Principal treatment: HLD - \$20-30 Million
- Cost of wells (6-8 wells) - \$8 Million

3.3.5 Aquifer Storage and Recovery

Aquifer storage and recovery (ASR) involves injecting reclaimed water into aquifers for storage and recovery of the stored reclaimed water through the same well for later beneficial purposes.

Regulatory and Treatment Requirements

ASR treatment is regulated under FAC Chapter 62-258 and FAC 62-610.446. Treatment requirements are dependent on the amount of Total Dissolved Solids (TDS) present in groundwater in the aquifer.

Aquifers containing groundwater with less than or equal to 3,000 mg/L TDS are required to meet the full treatment (which includes primary drinking water standards) requirements in FAC 62-610.560 and 62-610.563(3). Full treatment requires the following: Total Nitrogen (TN) $\leq$ 10 mg/L, Total Organic Carbon (TOC) $\leq$ 3 mg/L, and Total Organic Halogen (TOX) $\leq$ 0.2mg/L.

Aquifers containing groundwater with TDS levels 3,000-10,000 mg/L do not have to meet the TOC and TOX requirements of full treatment. Principal treatment requires the parameter of TN to be 10 mg/L or less.

LPRO membrane treatment and AOP treatment technologies are likely needed to meet the full treatment requirements. In addition to the LPRO and AOP treatment technologies, ASR requires multiple barriers and pathogen removal approaches to protect public health and safety. Six to twelve months of pilot testing and evaluation of removal of emerging contaminants for full treatment is required.

Advantages

ASR has no limited location conditions that need to be met and can be placed anywhere in the hydrogeologic profile.

Disadvantages

ASR requires a secondary source of water, such as surface water or reclaimed water, to be effective. Water injected into an aquifer must be recovered and reused, requiring expanding the customer base or locating means of placing the water. ASR is primarily a temporary storage tool using an aquifer for storage and for demand management. This alternative is not a reuse or disposal method. This treatment technology also requires confinement above the injection zone and requires a suitable injection zone. This option is not feasible for the County primarily due to its reliance on expanding the customer base or finding alternative means to accommodate the discharges water. The associated costs and complexities of these endeavors pose financial burdens of additional infrastructure and outreach investments.

Cost

The following estimated costs for an ASR system are listed below:

- Principal treatment including HLD - \$20-30 Million
- Additional Pumps & Cost of ASR wells (6-8 wells) - \$8 Million

3.3.6 Direct Potable Reuse

Direct potable reuse (DPR) is the direct connection of purified recycled water into a drinking water system.

Regulatory and Treatment Requirements

Direct potable water reuse is currently not permitted in the state of Florida. Florida Department of Environmental Protection is drafting regulations, Chapter 62-565, FAC – Potable Reuse.

Advantages

This treatment technology introduces a new water source by providing highly treated wastewater effluent for drinking water.

Disadvantages

As previously stated before, direct potable water reuse is not presently permitted in the state of Florida. Requirements for emerging microconstituents and microbiological concerns also need to be met by AOP and membranes, requiring 12 months of pilot testing to monitor treatment technology on microconstituents. Facilities utilizing direct potable water reuse must overcome the public perception of utilizing wastewater effluent. The requirements for emerging microconstituents concerns adds substantial cost and time to the implementation process of direct potable reuse, rendering this effluent treatment option impractical for the County.

Cost

The following estimated costs for an aquifer recharge are listed below:

- Membrane Plant & Infrastructure: Plant - \$160 Million

3.3.7 Indirect Potable Reuse

Indirect potable reuse (IPR) includes the introduction of recycled water into an environmental buffer such as a surface reservoir or groundwater aquifer.

Regulatory and Treatment Requirements

Indirect potable water reuse follows the same regulatory requirements as aquifer recharge permitted under Part V of Rule 62-610, FAC – Groundwater Recharge and Indirect Potable Reuse. Treatment requirements depend on the concentration of Total Dissolved Solids (TDS) in the groundwater of the receiving aquifer.

Aquifers containing groundwater with equal, or less than 3,000 mg/L TDS must meet full treatment (including primary drinking water standards), and high-level disinfection (HLD) under FAC 62-610.560 and 62-610.563(3). Full treatment requires the following: Total Nitrogen (TN) $\leq$ 10 mg/L, Total Organic Carbon (TOC) $\leq$ 3 mg/L, and Total Organic Halogens (TOX) $\leq$ 0.2mg/L.

Aquifers with TDS levels 3,000-10,000 mg/L must meet principal treatment of secondary treatment with HLD pursuant to FAC 62-610.560, FAC and 62-610.563(2). Aquifers containing groundwater with this level of TDS do not have to meet the TOC and TOX requirements of full treatment. Principal treatment requires the parameter of TN to be 10 mg/L or less.

LPRO membrane treatment and AOP treatment technologies are likely needed to meet the full treatment requirements. In addition to the LPRO and AOP treatment technologies, IPR and groundwater recharge requires multiple barriers and pathogen removal approaches to protect public health and safety. Six to twelve months of pilot testing and evaluation of removal of emerging contaminants for full treatment is required.

Advantages

This treatment technology provides an opportunity for the beneficial reuse of reclaimed water through aquifer recharge.

Disadvantages

Indirect potable water reuse requires a considerable amount of treatment. Requirements for emerging microconstituents and microbiological concerns also need to be met by AOP and membranes, requiring 12 months of pilot testing to monitor treatment technology on microconstituents. Similar to direct potable reuse, the requirements for emerging microconstituents concerns adds substantial cost and time to the implementation process, rendering this effluent treatment option impractical for the County.

Cost

The following estimated costs for IPR are presented below:

- Membrane Plant & Infrastructure: Plant - \$160 Million
- Advance Oxidation Process Infrastructure - TBD
- Cost of wells (6-8 wells) - \$8 Million

3.3.8 MGD Reclaimed Water Distribution Expansion

Regulatory and Treatment Requirements

HLD is required for reclaimed distribution expansion. The HLD includes rapid or slow sand filters and chlorine treatment with a residence time of 15 to 30 minutes. The following parameters must also be met: TSS $\leq$ 5 mg/L, CBOD $\leq$ 5 mg/L, TN $\leq$ 3 mg/L, and TP $\leq$ 1 mg/L.

Advantages

This treatment technology increases beneficial reuse of effluent.

Disadvantages

A deep injection well, approximately 17 miles of piping and infrastructure, are required to manage effluent flows during wet weather conditions when there is no demand for reuse. The cost of infrastructure to implement this effluent disposal option proves to be infeasible for the County.

Cost

The following estimated costs for a 5 MGD reclaimed distribution expansion are listed below:

- 17 miles of piping & infrastructure: - \$17 Million (\$1,000,000/mile (piping))
- Deep Injection Well: \$17 to 18 Million
- Principal treatment: HLD - \$20 to 30 Million

Storage (3-4 days of ADF; 8 MGD)

Storage would include surface impoundment of approximately 33 acres with 3 feet of live storage for during Mechanical Integrity Testing (MIT) events of the deep injection well.

Regulatory and Treatment Requirements

A minimum of 3 feet of freeboard is required for storage and percolation pond designs.

Advantages

Storage during MITs for deep injection well system is provided by surface impoundment.

Disadvantages

This technology requires a large amount of land, approximately 23 acres, as the County currently has approximately 10 acres of onsite storage. The County must reuse or dispose of stored water and future needs may require disposal via a deep injection well. This effluent discharge option is deemed infeasible for the County primarily due to its demand for a significant amount of land, incurring substantial costs.

Cost

The following estimated costs for additional storage are listed below:

- Land (23 acres) - \$21 Million (\$900,000/acre)

- Piping & Infrastructure: TBD

3.3.9 Second-Deep Injection Well

Deep injection wells dispose of appropriately treated fluids via underground injection wells that discharge into the Boulder Zone of the Lower Floridan aquifer.

Regulatory and Treatment Requirements

New Class I municipal deep injection wells require secondary wastewater treatment with HLD, which requires the effluent have a TSS of ≤ 5 mg/L and a residual chlorine ≥ 1.0 mg/L after 15 minutes of contact at peak hourly flow pursuant to Rule 62-600.440(6), FAC. The following limits for additional parameters are needed: TP ≤ 6 mg/L, TN ≤ 10 mg/L and a pH of 6.5-8.5. Public Access Reuse (PAR) is required per the Central Indian Lagoon BMAP.

Advantages

This treatment technology involves no effluent disposal to the IRL, assisting the County in reaching its goal of following Florida Statutes 403.064 and 403.086. A second deep injection well significantly reduces discharges to the Indian River Lagoon, providing a long-term sustainable solution to dispose emergency discharges. A deep injection well allows for operational and location flexibility and easier permitting, as existing monitoring wells are already onsite for IW-1. Deep injection allows for the disposal of treated wastewater without requiring extensive land area, making it a more space-efficient option. Compared to surface disposal methods, deep injection wells minimize public exposure to treated effluent, addressing potential concerns related to odor, aesthetics, and other nuances.

Disadvantages

Public perception of deep injection wells may have a negative connotation.

Cost

The following costs are estimated for a new deep injection well and effluent pump station:

- Deep Injection Well: \$23.2 Million
- Effluent Pump Station: \$16.9 Million

The alternatives above were evaluated during the project's preliminary phase. The aquifer recharge, direct potable water reuse, and indirect potable water reuse alternatives were eliminated due to the high capital costs. Aquifer storage recovery includes risks with arsenic leaching and will still require a disposal mechanism. The reclaimed water distribution expansion alternative would require customers/infrastructure, and a deep injection well would still be required. The alternative to build an additional storage pond would require the purchase of approximately 23 acres of land which does not appear to be viable considering the project location. These alternatives were eliminated for further evaluation. **Table 3-4** shows the estimated present worth of the two viable disposal alternatives.

Table 3-4 Present Worth Analysis

Alternatives	Order of Magnitude Capital Cost	Annual Estimated O&M	O&M Present Worth (20 Years of O&M to Present Dollars)	20-Year Present Worth (O&M Present Worth & Capital Cost)
Salinity Barrier	\$38,000,000	\$215,000	\$2,921,000	\$40,921,000
Deep Injection Well 2	\$40,130,000	\$80,000	\$1,087,000	\$41,217,000

3.4 The Selected Plan

The County has decided to pursue a second deep injection well as their effluent disposal option. A second deep injection well enables the County to meet all current regulations and follow Florida Statutes 403.064 and 403.086. This option is also cost-feasible as the County has existing infrastructure to support the deep injection well, such as existing monitoring wells near the proposed injection site. The County also has operational flexibility with a second deep injection well, as they can utilize both the existing and proposed deep injection wells. The Salinity Barrier requires a larger amount of infrastructure, space for each of the eight wells, a greater deal of maintenance, monitoring, and reporting requirements.

Section 4

Implementation and Compliance

4.1 Public Hearing

A public hearing will be held at the Brevard County commission chambers after advertisement in the area newspaper. Records of the public notice and the hearing will be made available in the County's Public Utility office.

4.2 Regulatory Agency Review

The County's wastewater system has the relevant treatment facility – South Beaches Water Reclamation Facility with an average daily flow (ADF) capacity of 8 MGD. The primary disposal method is through reuse, with a capacity of 3 MGD. During wet weather events, reuse is not a viable means of disposal, requiring an alternative which in this case is a deep injection well with a capacity of 12.73 MGD. There have been record weather events previously which have caused treated effluent discharges into the Indian River Lagoon. It is the intent of this project to provide an additional deep injection well to eliminate emergency discharges to the Indian River Lagoon. There is an additional effluent pump station required in order to transmit the flow to the new deep injection well. The time frame for the effluent pump station design and construction lags behind that of the deep injection well and will result in an additional SRF loan request, with the impact of both costs presented below.

As part of the review process for this plan and in order to qualify for an SRF loan, various governmental agencies must approve the manner in which the County will implement the plan. Agencies that will have the opportunity to review and comment on the plan include:

- Florida Department of Environmental Protection
- Office of the Governor's State Clearinghouse

4.3 Financial Planning – Wastewater System

The scope of this financing plan includes the planned wastewater improvements for an estimated construction cost of \$23.7 million (in 2025 dollars with 10% contingency) for the deep injection well and \$17.24 million (in 2025 dollars with 10% contingency) for the effluent pump station. (**Table 4-1**). The recommended financial plan funds the wastewater CIP improvements with two SRF loans.

Table 4-1 Wastewater System Project Costs with SRF Financing

Item	Deep Injection Well	Effluent Pump Station	SRF Loan Total
Project Cost ^a	\$23,230,000	\$16,900,000	\$40,130,000
Finance Costs-SRF ^b	464,600	338,000	802,600
Subtotal	\$23,694,600	\$17,238,000	\$40,932,600
Capitalized Interest ^c	216,806	210,304	427,110
Par Amount of Loan	\$23,911,406	\$17,448,304	\$41,359,710
Annual Debt Service^d	\$1,350,980	\$985,819	\$2,336,798
First Payment Date	November 2028	June 2030	

^aTotal construction costs including engineering and contingency.

^bFinance costs for SRF equals 2% of the amount borrowed.

^cCapitalized interest is based on linear draw of project amount over a 1-year construction period.

^dAnnual Debt Service for SRF based on 20 years at 1.22% interest.

Table 4-2 presents the estimated debt service payments for SRF funding versus the costs of using revenue bond funding. As presented, SRF funding is preferable due to a significantly lower cost.

Table 4-2 Comparison of SRF Funding VS. Conventional Revenue Bond Financing

Item	With SRF Funds	With Revenue Bonds
Program Costs ^a	\$40,130,000	\$40,130,000
Finance Costs - SRF and Revenue Bonds ^b	802,600	1,003,000
Subtotal	\$40,932,600	\$41,133,000
Capitalized Interest ^c	427,110	-
Principal Loan/Bond Subtotal	\$41,359,710	\$41,133,000
Annual Debt Service^d	\$2,336,798	\$2,764,800

^aSubtotal equals construction and contingency costs.

^bFinance costs for SRF equals 2% of the amount borrowed and revenue bonds equal 2.5%.

^cCapitalized interest is based on linear draw of project amount over a 1-year construction period.

^dAnnual Debt Service for SRF based on 20 years at 1.22 % interest and revenue bonds based on 20 years at 3% interest.

The Financing Plan was determined using a spreadsheet model. Debt service was calculated to estimate the annual debt service costs with either SRF funding or conventional revenue bonds. Financial assumptions included the following:

- Debt terms (SRF) – 20 years: 1.22% interest rate with a 2% issuance cost.
- Debt terms (revenue bonds) – 20 years: 3% interest rate with 2.5% issuance cost.

The County has already adopted indexing provisions tied to the Water and Sewer Maintenance Index, allowing for annual rate adjustments. The projected financial analysis indicates that this indexing mechanism is projected to yield approximately 4% annually. When combined with anticipated customer growth, this revenue will provide sufficient funds to support debt coverage for existing and projected bonds as well as State Revolving Fund loans through 2030. Consequently, no rate adjustments beyond the adopted index are anticipated to be required to meet debt coverage requirements.

4.4 Financing Plan Model

A financial analysis of the wastewater systems was performed and presents the overall impact of the improvements and identifies wastewater system costs and the resulting net revenue through 2030. The result of this analysis indicates that with the annual projected rate increases of 4% annually and estimated customer increases, the existing and projected wastewater rates will provide for the existing revenue bond debt and existing and projected SRF loans with adequate coverage through 2030.

Table 4-3 presents a pro-forma that projects revenue and expenses through FY 2030. The existing and estimated new debt service is presented as well as debt service coverage. This analysis provides adequate debt service coverage through this time period. The data in Table 4-4 was prepared by the County's Rate Consultant (Raftelis) and is consistent with the Capital Finance Plans included as **Appendix B and C**.

Table 4-3 Schedule of Projected Revenues and Debt Coverage for Pledged Revenue

		2026	2027	2028	2029	2030
(a)	Operating Revenues					
	Service Charges [1]	\$58,515,000	\$60,776,000	\$63,127,000	\$65,573,000	\$68,116,000
(b)	Interest Income [2]	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000
(c)	Other Incomes or Revenues (Identify) [3]	-	-	-	-	-
(d)	Total Revenues	\$62,015,000	\$64,276,000	\$66,627,000	\$69,073,000	\$71,616,000
(e)	Operating Expenses (excluding interest on debt, depreciation and other non-cash items) [4]	\$46,698,633	\$48,416,401	\$50,197,623	\$52,044,655	\$53,959,937
(f)	Net Revenues (f = d-e)	\$15,316,367	\$15,859,599	\$16,429,377	\$17,028,345	\$17,656,063
(g)	Existing Debt Service on Non-SRF Projects (excluding coverage) [5]	\$1,473,431	\$1,475,056	\$1,472,406	\$1,474,156	\$1,475,156
	Debt Service Coverage (1.10 required)	1040%	1075%	1116%	1155%	1197%
	Net Revenue Less Revenue Bond Debt (f - g)	\$13,842,936	\$14,384,543	\$14,956,970	\$15,554,189	\$16,180,907
(h)	Existing SRF Loan Debt Service (excluding coverage)	\$2,877,958	\$2,877,958	\$2,877,958	\$2,877,958	\$2,877,958
(j)	Projected Debt Service on SRF Future Projects (excluding coverage) [6]					
	Projected Debt Service - Jacobs	\$0	\$0	\$0	\$647,491	\$1,294,981
	Projected Debt Service - Wade-Trim	\$0	\$0	\$557,545	\$1,115,089	\$1,115,089
	Projected Debt Service - CDM Smith #1	\$0	\$0	\$0	\$675,490	\$1,350,980
	Projected Debt Service - CDM Smith #2	\$0	\$0	\$0	\$0	\$985,819
(k)	Total SRF Loan Debt Service (excluding coverage)	\$2,877,958	\$2,877,958	\$3,435,503	\$5,316,028	\$7,624,828
(l)	SRF Debt Service Coverage (1.15% Required)	481%	500%	435%	293%	212%
(m)	Net Revenues After Debt Service (m = f-g-k) [7]	\$10,964,978	\$11,506,585	\$11,521,467	\$10,238,160	\$8,556,079

Source:

Notes:

- [1] Revenue projection for FY26 is assumes a 7.5% rate adjustment (adopted by the County) (pro rated for only 8 months since it is effective February 1st 2026) and for all future years 4.0% rate adjustments were assumed which is slightly below the 5 year average for the BLS water and sewerage maintenance index which the County adopted as its rate adjustment index for future years. Revenue projections exclude impact fees.
- [2] Includes interest income on unrestricted cash balances, which were assumed to be held constant during the forecast.
- [3] Although excluded from the projections, the County recovered on average approximately \$4.76 million in water and wastewater impact fees during the Fiscal Years 2024 and 2025. The County continues to charge new connections the impact fees.
- [4] Amounts are based on the County's adopted budget for operating expenses for the Fiscal Year 2026 and escalated thereafter at an average annual factor of approximately 3.7%.
- [5] Pursuant to the Bond Resolution authorizing the issuance of the outstanding Water and Wastewater Revenue Bonds, Series 2014, the county must:
a) generate sufficient Net Revenue equal to or greater than 110% of the annual debt service of the outstanding bonds; and b) generate sufficient Net Revenues plus impact fees equal to or greater than 120% of the annual debt service of the outstanding bonds. For purposes of the CFP we have assumed the senior lien coverage requirement at 110% in recognition that no impact fees were assumed in the projections contained in the Schedule of Projected Revenues and Debt Coverage for Pledged Revenue.
- [6] Amounts reflect the estimated annual debt service for the proposed SRF Loan.
- [7] For the purposes of full disclosure, the County budgets and funds: a) transfers to the general fund associated with Payment in Lieu of Taxes and b) capital outlay for minor units of equipment and vehicles. The following provides a forecast of net revenues after such transfers and payments:

Net Revenues After Debt	\$10,964,978	\$11,506,585	\$11,521,467	\$10,238,160	\$8,556,079
Less:					
Payment in Lieu of Taxes (PILOT)	\$1,754,149	\$1,754,149	\$1,754,149	\$1,754,149	\$1,754,149
Capital Outlay (Excludes Major Maintenance)	2,750,000	2,750,000	2,750,000	2,750,000	2,750,000
Net Available to Utility Reserve Fund	\$6,460,829	\$7,002,436	\$7,017,319	\$5,734,012	\$4,051,930

The County has the sole responsibility and authority to implement the recommended facilities. There are no inter-local agreements necessary for the County to provide wastewater services through 2030.

4.5 Implementation Schedule

The proposed implementation schedule for the deep injection well (Phase I) is provided in **Table 4-4**.

Table 4-4 Implementation Schedule Phase I

Item Number	Description	Completion or Submittal Date
1	Request for Inclusion	Complete
2	Public Hearing - 201 Facilities Plan	04/07/2026
4	Capital Financing Plan	04/07/2026
5	Site Specific Study	Not Required
6	Plans and Specifications Complete	05/30/2026
7	Permits	05/30/2026
8	Advertise for Bids	09/08/2026
9	Certification of Availability of Sites	05/30/2026
10	Loan Application Submittal, Attorney's Opinion, and Loan Disbursement/Repayment Schedule	10/01/2026
11	Loan Closing	11/01/2026
12	Bid Opening	10/08/2026
13	Contract Award	11/01/2026
14	Construction Complete (Substantial)	05/01/2028
15	Facility Start-up	05/01/2028
16	First Year Operation Certification	05/01/2029

The proposed implementation schedule for the pump station (Phase II) is provided in **Table 4-5**.

Table 4-5 Phase Implementation Schedule Phase II

Item Number	Description	Completion or Submittal Date
1	Request for Inclusion	10/01/2026
2	Public Hearing - 201 Facilities Plan Update	04/07/2026
3	Capital Financing Plan	04/07/2026
4	Site Specific Study	Not Required
5	Plans and Specifications Complete	12/01/2026
6	Permits	12/01/2026
7	Advertise for Bids	9/01/2027
8	Certification of Availability of Sites	12/01/2026
9	Loan Application Submittal, Attorney's Opinion, and Loan Disbursement/Repayment Schedule	10/01/2027
10	Loan Closing	11/01/2027
11	Bid Opening	11/01/2027
12	Contract Award	12/01/2027
13	Construction Complete (Substantial)	12/01/2029
14	Facility Start-up	12/01/2029
15	First Year Operation Certification	12/01/2030

Appendix A

South Beaches Regional WWTF Deep Injection Well Environmental Review



Memorandum

To: FDEP

From: Brendan Brown, PWS

Date: December 29, 2025

*Subject: South Beaches Regional WWTF
Deep Injection Well
Environmental Review*

The purpose of this technical memorandum is to summarize the analysis and findings of the environmental review in support of the Facility Plan Review as part of the State Revolving Fund Program for the Brevard County South Beaches Wastewater Treatment Plant Deep Injection Well. This review included evaluation of potential effects on flora, fauna, threatened and endangered plant and animal species, surface water bodies, prime agricultural lands, wetlands, and undisturbed areas.

CDM Smith conducted a desktop review of environmental resources in addition to a field visit to document and evaluate the potential for environmental impacts. CDM Smith evaluated an approximately 5.5-acre area of investigation (**Figure 1**), which contains the proposed project. In the evaluation, a desktop review of publicly available state and federal data was conducted to assess the potential for state jurisdictional wetlands and surface waters, waters of the U.S., and state or federally protected species to occur.

After the desktop review, CDM Smith conducted field visits to the project site on December 11, 2025 to evaluate site conditions, delineate wetlands and surface waters, and determine habitat suitability for wildlife and protected species. During the field visits, CDM Smith assessed the potential presence of jurisdictional wetlands within the project area via pedestrian transects. The evaluation was conducted in general accordance with routine determination guidelines as specified in the Florida Unified Wetland Delineation Methodology produced by Florida Department of Environmental Protection (FDEP) (Chapter 62-340 F.A.C.) and in the US Army Corps of Engineers (USACE) Wetland Delineation Manual (Environmental Laboratory 1987) and Atlantic and Gulf Coastal Plain Regional Supplement Version 2.0 (USACE 2010).

Project Description and Environmental Benefit

The proposed project involves the final design and construction of a second deep injection well (DIW-2) and associated pump station improvements, with the primary objective of eliminating wastewater discharge to the Indian River Lagoon in compliance with Florida Statutes 403.064 and 403.086. The project includes the decommissioning of the existing effluent disposal pump station, preparation of detailed design drawings and technical specifications in accordance with Chapter 62-528, F.A.C., and the development of stormwater management systems to meet updated treatment requirements for Outstanding Florida Waters and impaired waterbodies.



The proposed project will eliminate effluent discharge to the Indian River Lagoon, thereby benefiting flora and fauna of the estuary. The Indian River Lagoon is one of North America's most biodiverse estuaries, stretching along Florida's east coast and encompassing a mosaic of wetlands, mangroves, and seagrass beds. These habitats provide critical nursery grounds for fish, shellfish, and invertebrates, while supporting wildlife such as manatees, dolphins, and numerous bird species. Seagrass meadows stabilize sediments, improve water quality, and sustain species like sea turtles and juvenile gamefish. The lagoon's wetlands filter pollutants, buffer storm surges, and offer refuge for wading birds and amphibians, making this ecosystem vital for both ecological health and regional resilience.

Wetlands and Surface Waters

During the field visit, no wetlands or surface waters were observed within the area of investigation. The area consists of mowed and maintained grassland.



Photograph 1. Mowed and Maintained Grassland in Area of Investigation

Wildlife and Protected Species

CDM Smith conducted a database search and field visit to assess the potential for protected species. The focus of the evaluation was to determine the potential for state or federally protected animal species or their habitats to occur within the project area.

The protected species evaluation included review of recorded occurrences in the vicinity of the project area and review of soil, land use, and natural communities' data with reference to suitable habitat for species of potential occurrence. These data sources included NRCS soil web mapper (NRCS 2025); the U.S. Fish and Wildlife Service (USFWS) NWI database (2025); St. Johns River Water Management District Land Use data (FDEP 2023); the Florida Natural Areas Inventory (FNAI) database (2025); the USFWS Information for Planning and Conservation (IPaC) database (2025); and aerial photography (Google Earth, 2025).

Based on the FNAI database and biodiversity matrix report (generated November 11, 2025, **Attachment A**), there was one documented occurrence within the 1-mile biodiversity matrix grid that covers the project area. This was an occurrence of a leatherback sea turtle (*Dermochelys coriacea*) which is a federally and state listed endangered species. There were no other documented occurrences of state or federally threatened, endangered, or rare species within the project area or immediate vicinity based on the biodiversity matrix report. Species reported as likely to occur include Florida scrub-jay (*Aphelocoma coerulescens*), loggerhead sea turtle (*Caretta caretta*), and green sea turtle (*Chelonia mydas*).

Based on the USFWS IPaC database (**Attachment A**), several federally protected species may occur within or adjacent to the project area. There are no designated critical habitats within the site.

Following a review of the compiled species lists, CDM Smith conducted a field visit and habitat assessment to identify which species have a reasonable likelihood of occurring within or adjacent to the site (Table 1).

Table 1. Protected Species with a Reasonable likelihood of Occurring Within or Adjacent to the Project Area

Common Name	Scientific Name	Status	Suitable Habitat Present? (Yes/No)	Species Observed? (Yes/No)
Birds				
Eastern black rail	<i>Laterallus jamaicensis jamaicensis</i>	FT	N	N
Audubon's crested caracara	<i>Polyborus plancus audubonii</i>	FT	N	N
Everglades snail kite	<i>Rostrhamus sociabilis plumbeus</i>	FE	N	N
Wood stork	<i>Mycteria americana</i>	FT	N	N
Florida scrub-jay	<i>Aphelocoma coerulescens</i>	FT	N	N
Rufa red knot	<i>Calidris canutus rufa</i>	FT	N	N
Reptiles				
Eastern indigo snake	<i>Drymarchon corais couperi</i>	FT	N	N
American crocodile	<i>Crocodylus acutus</i>	FT	N	N
Green sea turtle	<i>Chelonia mydas</i>	FT	N	N
Gopher tortoise	<i>Gopherus polyphemus</i>	C/ST	Y	Y
Insects				
Monarch butterfly	<i>Danaus plexippus</i>	PT/ST	Y	N

Notes: FT = federally threatened; FE = federally endangered; PT = proposed threatened; ST = state threatened

During the field visit, no natural habitats or undisturbed areas were observed. The area of investigation is previously developed land that is mowed and maintained. It primarily contains bahiagrass (*Paspalum notatum*) and Bermuda grass (*Cynodon dactylon*).

Based on the observations during the field visit, CDM Smith determined that of the protected species identified during the desktop evaluation, only the gopher tortoise and monarch butterfly have the potential to occur in the area of investigation. A further discussion of these species is provided below.

Gopher Tortoise

The area of investigation includes grasslands that are suitable habitat for gopher tortoise (*Gopherus polyphemus*). One active burrow was observed within the area of investigation (Figure 2). Therefore, future surveys of the project area are recommended to identify any new burrows. Avoidance of impacts to burrows is recommended. A 100-foot buffer (Figure 2) would help avoid impacts to the burrow during the proposed project. Additionally, silt fences around the construction area would help prevent the gopher tortoise from entering active construction areas. If the burrow cannot be avoided, then relocation may be required. All Florida Fish and Wildlife Conservation Commission regulations and guidelines should be followed.



Photograph 2. Gopher Tortoise and Burrow



Monarch Butterfly

The monarch butterfly is a migratory species with orange and black coloration. In Florida, monarchs utilize a variety of habitats, including open fields, grasslands, and areas with abundant milkweed—their larval host plant. The monarch is currently listed as proposed threatened at the federal level and state threatened in Florida. While no monarch butterflies were observed during the field investigation, suitable foraging habitat is present within the area of investigation, particularly in mowed and maintained grasslands. Conservation of milkweed and nectar sources is important for supporting local populations. Any future site activities should consider the presence of suitable habitat and avoid unnecessary disturbance to areas where milkweed or flowering plants are present, in alignment with best management practices for pollinator conservation.

Osprey

While ospreys (*Pandion haliaetus*) are not a state or federally listed threatened or endangered species, ospreys and their nests are protected under Florida Administrative Code (Rule 68A-4.001). During the December site visit, an osprey nest was observed on the property; however, no ospreys were present and the nest appeared inactive (Figure 2). Under the Migratory Bird Treaty Act and Florida Fish and Wildlife Conservation Commission (FWC) rules, active nests (containing eggs or chicks) are protected and cannot be disturbed without appropriate permits. Inactive nests may be removed without a permit, provided no birds are using the structure. The client should confirm nest inactivity prior to any work in the vicinity and document the observation. If future site activities occur during nesting season (typically December through August), the client should schedule a pre-construction survey to verify nest status and, if active, coordinate with FWC and USFWS for compliance before proceeding.



Photograph 3. Abandoned osprey nest.

Prime Agricultural Lands

The area of investigation is mapped as Palm Beach Sand and Welaka sand (**Attachment A** [NRCS 2025]). The project area is not listed as prime farmland based on National Resource Conservation Service data.

Summary and Recommendations

CDM Smith conducted a desktop and field ecological investigation in the 5.5-acre area of investigation to assess the presence of jurisdictional wetlands, surface waters, and protected species. No wetlands or surface waters were identified, and the site is characterized by mowed and maintained grassland dominated by bahiagrass and Bermuda grass. Of the protected species evaluated, only the gopher tortoise and monarch butterfly have the potential to occur within the project area. One active gopher tortoise burrow was observed, and suitable monarch butterfly habitat is present. An inactive osprey nest was also documented. It is recommended that future surveys be conducted to identify any new gopher tortoise burrows, and that a 100-foot buffer and silt fencing be implemented to avoid impacts to the gopher tortoise. If avoidance of gopher tortoise burrows is not possible, relocation in accordance with Florida Fish and Wildlife Conservation Commission guidelines will be required. Any future site activities should consider the presence of suitable habitat for the monarch butterfly and avoid unnecessary disturbance to areas where milkweed or flowering plants are present, in alignment with best management practices for pollinator conservation. Prior to any work near the osprey nest, its status should be confirmed, and if active, coordination with FWC and USFWS is advised. The area is not classified as prime farmland. Overall, the proposed project is expected to provide environmental benefit by reducing effluent discharge to the Indian River Lagoon, supporting the health of this vital estuarine ecosystem.

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Attachment A

FNAI Biodiversity Matrix Report

USFWS IPaC Database Report

NRCS Soils Map



1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
850-224-8207
850-681-9564 fax
www.fnai.org

FLORIDA
Natural Areas
INVENTORY

Florida Natural Areas Inventory

Biodiversity Matrix Query Results

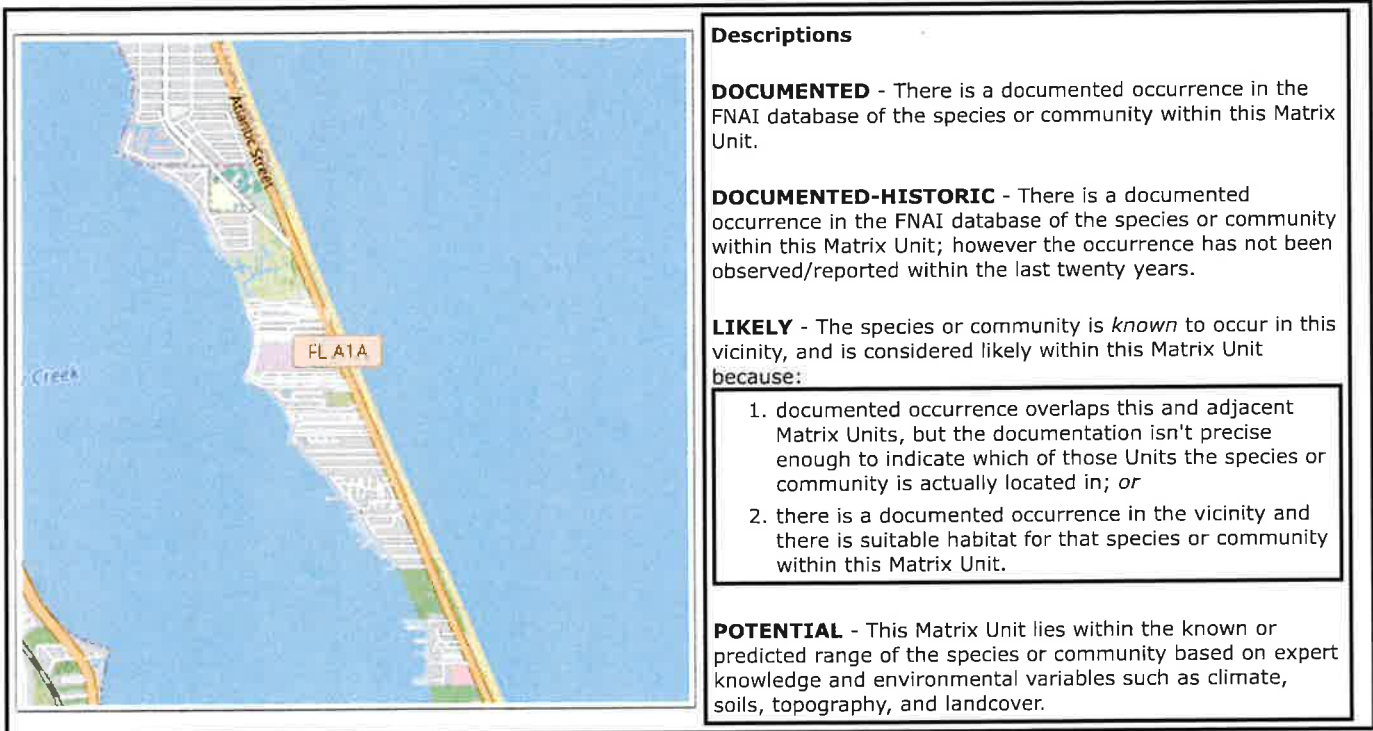
UNOFFICIAL REPORT

Created 11/11/2025

(Contact the FNAI Data Services Coordinator at 850.224.8207 or
kbrinegar@fnai.fsu.edu for information on an official Standard Data Report)

NOTE: The Biodiversity Matrix includes only rare species and natural communities tracked by FNAI.

Report for 1 Matrix Unit: 63272



Matrix Unit ID: 63272

1 Documented Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
<i>Dermochelys coriacea</i> Leatherback Sea Turtle	G2	S2	E	FE

0 Documented-Historic Elements Found

3 Likely Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
<i>Aphelocoma coerulescens</i> Florida Scrub-Jay	G2?	S1S2	T	FT
<i>Caretta caretta</i> Loggerhead Sea Turtle	G3	S3	T	FT

[Chelonia mydas](#)
Green Sea Turtle

G3

S2S3

T

FT

Matrix Unit ID: 63272**24 Potential Elements for Matrix Unit 63272**

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
<i>Acipenser oxyrinchus oxyrinchus</i> Atlantic Sturgeon	G3T3	S1	E	FE
Calopogon multiflorus many-flowered grass-pink	G2G3	S2S3	N	T
Centrosema arenicola sand butterfly pea	G2Q	S2	N	E
Charadrius melodus Piping Plover	G3	S2	T	FT
Conradina grandiflora large-flowered rosemary	G3	S3	N	T
<i>Ctenogobius stigmaturus</i> Spottail Goby	G2	S2	N	N
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Eretmochelys imbricata Hawksbill Sea Turtle	G3	S1	E	FE
<i>Glandularia maritima</i> coastal vervain	G3	S3	N	E
Gopherus polyphemus Gopher Tortoise	G3	S3	C	ST
Halophila johnsonii Johnson's seagrass	G2Q	S2	T	E
<i>Harrisia simpsonii</i> Simpson's prickly apple	G2	S2	N	N
Lechea cernua nodding pinweed	G3	S3	N	T
Lechea divaricata pine pinweed	G2	S2	N	E
<i>Mustela frenata peninsulae</i> Florida Long-tailed Weasel	G5T3?	S3?	N	N
Nemastylis floridana celestial lily	G2	S2	N	E
Nolina atopocarpa Florida beargrass	G3	S3	N	T
Peromyscus polionotus niveiventris Southeastern Beach Mouse	G5T1	S1	T	FT
<i>Rivulus marmoratus</i> Mangrove Rivulus	G4G5	S3	SC	N
Schizachyrium niveum scrub bluestem	G1G2	S1S2	N	E
<i>Setophaga discolor paludicola</i> Florida Prairie Warbler	G5T3	S3	N	N
Tephrosia angustissima var. curtissii coastal hoary-pea	G1T1	S1	N	E
<i>Trichechus manatus latirostris</i> Florida Manatee	G2G3T2	S2S3	T	N
Warea carteri Carter's warea	G1	S1	E	E

Disclaimer

The data maintained by the Florida Natural Areas Inventory represent the single most comprehensive source of information available on the locations of rare species and other significant ecological resources statewide. However, the data are not always based on comprehensive or site-specific field surveys. Therefore, this information should not be regarded as a final statement on the biological resources of the site being considered, nor should it be substituted for on-site surveys. FNAI shall not be held liable for the accuracy and completeness of these data, or opinions or conclusions drawn from these data. FNAI is not inviting reliance

on these data. Inventory data are designed for the purposes of conservation planning and scientific research and are not intended for use as the primary criteria for regulatory decisions.

Unofficial Report

These results are considered unofficial. FNAI offers a [Standard Data Request](#) option for those needing certifiable data.

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitats (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Brevard County, Florida



Local office

Florida Ecological Services Field Office

☎ (352) 448-9151

📠 (772) 562-4288

✉ fw4flesregs@fws.gov

777 37th St
Suite D-101
Vero Beach, FL 32960-3559

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME

STATUS

West Indian Manatee *Trichechus manatus*

Threatened

Wherever found

Marine mammal

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/4469>

Birds

NAME

STATUS

Crested Caracara (audubon's) [fl Dps] *Caracara plancus audubonii*

Threatened

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/8250>

Eastern Black Rail *Laterallus jamaicensis ssp. jamaicensis*

Threatened

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/10477>

Everglade Snail Kite *Rostrhamus sociabilis plumbeus*

Endangered

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/7713>

Florida Scrub-jay <i>Aphelocoma coerulescens</i>	Threatened
Wherever found	
No critical habitat has been designated for this species.	
https://ecos.fws.gov/ecp/species/6174	
Rufa Red Knot <i>Calidris canutus rufa</i>	Threatened
Wherever found	
There is proposed critical habitat for this species. Your location does not overlap the critical habitat.	
https://ecos.fws.gov/ecp/species/1864	
Wood Stork <i>Mycteria americana</i>	Threatened
No critical habitat has been designated for this species.	
https://ecos.fws.gov/ecp/species/8477	

Reptiles

NAME	STATUS
American Crocodile <i>Crocodylus acutus</i>	Threatened
There is final critical habitat for this species. Your location does not overlap the critical habitat.	
https://ecos.fws.gov/ecp/species/6604	
Eastern Indigo Snake <i>Drymarchon couperi</i>	Threatened
Wherever found	
No critical habitat has been designated for this species.	
https://ecos.fws.gov/ecp/species/646	
Green Sea Turtle <i>Chelonia mydas</i>	Threatened
There is proposed critical habitat for this species. Your location does not overlap the critical habitat.	
https://ecos.fws.gov/ecp/species/6199	

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i>	Proposed Threatened
Wherever found	
There is proposed critical habitat for this species. Your location does not overlap the critical habitat.	
https://ecos.fws.gov/ecp/species/9743	

Flowering Plants

NAME	STATUS
Carter's Mustard <i>Warea carteri</i>	Endangered
No critical habitat has been designated for this species.	
https://ecos.fws.gov/ecp/species/5583	
Lewton's Polygala <i>Polygala lewtonii</i>	Endangered
No critical habitat has been designated for this species.	
https://ecos.fws.gov/ecp/species/6688	

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act ² and the Migratory Bird Treaty Act (MBTA) ¹. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

There are Bald Eagles and/or Golden Eagles in your [project](#) area.

Measures for Proactively Minimizing Eagle Impacts

For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the [National Bald Eagle Management Guidelines](#). You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to [Bald Eagle Nesting and Sensitivity to Human Activity](#).

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

If disturbance or take of eagles cannot be avoided, an [incidental take permit](#) may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the [Do I Need A Permit Tool](#). For assistance making this determination for golden eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

Ensure Your Eagle List is Accurate and Complete

If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the [Supplemental Information on Migratory Birds and Eagles](#), to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

Review the FAQs

The FAQs below provide important additional information and resources.

NAME

Bald Eagle *Haliaeetus leucocephalus*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

BREEDING SEASON

Breeds Sep 1 to Jul 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read ["Supplemental Information on Migratory Birds and Eagles"](#), specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (🟡)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Bald & Golden Eagles FAQs

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are an eagle ([Bald and Golden Eagle Protection Act](#) requirements may apply).

Proper interpretation and use of your eagle report

On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort line or no data line (red horizontal) means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

How do I know if eagles are breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e., breeding, wintering, migrating, or resident), you may query your location using the [RAIL Tool](#) and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:

The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Migratory birds

The Migratory Bird Treaty Act (MBTA) ¹ prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

Measures for Proactively Minimizing Migratory Bird Impacts

Your IPaC Migratory Bird list showcases [birds of concern](#), including [Birds of Conservation Concern \(BCC\)](#), in your project location. This is not a comprehensive list of all birds found in your project area. However, you can help proactively minimize significant impacts to all birds at your project location by implementing the measures in the [Nationwide avoidance and minimization measures for birds](#) document, and any other project-specific avoidance and minimization measures suggested at the link [Measures for avoiding and minimizing impacts to birds](#) for the birds of concern on your list below.

Ensure Your Migratory Bird List is Accurate and Complete

If your project area is in a poorly surveyed area, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the [Supplemental Information on Migratory Birds and Eagles document](#), to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

Review the FAQs

The FAQs below provide important additional information and resources.

NAME

American Kestrel *Falco sparverius paulus*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
<https://ecos.fws.gov/ecp/species/9587>

BREEDING SEASON

Breeds Apr 1 to Aug 31

American Oystercatcher *Haematopus palliatus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
<https://ecos.fws.gov/ecp/species/8935>

Breeds Apr 15 to Aug 31

Bald Eagle *Haliaeetus leucocephalus*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Breeds Sep 1 to Jul 31

Black Skimmer *Rynchops niger*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/5234>

Breeds May 20 to Sep 15

Chimney Swift *Chaetura pelagica*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Mar 15 to Aug 25

Great Blue Heron *Ardea herodias occidentalis*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Breeds Jan 1 to Dec 31

Gull-billed Tern *Gelochelidon nilotica*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9501>

Breeds May 1 to Jul 31

Least Tern *Sternula antillarum antillarum*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Apr 25 to Sep 5

Lesser Yellowlegs *Tringa flavipes*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9679>

Breeds elsewhere

Magnificent Frigatebird *Fregata magnificens*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Breeds Oct 1 to Apr 30

Painted Bunting *Passerina ciris*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Breeds Apr 25 to Aug 15

Prairie Warbler *Setophaga discolor*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 1 to Jul 31

Red-headed Woodpecker *Melanerpes erythrocephalus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 10 to Sep 10

Reddish Egret *Egretta rufescens*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/7617>

Breeds Mar 1 to Sep 15

Ruddy Turnstone *Arenaria interpres morinella*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Breeds elsewhere

Semipalmated Sandpiper *Calidris pusilla*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Breeds elsewhere

Short-billed Dowitcher <i>Limnodromus griseus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Swallow-tailed Kite <i>Elanoides forficatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8938	Breeds Mar 10 to Jun 30
Whimbrel <i>Numenius phaeopus hudsonicus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Willet <i>Tringa semipalmata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5
Wilson's Plover <i>Charadrius wilsonia</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Aug 20

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



American Kestrel BCC - BCR												
American Oystercatcher BCC Rangewide (CON)												
Bald Eagle Non-BCC Vulnerable												
Black Skimmer BCC Rangewide (CON)												
Chimney Swift BCC Rangewide (CON)												
Great Blue Heron BCC - BCR												
Gull-billed Tern BCC Rangewide (CON)												
Least Tern BCC Rangewide (CON)												
Lesser Yellowlegs BCC Rangewide (CON)												
Magnificent Frigatebird BCC - BCR												
Painted Bunting BCC - BCR												
Prairie Warbler BCC Rangewide (CON)												
SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Red-headed Woodpecker BCC Rangewide (CON)												
Reddish Egret BCC Rangewide (CON)												
Ruddy Turnstone BCC - BCR												
Semipalmated Sandpiper BCC - BCR												
Short-billed Dowitcher BCC Rangewide (CON)												
Swallow-tailed Kite BCC Rangewide (CON)												
Whimbrel BCC - BCR												
Willet BCC Rangewide (CON)												
Wilson's Plover BCC Rangewide (CON)												

Migratory Bird FAQs

Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Avoidance & Minimization Measures for Birds](#) describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the [Bald and Golden Eagle Protection Act](#) and those species marked as "Vulnerable". See the FAQ "What are the levels of concern for migratory birds?" for more information on the levels of concern covered in the IPaC migratory bird species list.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) with which your project intersects. These species have been identified as warranting special attention because they are BCC species in that area, an eagle ([Bald and Golden Eagle Protection Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, and to verify survey effort when no results present, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

Why are subspecies showing up on my list?

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for the species are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the [RAIL Tool](#) and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern \(BCC\)](#) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Bald and Golden Eagle Protection Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ "Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Proper interpretation and use of your migratory bird report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list does not represent all birds present in your project area. It is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide implementation of avoidance and minimization measures to eliminate or reduce potential impacts from your project activities, should presence be confirmed. To learn more about avoidance and minimization measures, visit the FAQ "Tell me about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:

The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

NOT FOR CONSULTATION

Marine mammals

Marine mammals are protected under the [Marine Mammal Protection Act](#). Some are also protected under the Endangered Species Act¹ and the Convention on International Trade in Endangered Species of Wild Fauna and Flora².

The responsibilities for the protection, conservation, and management of marine mammals are shared by the U.S. Fish and Wildlife Service [responsible for otters, walrus, polar bears, manatees, and dugongs] and NOAA Fisheries³ [responsible for seals, sea lions, whales, dolphins, and porpoises]. Marine mammals under the responsibility of NOAA Fisheries are **not** shown on this list; for additional information on those species please visit the [Marine Mammals](#) page of the NOAA Fisheries website.

The Marine Mammal Protection Act prohibits the take of marine mammals and further coordination may be necessary for project evaluation. Please contact the U.S. Fish and Wildlife Service Field Office shown.

1. The [Endangered Species Act](#) (ESA) of 1973.
2. The [Convention on International Trade in Endangered Species of Wild Fauna and Flora](#) (CITES) is a treaty to ensure that international trade in plants and animals does not threaten their survival in the wild.
3. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following marine mammals under the responsibility of the U.S. Fish and Wildlife Service are potentially affected by activities in this location:

NAME

West Indian Manatee *Trichechus manatus*
<https://ecos.fws.gov/ecp/species/4469>

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

This location did not intersect any wetlands mapped by NWI.

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

Soil Map—Brevard County, Florida

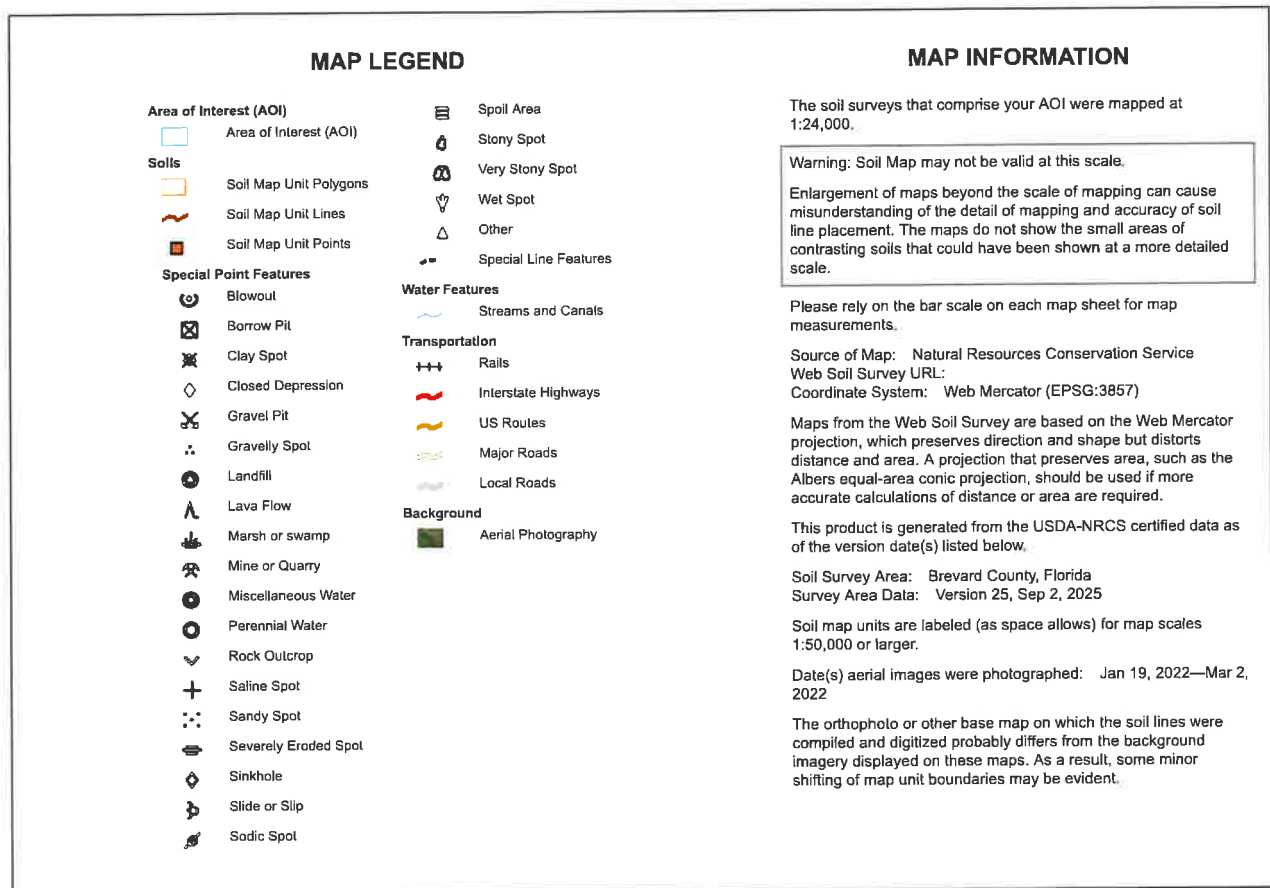


Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

12/16/2025
Page 1 of 3

Soil Map—Brevard County, Florida



Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
42	Palm Beach sand, 0 to 8 percent slopes	3.8	75.2%
72	Welaka sand	1.3	24.8%
Totals for Area of Interest		5.1	100.0%

Appendix B

Finance Plan for Deep Injection Well

CAPITAL FINANCING PLAN

Brevard County Utility Services

(Project Sponsor)

Edward Fontanin, PE, Utility Services Director

(Authorized Representative and Title)

Viera, Brevard, 32940

(City, State, and Zip Code)

Thierry Boveri, CGFM, Vice President, 407-628-2600

(Capital Financing Plan Contact, Title and Telephone Number)

341 N Maitland Ave, Maitland, FL 32751

(Mailing Address)

tboveri@raftelis.com

(Email Address)

Maitland, FL, 32751

(City, State, and Zip Code)

The Department needs to know about the financial capabilities of potential State Revolving Fund (SRF) loan applicants. Therefore, a financial capability demonstration (and certification is required well before the evaluation of the actual loan application).

The sources of revenues being dedicated to repayment of the SRF loan are Utility operating revenues (Note: Projects pledging utility operating revenues should attach a copy of the existing /proposed rate ordinance)

Estimation of Proposed SRF Loan Debt Service

Capital Cost [1]	\$ 23,230,000
Loan Service Fee (2% of Capital Cost)	\$ 464,600
Subtotal	\$ 23,694,600
Capitalized Interest [2]	\$ 216,806
Total Cost to be Amortized (Rounded)	\$ 23,911,406
Interest Rate [3]	1.22%
Annual Debt Service	\$ 1,350,980
Annual Debt Service Including Coverage Factor [4]	\$ 1,553,628

Notes:

[1] Capital Cost = Allowance + Construction Cost.

[2] Estimated based on linear draw of project amount over a 1.5 year construction period.

[3] Based on previous CFP interest rate submission. FY 25/26 Q2 reported CWSRF rate equals 1.22%.

[4] Coverage Factor is assumed at 1.15 recognizing that no impact fees are assumed within the Schedule of Revenue and Debt Service Coverage.

SCHEDULE OF EXISTING DEBT SERVICE AND DEBT EQUIVALENTS ^[1]

List annual debt service beginning two years before the anticipated loan agreement date and continuing at least fifteen fiscal years.
Use additional pages as necessary.

IDENTIFY EACH OBLIGATION

#1 Water & Wastewater Utility Revenue Bonds, Series 2014 Coverage % [2] 110% Revenue Pledge Lien Priority 1st Insured (Yes/No) Yes	#2 CW-051170 Coverage % 115% Revenue Pledge Lien Priority 2nd Insured (Yes/No) N/A	#3 WW05110 Coverage % 115% Revenue Pledge Lien Priority 2nd Insured (Yes/No) N/A
#4 CW-051130 Coverage % 115% Revenue Pledge Lien Priority 2nd Insured (Yes/No) N/A	#5 Estimate - SRF Loan 1 (CDM2) (Proposed) Coverage % 115% Insured (Yes/No) N/A	#6 Estimate - SRF Loan 2 (Jacobs) (Proposed) Coverage % 115% Insured (Yes/No) N/A
#7 Estimate - SRF Loan 3 (CDM1) (Proposed) Coverage % 115% Insured (Yes/No) N/A	#8 Estimate - SRF Loan 1 (WT) (Proposed) Coverage % 115% Insured (Yes/No) N/A	

Fiscal Year	Annual Debt Service (Principal + Interest)							
	Existing Loans				Projected Loans			
	Non-SRF	SRF			SRF			
	I	#2 ^[3]	#3 ^[3]	#4	#5 [4]	#6 [4]	#7[4]	#8[4]
2025	1,473,431	113,183	2,166,769	598,006	0	0	\$0	\$
2026	1,473,431	113,183	2,166,769	598,006	0	0	0	
2027	1,475,056	113,183	2,166,769	598,006	0	0	0	
2028	1,472,406	113,183	2,166,769	598,006	0	0	0	557,54
2029	1,474,156	113,183	2,166,769	598,006	492,909	647,491	1,350,980	1,115,08
2030	1,475,156	113,183	2,166,769	598,006	985,819	1,294,981	1,350,980	1,115,08
2031	1,475,406	113,183	2,166,769	598,006	985,819	1,294,981	1,350,980	1,115,08
2032	1,472,781	113,183	2,166,769	598,006	985,819	1,294,981	1,350,980	1,115,08
2033	1,474,344	113,183	2,166,769	598,006	985,819	1,294,981	1,350,980	1,115,08
2034	1,473,800	113,183	2,166,769	598,006	985,819	1,294,981	1,350,980	1,115,08
2035	1,471,075	113,183	2,166,769	598,006	985,819	1,294,981	1,350,980	1,115,08
2036	1,472,650	113,183	2,166,769	598,006	985,819	1,294,981	1,350,980	1,115,08
2037	1,472,200	113,183	2,166,769	598,006	985,819	1,294,981	1,350,980	1,115,08
2038	1,474,725	113,183	2,166,769	598,006	985,819	1,294,981	1,350,980	1,115,08
2039	1,475,000	113,183	2,166,769	598,006	985,819	1,294,981	1,350,980	1,115,08
2040	1,473,025	113,183	1,083,385	598,006	985,819	1,294,981	1,350,980	1,115,08
2041	1,473,800	113,183		299,003	985,819	1,294,981	1,350,980	1,115,08
2042	1,473,400	113,183			985,819	1,294,981	1,350,980	1,115,08
2043	1,471,000	113,183			985,819	1,294,981	1,350,980	1,115,08
2044	1,471,600	56,592			985,819	1,294,981	1,350,980	1,115,08
2045					985,819	1,294,981	1,350,980	1,115,08
2046					985,819	1,294,981	1,350,980	1,115,08
2047					985,819	1,294,981	1,350,980	1,115,08
2048					985,819	1,294,981	1,350,980	557,54
2049					492,909	647,491		
2050								
2051								
2052								
2053								
2054								

Footnote:

- [1] Reflects debt service schedules from outstanding bonds and active SRF loans. It should be noted that the projections contained herein do not reflect any additional debt service that may be contemplated or required to fund future capital pursuant to the County's Capital Improvement Plan.
- [2] Pursuant to the Bond Resolution authorizing the issuance of the outstanding Water and Wastewater Revenue Bonds, Series 2014, the county must:
- a) generate sufficient Net Revenue equal to or greater than 110% of the annual debt service of the outstanding bonds; and b) generate sufficient Net Revenues plus impact fees equal to or greater than 120% of the annual debt service of the outstanding bonds. For purposes of the CFP we have assumed the senior lien coverage requirement at 110% in recognition that no impact fees were assumed in the projections contained in the *Schedule of Projected Revenues and Debt Coverage for Pledged Revenue*.
- [3] Amounts shown reflect estimates and are subject to change based on completion of actual project cost and timing of completion.
- [4] Amounts shown reflect estimates of additional proposed SRF loans which would be submitted in parallel with the current submission.

SCHEDULE OF ACTUAL REVENUES AND DEBT COVERAGE FOR PLEDGED REVENUE

(Provide information for the two fiscal years preceding the anticipated date of the SRF loan agreement)

	<u>FY 23-24 ^[1]</u>	<u>FY 24-25 ^[1]</u>
(a) Operating Revenues (Identify)		
Charges for Service [2]	\$ 52,168,786	\$ 57,601,404
Other Operating Revenue	<u>-</u>	<u>-</u>
(b) Interest Income	<u>\$6,075,498</u>	<u>\$4,907,624</u>
(c) Other Incomes or Revenues	<u>\$0</u>	<u>\$0</u>
(d) Total Revenues	<u>\$58,244,284</u>	<u>\$62,509,028</u>
(e) Operating Expenses (excluding interest on debt, depreciation and other non-cash items)	<u>\$41,469,096</u>	<u>\$43,860,028</u>
(f) Net Revenues (f = d - e)	<u>\$16,775,188</u>	<u>\$18,649,000</u>
(g) Debt Service (including coverage) Excluding SRF Loans [3]	<u>\$1,618,849</u>	<u>\$1,620,774</u>
(h) Debt Service (including coverage) for Outstanding SRF Loans [3]	<u>\$3,179,491</u>	<u>\$3,193,528</u>
(i) Net Revenues After Debt Service (i = f - g - h)	<u>\$11,976,847</u>	<u>\$13,834,698</u>

Source:

Notes:

[1] Unless otherwise noted, amounts shown are derived from the County's audited financial statements for FY24 and unaudited budget to actuals document for FY25.

[2] The Board approved the following rate adjustments at the February 8, 2022 Public Hearing;

a. The water and sewer user rates will be indexed as follows effective each year:

2022 – 6.5%

2023 – 8.5%

2024 – 8.5%

2025 – 8.5%

2026 – 7.5%

Beginning and in all subsequent years, the water and sewer user rates shall automatically increase based on the actual change in the Consumer Price Index Sewer and Water Maintenance Index (S W M I)(U) based on the average of the Index from the previous 12 months (November to November).

[3] Amounts shown reflect debt service as noted in the prior *Schedule Of Debt Service And Debt Equivalents*.

**SCHEDULE OF PROJECTED REVENUES AND DEBT COVERAGE
FOR PLEDGED REVENUE**

	2026	2027	2028	2029	2030
(a) Operating Revenues Service Charges [1]	\$58,515,000	\$60,776,000	\$63,127,000	\$65,573,000	\$68,116,000
(b) Interest Income [2]	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000
(c) Other Incomes or Revenues (Identify) [3]	\$0	\$0	\$0	\$0	\$0
(d) Total Revenues	\$62,015,000	\$64,276,000	\$66,627,000	\$69,073,000	\$71,616,000
(e) Operating Expenses (excluding interest on debt, depreciation and other non-cash items) [4]	\$46,698,633	\$48,416,401	\$50,197,623	\$52,044,655	\$53,959,937
(f) Net Revenues (f = d - e)	\$15,316,367	\$15,859,599	\$16,429,377	\$17,028,345	\$17,656,063
(g) Existing Debt Service on Non-SRF Projects (including coverage) [5]	\$1,620,774	\$1,622,562	\$1,619,647	\$1,621,572	\$1,622,672
(h) Existing SRF Loan Debt Service (including coverage)	\$0	\$0	\$0	\$0	\$0
Total Existing Debt Service (i = g + h)	\$1,620,774	\$1,622,562	\$1,619,647	\$1,621,572	\$1,622,672
(j) Projected Debt Service on Non-SRF Future Projects (including coverage)	\$0	\$0	\$0	\$0	\$0
(k) Projected SRF Loan Debt Service (Other SRF Loans) (including coverage) [6]	\$3,309,652	\$3,309,652	\$3,950,828	\$5,903,465	\$7,214,925
(k) Projected SRF Loan Debt Service (This Loan) (including coverage) [6]	\$0	\$0	\$0	\$1,553,627	\$1,553,627
Total Debt Service (Existing and Projected) (l = i + j + k)	\$4,930,426	\$4,932,214	\$5,570,475	\$9,078,664	\$10,391,224
(m) Net Revenues After Debt Service (m = f - l) [7]	\$10,385,941	\$10,927,385	\$10,858,901	\$7,949,681	\$7,264,839

Source:

Notes:

- [1] Revenue projection for FY26 is assumes a 7.5% rate adjustment (adopted by the County) (pro rated for only 8 months since it is effective February 1st 2026) and for all future years 4.0% rate adjustments were assumed which is slightly below the 5 year average for the BLS water and sewerage maintenance index v the County adopted as its rate adjustment index for future years. Revenue projections exclude impact fees.
- [2] Includes interest income on unrestricted cash balances, which were assumed to be held constant during the forecast.
- [3] Although excluded from the projections, the County recovered on average approximately \$4.76 million in water and wastewater impact fees during the Fiscal Years 2024 and 2025. The County continues to charge new connections the impact fees.
- [4] Amounts are based on the County's adopted budget for operating expenses for the Fiscal Year 2026 and escalated thereafter at an average annual factor of approximately 3.7%.
- [5] Pursuant to the Bond Resolution authorizing the issuance of the outstanding Water and Wastewater Revenue Bonds, Series 2014, the county must:
a) generate sufficient Net Revenue equal to or greater than 110% of the annual debt service of the outstanding bonds; and b) generate sufficient Net Revenues plus impact fees equal to or greater than 120% of the annual debt service of the outstanding bonds. For purposes of the CFP we have assumed the senior lien coverage requirement at 110% in recognition that no impact fees were assumed in the projections contained in the Schedule of Projected Revenues and Debt Coverage for Pledged Revenue.
- [6] Amounts reflect the estimated annual debt service for the proposed SRF Loan.
- [7] For the purposes of full disclosure, the County budgets and funds: a) transfers to the general fund associated with Payment in Lieu of Taxes and b) capital outlay for minor units of equipment and vehicles. The following provides a forecast of net revenues after such transfers and payments:

Net Revenues After Debt	\$10,385,941	\$10,927,385	\$10,858,901	\$7,949,681	\$7,264,839
Less:					
Payment in Lieu of Taxes (PILOT)	\$1,754,149	\$1,754,149	\$1,754,149	\$1,754,149	\$1,754,149
Capital Outlay (Excludes Major Maintenance)	2,750,000	2,750,000	2,750,000	2,750,000	2,750,000
Net Available to Utility Reserve Fund	\$5,881,792	\$6,423,237	\$6,354,753	\$3,445,532	\$2,760,690

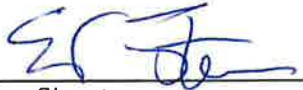
CERTIFICATION

I, Edward Fontanin, PE, certify that I have reviewed the information
Utility Services Department Director

included in the preceding capital financing plan worksheets, and to the best of my knowledge, this
information accurately reflects the financial capability of Brevard County Utility Services
Department,
Local Government

I further certify that Brevard County Utility Services Department
Local Government

adequate construction, operation, and maintenance of the system, including this SRF project.


Signature

MAR 18/26
Date

**Brevard County, Florida
Water and Wastewater Utility System**

Projected Debt Service Coverage Analysis III

Line No.	Description	Historical					Projected			
		2023	2024	2025	2026	2027	2028	2029	2030	2031
	Gross Revenues:									
1	Water User Service Fees [1]	\$ 1,687,730	\$ 1,862,189	\$ 2,213,092	\$ 2,324,000	\$ 2,417,000	\$ 2,514,000	\$ 2,615,000	\$ 2,720,000	\$ 2,829,000
2	Wastewater User Service Fees [2]	43,412,307	48,536,699	51,610,188	54,191,000	56,359,000	58,613,000	60,958,000	63,396,000	65,932,000
3	Other Revenues	1,534,020	2,111,651	2,307,012	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
4	Investment Earnings	2,259,620	3,836,317	4,121,471	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000
5	Transfers (to) / from Rate Stabilization Fund	-	-	-	-	-	-	-	-	-
6	Total	\$ 48,893,677	\$ 56,346,856	\$ 60,251,762	\$ 62,015,000	\$ 64,276,000	\$ 66,627,000	\$ 69,073,000	\$ 71,616,000	\$ 74,261,000
	Operating Expenses:									
7	Compensation and Benefits	\$ 12,015,751	\$ 14,045,840	\$ 16,022,308	\$ 16,663,201	\$ 17,329,729	\$ 18,022,918	\$ 18,743,834	\$ 19,493,588	\$ 20,273,331
8	Operating Expenses	21,313,536	28,337,664	29,019,741	30,035,432	31,086,672	32,174,706	33,300,820	34,466,349	35,672,671
9	Total	\$ 33,329,287	\$ 42,383,504	\$ 45,042,049	\$ 46,698,633	\$ 48,416,401	\$ 50,197,623	\$ 52,044,655	\$ 53,959,937	\$ 55,946,003
10	Net Revenues	\$ 15,564,390	\$ 13,963,351	\$ 15,209,713	\$ 15,316,367	\$ 15,859,599	\$ 16,429,377	\$ 17,028,345	\$ 17,656,063	\$ 18,314,997

Footnotes:

- [1] Projected water revenues are increased by the County adopted inflationary index (water and sewerage maintenance index) of 4%
- [2] Projected wastewater revenues are increased by the County adopted inflationary index (water and sewerage maintenance index) of 4%

Future Debt Work Paper

Estimate Debt Service Payment Schedule for Proposed Clean Wastewater SRF Loan

Loan Service Fee %	2.0%	Project Funding Amount:	\$19,232,000
Construction Period (Years)	1.00	SRF Loan Service Fee \$	\$384,640
Assumed Interest Rate:	1.22%	Estimated Capitalized Interest	\$119,662
Semiannual Payments:	40	Total Principal Amount:	\$19,736,302
			Semiannual Payment: <u>\$557,545</u>

Line No.	Estimated Payment Date	Fiscal Year of Cash Payment	Semiannual Payment	Beginning Balance	Principal Payment	Interest Payment	Total Payment	Ending Balance
1	5/1/2028	2028	1	\$19,736,302	\$437,153	\$120,391	\$557,545	\$19,299,148
2	11/1/2028	2029	2	19,299,148	439,820	117,725	557,545	18,859,328
3	5/1/2029	2029	3	18,859,328	442,503	115,042	557,545	18,416,825
4	11/1/2029	2030	4	18,416,825	445,202	112,343	557,545	17,971,623
5	5/1/2030	2030	5	17,971,623	447,918	109,627	557,545	17,523,705
6	11/1/2030	2031	6	17,523,705	450,650	106,895	557,545	17,073,055
7	5/1/2031	2031	7	17,073,055	453,399	104,146	557,545	16,619,656
8	11/1/2031	2032	8	16,619,656	456,165	101,380	557,545	16,163,491
9	5/1/2032	2032	9	16,163,491	458,947	98,597	557,545	15,704,544
10	11/1/2032	2033	10	15,704,544	461,747	95,798	557,545	15,242,797
11	5/1/2033	2033	11	15,242,797	464,564	92,981	557,545	14,778,233
12	11/1/2033	2034	12	14,778,233	467,398	90,147	557,545	14,310,836
13	5/1/2034	2034	13	14,310,836	470,249	87,296	557,545	13,840,587
14	11/1/2034	2035	14	13,840,587	473,117	84,428	557,545	13,367,470
15	5/1/2035	2035	15	13,367,470	476,003	81,542	557,545	12,891,467
16	11/1/2035	2036	16	12,891,467	478,907	78,638	557,545	12,412,560
17	5/1/2036	2036	17	12,412,560	481,828	75,717	557,545	11,930,732
18	11/1/2036	2037	18	11,930,732	484,767	72,777	557,545	11,445,965
19	5/1/2037	2037	19	11,445,965	487,724	69,820	557,545	10,958,240
20	11/1/2037	2038	20	10,958,240	490,699	66,845	557,545	10,467,541
21	5/1/2038	2038	21	10,467,541	493,693	63,852	557,545	9,973,848
22	11/1/2038	2039	22	9,973,848	496,704	60,840	557,545	9,477,144
23	5/1/2039	2039	23	9,477,144	499,734	57,811	557,545	8,977,409
24	11/1/2039	2040	24	8,977,409	502,783	54,762	557,545	8,474,627
25	5/1/2040	2040	25	8,474,627	505,850	51,695	557,545	7,968,777
26	11/1/2040	2041	26	7,968,777	508,935	48,610	557,545	7,459,842
27	5/1/2041	2041	27	7,459,842	512,040	45,505	557,545	6,947,802
28	11/1/2041	2042	28	6,947,802	515,163	42,382	557,545	6,432,639
29	5/1/2042	2042	29	6,432,639	518,306	39,239	557,545	5,914,334
30	11/1/2042	2043	30	5,914,334	521,467	36,077	557,545	5,392,866
31	5/1/2043	2043	31	5,392,866	524,648	32,896	557,545	4,868,218
32	11/1/2043	2044	32	4,868,218	527,849	29,696	557,545	4,340,370
33	5/1/2044	2044	33	4,340,370	531,068	26,476	557,545	3,809,301
34	11/1/2044	2045	34	3,809,301	534,308	23,237	557,545	3,274,993
35	5/1/2045	2045	35	3,274,993	537,567	19,977	557,545	2,737,426
36	11/1/2045	2046	36	2,737,426	540,846	16,698	557,545	2,196,579
37	5/1/2046	2046	37	2,196,579	544,146	13,399	557,545	1,652,434
38	11/1/2046	2047	38	1,652,434	547,465	10,080	557,545	1,104,969
39	5/1/2047	2047	39	1,104,969	550,804	6,740	557,545	554,164
40	11/1/2047	2048	40	554,164	554,164	3,380	557,545	(0)

Future Debt Work Paper

Estimate Debt Service Payment Schedule for Proposed Clean Wastewater SRF Loan

Loan Service Fee %	2.0%	Project Funding Amount:	\$22,200,000
Construction Period (Years)	2.00	SRF Loan Service Fee \$	\$444,000
Assumed Interest Rate:	1.22%	Estimated Capitalized Interest	\$276,257
Semiannual Payments:	40	Total Principal Amount:	\$22,920,257
Semiannual Payment:			<u>\$647,491</u>

Line No.	Estimated Payment Date	Fiscal Year of Cash Payment	Semiannual Payment	Beginning Balance	Principal Payment	Interest Payment	Total Payment	Ending Balance
1	5/30/2029	2029	1	\$22,920,257	\$507,677	\$139,814	\$647,491	\$22,412,580
2	11/30/2029	2030	2	22,412,580	510,774	136,717	647,491	21,901,806
3	5/30/2030	2030	3	21,901,806	513,890	133,601	647,491	21,387,916
4	11/30/2030	2031	4	21,387,916	517,024	130,466	647,491	20,870,892
5	5/30/2031	2031	5	20,870,892	520,178	127,312	647,491	20,350,714
6	11/30/2031	2032	6	20,350,714	523,351	124,139	647,491	19,827,363
7	5/30/2032	2032	7	19,827,363	526,544	120,947	647,491	19,300,819
8	11/30/2032	2033	8	19,300,819	529,756	117,735	647,491	18,771,064
9	5/30/2033	2033	9	18,771,064	532,987	114,503	647,491	18,238,077
10	11/30/2033	2034	10	18,238,077	536,238	111,252	647,491	17,701,838
11	5/30/2034	2034	11	17,701,838	539,509	107,981	647,491	17,162,329
12	11/30/2034	2035	12	17,162,329	542,800	104,690	647,491	16,619,529
13	5/30/2035	2035	13	16,619,529	546,111	101,379	647,491	16,073,417
14	11/30/2035	2036	14	16,073,417	549,443	98,048	647,491	15,523,975
15	5/30/2036	2036	15	15,523,975	552,794	94,696	647,491	14,971,180
16	11/30/2036	2037	16	14,971,180	556,166	91,324	647,491	14,415,014
17	5/30/2037	2037	17	14,415,014	559,559	87,932	647,491	13,855,455
18	11/30/2037	2038	18	13,855,455	562,972	84,518	647,491	13,292,483
19	5/30/2038	2038	19	13,292,483	566,406	81,084	647,491	12,726,076
20	11/30/2038	2039	20	12,726,076	569,861	77,629	647,491	12,156,215
21	5/30/2039	2039	21	12,156,215	573,338	74,153	647,491	11,582,877
22	11/30/2039	2040	22	11,582,877	576,835	70,656	647,491	11,006,042
23	5/30/2040	2040	23	11,006,042	580,354	67,137	647,491	10,425,688
24	11/30/2040	2041	24	10,425,688	583,894	63,597	647,491	9,841,795
25	5/30/2041	2041	25	9,841,795	587,456	60,035	647,491	9,254,339
26	11/30/2041	2042	26	9,254,339	591,039	56,451	647,491	8,663,300
27	5/30/2042	2042	27	8,663,300	594,644	52,846	647,491	8,068,655
28	11/30/2042	2043	28	8,068,655	598,272	49,219	647,491	7,470,384
29	5/30/2043	2043	29	7,470,384	601,921	45,569	647,491	6,868,463
30	11/30/2043	2044	30	6,868,463	605,593	41,898	647,491	6,262,870
31	5/30/2044	2044	31	6,262,870	609,287	38,204	647,491	5,653,583
32	11/30/2044	2045	32	5,653,583	613,004	34,487	647,491	5,040,579
33	5/30/2045	2045	33	5,040,579	616,743	30,748	647,491	4,423,836
34	11/30/2045	2046	34	4,423,836	620,505	26,985	647,491	3,803,331
35	5/30/2046	2046	35	3,803,331	624,290	23,200	647,491	3,179,040
36	11/30/2046	2047	36	3,179,040	628,098	19,392	647,491	2,550,942
37	5/30/2047	2047	37	2,550,942	631,930	15,561	647,491	1,919,012
38	11/30/2047	2048	38	1,919,012	635,785	11,706	647,491	1,283,228
39	5/30/2048	2048	39	1,283,228	639,663	7,828	647,491	643,565
40	11/30/2048	2049	40	643,565	643,565	3,926	647,491	0

Future Debt Work Paper

Estimate Debt Service Payment Schedule for Proposed Clean Wastewater SRF Loan

Loan Service Fee %	2.0%	Project Funding Amount:	\$23,230,000
Construction Period (Years)	1.50	SRF Loan Service Fee \$	\$464,600
Assumed Interest Rate:	1.22%	Estimated Capitalized Interest	\$216,806
Semiannual Payments:	40	Total Principal Amount:	\$23,911,406
		Semiannual Payment:	<u>\$675,490</u>

Line No.	Estimated Payment Date	Fiscal Year of Cash Payment	Semiannual Payment	Beginning Balance	Principal Payment	Interest Payment	Total Payment	Ending Balance
1	11/1/2028	2029	1	\$23,911,406	\$529,631	\$145,860	\$675,490	\$23,381,775
2	5/1/2029	2029	2	23,381,775	532,861	142,629	675,490	22,848,914
3	11/1/2029	2030	3	22,848,914	536,112	139,378	675,490	22,312,802
4	5/1/2030	2030	4	22,312,802	539,382	136,108	675,490	21,773,420
5	11/1/2030	2031	5	21,773,420	542,672	132,818	675,490	21,230,747
6	5/1/2031	2031	6	21,230,747	545,983	129,508	675,490	20,684,765
7	11/1/2031	2032	7	20,684,765	549,313	126,177	675,490	20,135,451
8	5/1/2032	2032	8	20,135,451	552,664	122,826	675,490	19,582,787
9	11/1/2032	2033	9	19,582,787	556,035	119,455	675,490	19,026,752
10	5/1/2033	2033	10	19,026,752	559,427	116,063	675,490	18,467,325
11	11/1/2033	2034	11	18,467,325	562,840	112,651	675,490	17,904,486
12	5/1/2034	2034	12	17,904,486	566,273	109,217	675,490	17,338,213
13	11/1/2034	2035	13	17,338,213	569,727	105,763	675,490	16,768,486
14	5/1/2035	2035	14	16,768,486	573,202	102,288	675,490	16,195,283
15	11/1/2035	2036	15	16,195,283	576,699	98,791	675,490	15,618,584
16	5/1/2036	2036	16	15,618,584	580,217	95,273	675,490	15,038,367
17	11/1/2036	2037	17	15,038,367	583,756	91,734	675,490	14,454,611
18	5/1/2037	2037	18	14,454,611	587,317	88,173	675,490	13,867,294
19	11/1/2037	2038	19	13,867,294	590,900	84,590	675,490	13,276,394
20	5/1/2038	2038	20	13,276,394	594,504	80,986	675,490	12,681,890
21	11/1/2038	2039	21	12,681,890	598,131	77,360	675,490	12,083,760
22	5/1/2039	2039	22	12,083,760	601,779	73,711	675,490	11,481,980
23	11/1/2039	2040	23	11,481,980	605,450	70,040	675,490	10,876,530
24	5/1/2040	2040	24	10,876,530	609,143	66,347	675,490	10,267,387
25	11/1/2040	2041	25	10,267,387	612,859	62,631	675,490	9,654,528
26	5/1/2041	2041	26	9,654,528	616,598	58,893	675,490	9,037,930
27	11/1/2041	2042	27	9,037,930	620,359	55,131	675,490	8,417,571
28	5/1/2042	2042	28	8,417,571	624,143	51,347	675,490	7,793,428
29	11/1/2042	2043	29	7,793,428	627,950	47,540	675,490	7,165,478
30	5/1/2043	2043	30	7,165,478	631,781	43,709	675,490	6,533,697
31	11/1/2043	2044	31	6,533,697	635,635	39,856	675,490	5,898,062
32	5/1/2044	2044	32	5,898,062	639,512	35,978	675,490	5,258,550
33	11/1/2044	2045	33	5,258,550	643,413	32,077	675,490	4,615,137
34	5/1/2045	2045	34	4,615,137	647,338	28,152	675,490	3,967,799
35	11/1/2045	2046	35	3,967,799	651,287	24,204	675,490	3,316,513
36	5/1/2046	2046	36	3,316,513	655,259	20,231	675,490	2,661,253
37	11/1/2046	2047	37	2,661,253	659,257	16,234	675,490	2,001,997
38	5/1/2047	2047	38	2,001,997	663,278	12,212	675,490	1,338,719
39	11/1/2047	2048	39	1,338,719	667,324	8,166	675,490	671,395
40	5/1/2048	2048	40	671,395	671,395	4,096	675,490	(0)

Future Debt Work Paper

Estimate Debt Service Payment Schedule for Proposed Clean Wastewater SRF Loan

Loan Service Fee %	2.0%	Project Funding Amount:	\$16,900,000
Construction Period (Years)	2.00	SRF Loan Service Fee \$	\$338,000
Assumed Interest Rate:	1.22%	Estimated Capitalized Interest	\$210,304
Semiannual Payments:	40	Total Principal Amount:	<u>\$17,448,304</u>
		Semiannual Payment:	<u><u>\$492,909</u></u>

Line No.	Estimated Payment Date	Fiscal Year of Cash Payment	Semiannual Payment	Beginning Balance	Principal Payment	Interest Payment	Total Payment	Ending Balance
1	6/30/2029	2029	1	\$17,448,304	\$386,475	\$106,435	\$492,909	\$17,061,829
2	12/30/2029	2030	2	17,061,829	388,832	104,077	492,909	16,672,996
3	6/30/2030	2030	3	16,672,996	391,204	101,705	492,909	16,281,792
4	12/30/2030	2031	4	16,281,792	393,591	99,319	492,909	15,888,202
5	6/30/2031	2031	5	15,888,202	395,991	96,918	492,909	15,492,210
6	12/30/2031	2032	6	15,492,210	398,407	94,502	492,909	15,093,803
7	6/30/2032	2032	7	15,093,803	400,837	92,072	492,909	14,692,966
8	12/30/2032	2033	8	14,692,966	403,282	89,627	492,909	14,289,684
9	6/30/2033	2033	9	14,289,684	405,742	87,167	492,909	13,883,941
10	12/30/2033	2034	10	13,883,941	408,217	84,692	492,909	13,475,724
11	6/30/2034	2034	11	13,475,724	410,708	82,202	492,909	13,065,016
12	12/30/2034	2035	12	13,065,016	413,213	79,697	492,909	12,651,803
13	6/30/2035	2035	13	12,651,803	415,733	77,176	492,909	12,236,070
14	12/30/2035	2036	14	12,236,070	418,269	74,640	492,909	11,817,800
15	6/30/2036	2036	15	11,817,800	420,821	72,089	492,909	11,396,980
16	12/30/2036	2037	16	11,396,980	423,388	69,522	492,909	10,973,592
17	6/30/2037	2037	17	10,973,592	425,971	66,939	492,909	10,547,621
18	12/30/2037	2038	18	10,547,621	428,569	64,340	492,909	10,119,052
19	6/30/2038	2038	19	10,119,052	431,183	61,726	492,909	9,687,869
20	12/30/2038	2039	20	9,687,869	433,813	59,096	492,909	9,254,055
21	6/30/2039	2039	21	9,254,055	436,460	56,450	492,909	8,817,596
22	12/30/2039	2040	22	8,817,596	439,122	53,787	492,909	8,378,474
23	6/30/2040	2040	23	8,378,474	441,801	51,109	492,909	7,936,673
24	12/30/2040	2041	24	7,936,673	444,496	48,414	492,909	7,492,177
25	6/30/2041	2041	25	7,492,177	447,207	45,702	492,909	7,044,970
26	12/30/2041	2042	26	7,044,970	449,935	42,974	492,909	6,595,035
27	6/30/2042	2042	27	6,595,035	452,680	40,230	492,909	6,142,355
28	12/30/2042	2043	28	6,142,355	455,441	37,468	492,909	5,686,914
29	6/30/2043	2043	29	5,686,914	458,219	34,690	492,909	5,228,694
30	12/30/2043	2044	30	5,228,694	461,014	31,895	492,909	4,767,680
31	6/30/2044	2044	31	4,767,680	463,827	29,083	492,909	4,303,853
32	12/30/2044	2045	32	4,303,853	466,656	26,254	492,909	3,837,197
33	6/30/2045	2045	33	3,837,197	469,503	23,407	492,909	3,367,695
34	12/30/2045	2046	34	3,367,695	472,367	20,543	492,909	2,895,328
35	6/30/2046	2046	35	2,895,328	475,248	17,662	492,909	2,420,080
36	12/30/2046	2047	36	2,420,080	478,147	14,762	492,909	1,941,933
37	6/30/2047	2047	37	1,941,933	481,064	11,846	492,909	1,460,870
38	12/30/2047	2048	38	1,460,870	483,998	8,911	492,909	976,872
39	6/30/2048	2048	39	976,872	486,951	5,959	492,909	489,921
40	12/30/2048	2049	40	489,921	489,921	2,989	492,909	(0)

Appendix C

Finance Plan for Deep Injection Well Effluent Pump Station

CAPITAL FINANCING PLAN

Brevard County Utility Services

(Project Sponsor)

Edward Fontanin, PE, Utility Services Director

(Authorized Representative and Title)

Viera, Brevard, 32940

(City, State, and Zip Code)

Thierry Boveri, CGFM, Vice President, 407-628-2600

(Capital Financing Plan Contact, Title and Telephone Number)

341 N Maitland Ave, Maitland, FL 32751

(Mailing Address)

tboveri@raftelis.com

(Email Address)

Maitland, FL, 32751

(City, State, and Zip Code)

The Department needs to know about the financial capabilities of potential State Revolving Fund (SRF) loan applicants. Therefore, a financial capability demonstration (and certification is required well before the evaluation of the actual loan application).

The sources of revenues being dedicated to repayment of the SRF loan are Utility operating revenues (Note: Projects pledging utility operating revenues should attach a copy of the existing /proposed rate ordinance)

Estimation of Proposed SRF Loan Debt Service

Capital Cost [1]	\$ 16,900,000
Loan Service Fee (2% of Capital Cost)	\$ 338,000
Subtotal	\$ 17,238,000
Capitalized Interest [2]	\$ 210,304
Total Cost to be Amortized (Rounded)	\$ 17,448,304
Interest Rate [3]	1.22%
Annual Debt Service	\$ 985,819
Annual Debt Service Including Coverage Factor [4]	\$ 1,133,692

Notes:

- [1] Capital Cost = Allowance + Construction Cost.
- [2] Estimated based on linear draw of project amount over a 2 year construction period.
- [3] Based on previous CFP interest rate submission. FY 25/26 Q2 reported CWSRF rate equals 1.22%.
- [4] Coverage Factor is assumed at 1.15 recognizing that no impact fees are assumed within the Schedule of Revenue and Debt Service Coverage.

SCHEDULE OF EXISTING DEBT SERVICE AND DEBT EQUIVALENTS ^[1]

List annual debt service beginning two years before the anticipated loan agreement date and continuing at least fifteen fiscal years.
Use additional pages as necessary.

IDENTIFY EACH OBLIGATION

#1 Water & Wastewater Utility Revenue Bonds, Series 2014 Coverage % [2] 110% Revenue Pledge Lien Priority 1st Insured (Yes/No) Yes	#2 CW-051170 Coverage % 115% Revenue Pledge Lien Priority 2nd Insured (Yes/No) N/A	#3 WW05110 Coverage % 115% Revenue Pledge Lien Prior 2nd Insured (Yes/No) N/A
#4 CW-051130 Coverage % 115% Revenue Pledge Lien Priority 2nd Insured (Yes/No) N/A	#5 Estimate - SRF Loan 1 (CDM2) (Proposed) Coverage % 115% Insured (Yes/No) N/A	#6 Estimate - SRF Loan 2 (Jacobs) (Proposed) Coverage % 115% Insured (Yes/No) N/A
#7 Estimate - SRF Loan 3 (CDM1) (Proposed) Coverage % 115% Insured (Yes/No) N/A	#8 Estimate - SRF Loan 1 (WT) (Proposed) Coverage % 115% Insured (Yes/No) N/A	

Fiscal Year	Annual Debt Service (Principal + Interest)							
	Existing Loans				Projected Loans			
	Non-SRF	SRF			SRF			
	1	#2 [3]	#3 [3]	#4	#5 [4]	#6 [4]	#7 [4]	#8 [4]
2025	1,473,431	113,183	2,166,769	598,006	0	0	\$0	\$
2026	1,473,431	113,183	2,166,769	598,006	0	0	0	
2027	1,475,056	113,183	2,166,769	598,006	0	0	0	
2028	1,472,406	113,183	2,166,769	598,006	0	0	0	557,54
2029	1,474,156	113,183	2,166,769	598,006	492,909	647,491	1,350,980	1,115,08
2030	1,475,156	113,183	2,166,769	598,006	985,819	1,294,981	1,350,980	1,115,08
2031	1,475,406	113,183	2,166,769	598,006	985,819	1,294,981	1,350,980	1,115,08
2032	1,472,781	113,183	2,166,769	598,006	985,819	1,294,981	1,350,980	1,115,08
2033	1,474,344	113,183	2,166,769	598,006	985,819	1,294,981	1,350,980	1,115,08
2034	1,473,800	113,183	2,166,769	598,006	985,819	1,294,981	1,350,980	1,115,08
2035	1,471,075	113,183	2,166,769	598,006	985,819	1,294,981	1,350,980	1,115,08
2036	1,472,650	113,183	2,166,769	598,006	985,819	1,294,981	1,350,980	1,115,08
2037	1,472,200	113,183	2,166,769	598,006	985,819	1,294,981	1,350,980	1,115,08
2038	1,474,725	113,183	2,166,769	598,006	985,819	1,294,981	1,350,980	1,115,08
2039	1,475,000	113,183	2,166,769	598,006	985,819	1,294,981	1,350,980	1,115,08
2040	1,473,025	113,183	1,083,385	598,006	985,819	1,294,981	1,350,980	1,115,08
2041	1,473,800	113,183		299,003	985,819	1,294,981	1,350,980	1,115,08
2042	1,473,400	113,183			985,819	1,294,981	1,350,980	1,115,08
2043	1,471,000	113,183			985,819	1,294,981	1,350,980	1,115,08
2044	1,471,600	56,592			985,819	1,294,981	1,350,980	1,115,08
2045					985,819	1,294,981	1,350,980	1,115,08
2046					985,819	1,294,981	1,350,980	1,115,08
2047					985,819	1,294,981	1,350,980	1,115,08
2048					985,819	1,294,981	1,350,980	557,54
2049					492,909	647,491		
2050								
2051								
2052								
2053								
2054								

Footnote:

- [1] Reflects debt service schedules from outstanding bonds and active SRF loans. It should be noted that the projections contained herein do not reflect any additional debt service that may be contemplated or required to fund future capital pursuant to the County's Capital Improvement Plan.
- [2] Pursuant to the Bond Resolution authorizing the issuance of the outstanding Water and Wastewater Revenue Bonds, Series 2014, the county must:
- a) generate sufficient Net Revenue equal to or greater than 110% of the annual debt service of the outstanding bonds; and b) generate sufficient Net Revenues plus impact fees equal to or greater than 120% of the annual debt service of the outstanding bonds. For purposes of the CFP we have assumed the senior lien coverage requirement at 110% in recognition that no impact fees were assumed in the projections contained in the *Schedule of Projected Revenues and Debt Coverage for Pledged Revenue*.
- [3] Amounts shown reflect estimates and are subject to change based on completion of actual project cost and timing of completion.
- [4] Amounts shown reflect estimates of additional proposed SRF loans which would be submitted in parallel with the current submission.

SCHEDULE OF ACTUAL REVENUES AND DEBT COVERAGE FOR PLEDGED REVENUE

(Provide information for the two fiscal years preceding the anticipated date of the SRF loan agreement)

	<u>FY 23-24</u> ^[1]	<u>FY 24-25</u> ^[1]
(a) Operating Revenues (Identify)		
Charges for Service [2]	\$ 52,168,786	\$ 57,601,404
Other Operating Revenue	<u> -</u>	<u> -</u>
(b) Interest Income	<u>\$6,075,498</u>	<u>\$4,907,624</u>
(c) Other Incomes or Revenues	<u>\$0</u>	<u>\$0</u>
(d) Total Revenues	<u>\$58,244,284</u>	<u>\$62,509,028</u>
(e) Operating Expenses (excluding interest on debt, depreciation and other non-cash items)	<u>\$41,469,096</u>	<u>\$43,860,028</u>
(f) Net Revenues (f = d - e)	<u>\$16,775,188</u>	<u>\$18,649,000</u>
(g) Debt Service (including coverage) Excluding SRF Loans [3]	<u>\$1,618,849</u>	<u>\$1,620,774</u>
(h) Debt Service (including coverage) for Outstanding SRF Loans [3]	<u>\$3,179,491</u>	<u>\$3,193,528</u>
(i) Net Revenues After Debt Service (i = f - g - h)	\$11,976,847	\$13,834,698

Source:

Notes:

[1] Unless otherwise noted, amounts shown are derived from the County's audited financial statements for FY24 and unaudited budget to actuals document for FY25.

[2] The Board approved the following rate adjustments at the February 8, 2022 Public Hearing;

a. The water and sewer user rates will be indexed as follows effective each year:

2022 – 6.5%

2023 – 8.5%

2024 – 8.5%

2025 – 8.5%

2026 – 7.5%

Beginning and in all subsequent years, the water and sewer user rates shall automatically increase based on the actual change in the Consumer Price Index Sewer and Water Maintenance Index (S W M I)(U) based on the average of the index from the previous 12 months (November to November).

[3] Amounts shown reflect debt service as noted in the prior *Schedule Of Debt Service And Debt Equivalents*.

**SCHEDULE OF PROJECTED REVENUES AND DEBT COVERAGE
FOR PLEDGED REVENUE**

	2026	2027	2028	2029	2030
(a) Operating Revenues Service Charges [1]	\$58,515,000	\$60,776,000	\$63,127,000	\$65,573,000	\$68,116,000
(b) Interest Income [2]	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000
(c) Other Incomes or Revenues (Identify) [3]	\$0	\$0	\$0	\$0	\$0
(d) Total Revenues	\$62,015,000	\$64,276,000	\$66,627,000	\$69,073,000	\$71,616,000
(e) Operating Expenses (excluding interest on debt, depreciation and other non-cash items) [4]	\$46,698,633	\$48,416,401	\$50,197,623	\$52,044,655	\$53,959,937
(f) Net Revenues (f = d - e)	\$15,316,367	\$15,859,599	\$16,429,377	\$17,028,345	\$17,656,063
(g) Existing Debt Service on Non-SRF Projects (including coverage) [5]	\$1,620,774	\$1,622,562	\$1,619,647	\$1,621,572	\$1,622,672
(h) Existing SRF Loan Debt Service (including coverage)	\$0	\$0	\$0	\$0	\$0
Total Existing Debt Service (i = g + h)	\$1,620,774	\$1,622,562	\$1,619,647	\$1,621,572	\$1,622,672
(j) Projected Debt Service on Non-SRF Future Projects (including coverage)	\$0	\$0	\$0	\$0	\$0
(k) Projected SRF Loan Debt Service (Other SRF Loans) (including coverage) [6]	\$3,309,652	\$3,309,652	\$3,950,828	\$6,890,246	\$7,634,861
(l) Projected SRF Loan Debt Service (This Loan) (including coverage)	\$0	\$0	\$0	\$566,846	\$1,133,692
Total Debt Service (Existing and Projected) (m = i + j + k+l)	\$4,930,426	\$4,932,214	\$5,570,475	\$9,078,664	\$10,391,224
(n) Net Revenues After Debt Service (n = f - m) [7]	\$10,385,941	\$10,927,385	\$10,858,901	\$7,949,681	\$7,264,839

Source:

Notes:

- [1] Revenue projection for FY26 is assumes a 7.5% rate adjustment (adopted by the County) (pro rated for only 8 months since it is effective February 1st 2026) and for all future years 4.0% rate adjustments were assumed which is slightly below the 5 year average for the BLS water and sewerage maintenance index w the County adopted as its rate adjustment index for future years. Revenue projections exclude impact fees.
- [2] Includes interest income on unrestricted cash balances, which were assumed to be held constant during the forecast.
- [3] Although excluded from the projections, the County recovered on average approximately \$4.76 million in water and wastewater impact fees during the Fiscal Years 2024 and 2025. The County continues to charge new connections the impact fees.
- [4] Amounts are based on the County's adopted budget for operating expenses for the Fiscal Year 2026 and escalated thereafter at an average annual factor of approximately 3.7%.
- [5] Pursuant to the Bond Resolution authorizing the issuance of the outstanding Water and Wastewater Revenue Bonds, Series 2014, the county must:
a) generate sufficient Net Revenue equal to or greater than 110% of the annual debt service of the outstanding bonds; and b) generate sufficient Net Revenues plus impact fees equal to or greater than 120% of the annual debt service of the outstanding bonds. For purposes of the CFP we have assumed the senior lien coverage requirement at 110% in recognition that no impact fees were assumed in the projections contained in the Schedule of Projected Revenues and Debt Coverage for Pledged Revenue.
- [6] Amounts reflect the estimated annual debt service for the proposed SRF Loan.
- [7] For the purposes of full disclosure, the County budgets and funds: a) transfers to the general fund associated with Payment in Lieu of Taxes and b) capital outlay for minor units of equipment and vehicles. The following provides a forecast of net revenues after such transfers and payments:

Net Revenues After Debt	\$10,385,941	\$10,927,385	\$10,858,901	\$7,949,681	\$7,264,839
Less:					
Payment in Lieu of Taxes (PILOT)	\$1,754,149	\$1,754,149	\$1,754,149	\$1,754,149	\$1,754,149
Capital Outlay (Excludes Major Maintenance)	2,750,000	2,750,000	2,750,000	2,750,000	2,750,000
Net Available to Utility Reserve Fund	\$5,881,792	\$6,423,237	\$6,354,753	\$3,445,532	\$2,760,690

CERTIFICATION

I, Edward Fontanin, PE, certify that I have reviewed the information
Utility Services Department Director

included in the preceding capital financing plan worksheets, and to the best of my knowledge, this
information accurately reflects the financial capability of Brevard County Utility Services
Department,
Local Government

I further certify that Brevard County Utility Services Department
Local Government

adequate construction, operation, and maintenance of the system, including this SRF project.


Signature

MAR 18/26
Date

**Brevard County, Florida
Water and Wastewater Utility System**

Projected Debt Service Coverage Analysis [1]

Line No.	Description	Historical				Projected				
		2023	2024	2025	2026	2027	2028	2029	2030	2031
	Gross Revenues:									
1	Water User Service Fees [1]	\$ 1,687,730	\$ 1,862,189	\$ 2,213,092	\$ 2,324,000	\$ 2,417,000	\$ 2,514,000	\$ 2,615,000	\$ 2,720,000	\$ 2,829,000
2	Wastewater User Service Fees [2]	43,412,307	48,536,699	\$ 51,610,188	54,191,000	56,359,000	58,613,000	60,958,000	63,396,000	65,932,000
3	Other Revenues	1,534,020	2,111,651	\$ 2,307,012	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
4	Investment Earnings	2,359,620	3,836,317	\$ 4,121,471	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000
5	Transfers (to) / from Rate Stabilization Fund	-	-	-	-	-	-	-	-	-
6	Total	\$ 48,893,677	\$ 56,346,856	\$ 60,251,762	\$ 62,015,000	\$ 64,276,000	\$ 66,627,000	\$ 69,073,000	\$ 71,616,000	\$ 74,261,000
	Operating Expenses:									
7	Compensation and Benefits	\$ 12,015,751	\$ 14,045,840	\$ 16,022,308	\$ 16,663,201	\$ 17,329,729	\$ 18,022,918	\$ 18,743,834	\$ 19,493,588	\$ 20,273,331
8	Operating Expenses	21,313,536	28,337,664	\$ 29,019,741	30,035,432	31,086,672	32,174,706	33,300,820	34,466,349	35,672,671
9	Total	\$ 33,329,287	\$ 42,383,504	\$ 45,042,049	\$ 46,698,633	\$ 48,416,401	\$ 50,197,623	\$ 52,044,655	\$ 53,959,937	\$ 55,946,003
10	Net Revenues	\$ 15,564,390	\$ 13,963,351	\$ 15,209,713	\$ 15,316,367	\$ 15,859,599	\$ 16,429,377	\$ 17,028,345	\$ 17,656,063	\$ 18,314,997

Footnotes:

- [1] Projected water revenues are increased by the County adopted inflationary index (water and sewerage maintenance index) of 4%
- [2] Projected wastewater revenues are increased by the County adopted inflationary index (water and sewerage maintenance index) of 4%

Future Debt Work Paper

Estimate Debt Service Payment Schedule for Proposed Clean Wastewater SRF Loan

Loan Service Fee %	2.0%	Project Funding Amount:	\$19,232,000
Construction Period (Years)	1.00	SRF Loan Service Fee \$	\$384,640
Assumed Interest Rate:	1.22%	Estimated Capitalized Interest	\$119,662
Semiannual Payments:	40	Total Principal Amount:	\$19,736,302
		Semiannual Payment:	<u>\$557,545</u>

Line No.	Estimated Payment Date	Fiscal Year of Cash Payment	Semiannual Payment	Beginning Balance	Principal Payment	Interest Payment	Total Payment	Ending Balance
1	5/1/2028	2028	1	\$19,736,302	\$437,153	\$120,391	\$557,545	\$19,299,148
2	11/1/2028	2029	2	19,299,148	439,820	117,725	557,545	18,859,328
3	5/1/2029	2029	3	18,859,328	442,503	115,042	557,545	18,416,825
4	11/1/2029	2030	4	18,416,825	445,202	112,343	557,545	17,971,623
5	5/1/2030	2030	5	17,971,623	447,918	109,627	557,545	17,523,705
6	11/1/2030	2031	6	17,523,705	450,650	106,895	557,545	17,073,055
7	5/1/2031	2031	7	17,073,055	453,399	104,146	557,545	16,619,656
8	11/1/2031	2032	8	16,619,656	456,165	101,380	557,545	16,163,491
9	5/1/2032	2032	9	16,163,491	458,947	98,597	557,545	15,704,544
10	11/1/2032	2033	10	15,704,544	461,747	95,798	557,545	15,242,797
11	5/1/2033	2033	11	15,242,797	464,564	92,981	557,545	14,778,233
12	11/1/2033	2034	12	14,778,233	467,398	90,147	557,545	14,310,836
13	5/1/2034	2034	13	14,310,836	470,249	87,296	557,545	13,840,587
14	11/1/2034	2035	14	13,840,587	473,117	84,428	557,545	13,367,470
15	5/1/2035	2035	15	13,367,470	476,003	81,542	557,545	12,891,467
16	11/1/2035	2036	16	12,891,467	478,907	78,638	557,545	12,412,560
17	5/1/2036	2036	17	12,412,560	481,828	75,717	557,545	11,930,732
18	11/1/2036	2037	18	11,930,732	484,767	72,777	557,545	11,445,965
19	5/1/2037	2037	19	11,445,965	487,724	69,820	557,545	10,958,240
20	11/1/2037	2038	20	10,958,240	490,699	66,845	557,545	10,467,541
21	5/1/2038	2038	21	10,467,541	493,693	63,852	557,545	9,973,848
22	11/1/2038	2039	22	9,973,848	496,704	60,840	557,545	9,477,144
23	5/1/2039	2039	23	9,477,144	499,734	57,811	557,545	8,977,409
24	11/1/2039	2040	24	8,977,409	502,783	54,762	557,545	8,474,627
25	5/1/2040	2040	25	8,474,627	505,850	51,695	557,545	7,968,777
26	11/1/2040	2041	26	7,968,777	508,935	48,610	557,545	7,459,842
27	5/1/2041	2041	27	7,459,842	512,040	45,505	557,545	6,947,802
28	11/1/2041	2042	28	6,947,802	515,163	42,382	557,545	6,432,639
29	5/1/2042	2042	29	6,432,639	518,306	39,239	557,545	5,914,334
30	11/1/2042	2043	30	5,914,334	521,467	36,077	557,545	5,392,866
31	5/1/2043	2043	31	5,392,866	524,648	32,896	557,545	4,868,218
32	11/1/2043	2044	32	4,868,218	527,849	29,696	557,545	4,340,370
33	5/1/2044	2044	33	4,340,370	531,068	26,476	557,545	3,809,301
34	11/1/2044	2045	34	3,809,301	534,308	23,237	557,545	3,274,993
35	5/1/2045	2045	35	3,274,993	537,567	19,977	557,545	2,737,426
36	11/1/2045	2046	36	2,737,426	540,846	16,698	557,545	2,196,579
37	5/1/2046	2046	37	2,196,579	544,146	13,399	557,545	1,652,434
38	11/1/2046	2047	38	1,652,434	547,465	10,080	557,545	1,104,969
39	5/1/2047	2047	39	1,104,969	550,804	6,740	557,545	554,164
40	11/1/2047	2048	40	554,164	554,164	3,380	557,545	(0)

Future Debt Work Paper

Estimate Debt Service Payment Schedule for Proposed Clean Wastewater SRF Loan

Loan Service Fee %	2.0%	Project Funding Amount:	\$22,200,000
Construction Period (Years)	2.00	SRF Loan Service Fee \$	\$444,000
Assumed Interest Rate:	1.22%	Estimated Capitalized Interest	\$276,257
Semiannual Payments:	40	Total Principal Amount:	\$22,920,257
		Semiannual Payment:	<u><u>\$647,491</u></u>

Line No.	Estimated Payment Date	Fiscal Year of Cash Payment	Semiannual Payment	Beginning Balance	Principal Payment	Interest Payment	Total Payment	Ending Balance
1	5/30/2029	2029	1	\$22,920,257	\$507,677	\$139,814	\$647,491	\$22,412,580
2	11/30/2029	2030	2	22,412,580	510,774	136,717	647,491	21,901,806
3	5/30/2030	2030	3	21,901,806	513,890	133,601	647,491	21,387,916
4	11/30/2030	2031	4	21,387,916	517,024	130,466	647,491	20,870,892
5	5/30/2031	2031	5	20,870,892	520,178	127,312	647,491	20,350,714
6	11/30/2031	2032	6	20,350,714	523,351	124,139	647,491	19,827,363
7	5/30/2032	2032	7	19,827,363	526,544	120,947	647,491	19,300,819
8	11/30/2032	2033	8	19,300,819	529,756	117,735	647,491	18,771,064
9	5/30/2033	2033	9	18,771,064	532,987	114,503	647,491	18,238,077
10	11/30/2033	2034	10	18,238,077	536,238	111,252	647,491	17,701,838
11	5/30/2034	2034	11	17,701,838	539,509	107,981	647,491	17,162,329
12	11/30/2034	2035	12	17,162,329	542,800	104,690	647,491	16,619,529
13	5/30/2035	2035	13	16,619,529	546,111	101,379	647,491	16,073,417
14	11/30/2035	2036	14	16,073,417	549,443	98,048	647,491	15,523,975
15	5/30/2036	2036	15	15,523,975	552,794	94,696	647,491	14,971,180
16	11/30/2036	2037	16	14,971,180	556,166	91,324	647,491	14,415,014
17	5/30/2037	2037	17	14,415,014	559,559	87,932	647,491	13,855,455
18	11/30/2037	2038	18	13,855,455	562,972	84,518	647,491	13,292,483
19	5/30/2038	2038	19	13,292,483	566,406	81,084	647,491	12,726,076
20	11/30/2038	2039	20	12,726,076	569,861	77,629	647,491	12,156,215
21	5/30/2039	2039	21	12,156,215	573,338	74,153	647,491	11,582,877
22	11/30/2039	2040	22	11,582,877	576,835	70,656	647,491	11,006,042
23	5/30/2040	2040	23	11,006,042	580,354	67,137	647,491	10,425,688
24	11/30/2040	2041	24	10,425,688	583,894	63,597	647,491	9,841,795
25	5/30/2041	2041	25	9,841,795	587,456	60,035	647,491	9,254,339
26	11/30/2041	2042	26	9,254,339	591,039	56,451	647,491	8,663,300
27	5/30/2042	2042	27	8,663,300	594,644	52,846	647,491	8,068,655
28	11/30/2042	2043	28	8,068,655	598,272	49,219	647,491	7,470,384
29	5/30/2043	2043	29	7,470,384	601,921	45,569	647,491	6,868,463
30	11/30/2043	2044	30	6,868,463	605,593	41,898	647,491	6,262,870
31	5/30/2044	2044	31	6,262,870	609,287	38,204	647,491	5,653,583
32	11/30/2044	2045	32	5,653,583	613,004	34,487	647,491	5,040,579
33	5/30/2045	2045	33	5,040,579	616,743	30,748	647,491	4,423,836
34	11/30/2045	2046	34	4,423,836	620,505	26,985	647,491	3,803,331
35	5/30/2046	2046	35	3,803,331	624,290	23,200	647,491	3,179,040
36	11/30/2046	2047	36	3,179,040	628,098	19,392	647,491	2,550,942
37	5/30/2047	2047	37	2,550,942	631,930	15,561	647,491	1,919,012
38	11/30/2047	2048	38	1,919,012	635,785	11,706	647,491	1,283,228
39	5/30/2048	2048	39	1,283,228	639,663	7,828	647,491	643,565
40	11/30/2048	2049	40	643,565	643,565	3,926	647,491	0

Future Debt Work Paper

Estimate Debt Service Payment Schedule for Proposed Clean Wastewater SRF Loan

Loan Service Fee %	2.0%	Project Funding Amount:	\$23,230,000
Construction Period (Years)	1.50	SRF Loan Service Fee \$	\$464,600
Assumed Interest Rate:	1.22%	Estimated Capitalized Interest	\$216,806
Semiannual Payments:	40	Total Principal Amount:	<u>\$23,911,406</u>
		Semiannual Payment:	<u><u>\$675,490</u></u>

Linc No.	Estimated Payment Date	Fiscal Year of Cash Payment	Semiannual Payment	Beginning Balance	Principal Payment	Interest Payment	Total Payment	Ending Balance
1	11/1/2028	2029	1	\$23,911,406	\$529,631	\$145,860	\$675,490	\$23,381,775
2	5/1/2029	2029	2	23,381,775	532,861	142,629	675,490	22,848,914
3	11/1/2029	2030	3	22,848,914	536,112	139,378	675,490	22,312,802
4	5/1/2030	2030	4	22,312,802	539,382	136,108	675,490	21,773,420
5	11/1/2030	2031	5	21,773,420	542,672	132,818	675,490	21,230,747
6	5/1/2031	2031	6	21,230,747	545,983	129,508	675,490	20,684,765
7	11/1/2031	2032	7	20,684,765	549,313	126,177	675,490	20,135,451
8	5/1/2032	2032	8	20,135,451	552,664	122,826	675,490	19,582,787
9	11/1/2032	2033	9	19,582,787	556,035	119,455	675,490	19,026,752
10	5/1/2033	2033	10	19,026,752	559,427	116,063	675,490	18,467,325
11	11/1/2033	2034	11	18,467,325	562,840	112,651	675,490	17,904,486
12	5/1/2034	2034	12	17,904,486	566,273	109,217	675,490	17,338,213
13	11/1/2034	2035	13	17,338,213	569,727	105,763	675,490	16,768,486
14	5/1/2035	2035	14	16,768,486	573,202	102,288	675,490	16,195,283
15	11/1/2035	2036	15	16,195,283	576,699	98,791	675,490	15,618,584
16	5/1/2036	2036	16	15,618,584	580,217	95,273	675,490	15,038,367
17	11/1/2036	2037	17	15,038,367	583,756	91,734	675,490	14,454,611
18	5/1/2037	2037	18	14,454,611	587,317	88,173	675,490	13,867,294
19	11/1/2037	2038	19	13,867,294	590,900	84,590	675,490	13,276,394
20	5/1/2038	2038	20	13,276,394	594,504	80,986	675,490	12,681,890
21	11/1/2038	2039	21	12,681,890	598,131	77,360	675,490	12,083,760
22	5/1/2039	2039	22	12,083,760	601,779	73,711	675,490	11,481,980
23	11/1/2039	2040	23	11,481,980	605,450	70,040	675,490	10,876,530
24	5/1/2040	2040	24	10,876,530	609,143	66,347	675,490	10,267,387
25	11/1/2040	2041	25	10,267,387	612,859	62,631	675,490	9,654,528
26	5/1/2041	2041	26	9,654,528	616,598	58,893	675,490	9,037,930
27	11/1/2041	2042	27	9,037,930	620,359	55,131	675,490	8,417,571
28	5/1/2042	2042	28	8,417,571	624,143	51,347	675,490	7,793,428
29	11/1/2042	2043	29	7,793,428	627,950	47,540	675,490	7,165,478
30	5/1/2043	2043	30	7,165,478	631,781	43,709	675,490	6,533,697
31	11/1/2043	2044	31	6,533,697	635,635	39,856	675,490	5,898,062
32	5/1/2044	2044	32	5,898,062	639,512	35,978	675,490	5,258,550
33	11/1/2044	2045	33	5,258,550	643,413	32,077	675,490	4,615,137
34	5/1/2045	2045	34	4,615,137	647,338	28,152	675,490	3,967,799
35	11/1/2045	2046	35	3,967,799	651,287	24,204	675,490	3,316,513
36	5/1/2046	2046	36	3,316,513	655,259	20,231	675,490	2,661,253
37	11/1/2046	2047	37	2,661,253	659,257	16,234	675,490	2,001,997
38	5/1/2047	2047	38	2,001,997	663,278	12,212	675,490	1,338,719
39	11/1/2047	2048	39	1,338,719	667,324	8,166	675,490	671,395
40	5/1/2048	2048	40	671,395	671,395	4,096	675,490	(0)

Future Debt Work Paper

Estimate Debt Service Payment Schedule for Proposed Clean Wastewater SRF Loan

Loan Service Fee %	2.0%	Project Funding Amount:	\$16,900,000
Construction Period (Years)	2.00	SRF Loan Service Fee \$	\$338,000
Assumed Interest Rate:	1.22%	Estimated Capitalized Interest	\$210,304
Semiannual Payments:	40	Total Principal Amount:	<u>\$17,448,304</u>
		Semiannual Payment:	<u><u>\$492,909</u></u>

Line No.	Estimated Payment Date	Fiscal Year of Cash Payment	Semiannual Payment	Beginning Balance	Principal Payment	Interest Payment	Total Payment	Ending Balance
1	6/30/2029	2029	1	\$17,448,304	\$386,475	\$106,435	\$492,909	\$17,061,829
2	12/30/2029	2030	2	17,061,829	388,832	104,077	492,909	16,672,996
3	6/30/2030	2030	3	16,672,996	391,204	101,705	492,909	16,281,792
4	12/30/2030	2031	4	16,281,792	393,591	99,319	492,909	15,888,202
5	6/30/2031	2031	5	15,888,202	395,991	96,918	492,909	15,492,210
6	12/30/2031	2032	6	15,492,210	398,407	94,502	492,909	15,093,803
7	6/30/2032	2032	7	15,093,803	400,837	92,072	492,909	14,692,966
8	12/30/2032	2033	8	14,692,966	403,282	89,627	492,909	14,289,684
9	6/30/2033	2033	9	14,289,684	405,742	87,167	492,909	13,883,941
10	12/30/2033	2034	10	13,883,941	408,217	84,692	492,909	13,475,724
11	6/30/2034	2034	11	13,475,724	410,708	82,202	492,909	13,065,016
12	12/30/2034	2035	12	13,065,016	413,213	79,697	492,909	12,651,803
13	6/30/2035	2035	13	12,651,803	415,733	77,176	492,909	12,236,070
14	12/30/2035	2036	14	12,236,070	418,269	74,640	492,909	11,817,800
15	6/30/2036	2036	15	11,817,800	420,821	72,089	492,909	11,396,980
16	12/30/2036	2037	16	11,396,980	423,388	69,522	492,909	10,973,592
17	6/30/2037	2037	17	10,973,592	425,971	66,939	492,909	10,547,621
18	12/30/2037	2038	18	10,547,621	428,569	64,340	492,909	10,119,052
19	6/30/2038	2038	19	10,119,052	431,183	61,726	492,909	9,687,869
20	12/30/2038	2039	20	9,687,869	433,813	59,096	492,909	9,254,055
21	6/30/2039	2039	21	9,254,055	436,460	56,450	492,909	8,817,596
22	12/30/2039	2040	22	8,817,596	439,122	53,787	492,909	8,378,474
23	6/30/2040	2040	23	8,378,474	441,801	51,109	492,909	7,936,673
24	12/30/2040	2041	24	7,936,673	444,496	48,414	492,909	7,492,177
25	6/30/2041	2041	25	7,492,177	447,207	45,702	492,909	7,044,970
26	12/30/2041	2042	26	7,044,970	449,935	42,974	492,909	6,595,035
27	6/30/2042	2042	27	6,595,035	452,680	40,230	492,909	6,142,355
28	12/30/2042	2043	28	6,142,355	455,441	37,468	492,909	5,686,914
29	6/30/2043	2043	29	5,686,914	458,219	34,690	492,909	5,228,694
30	12/30/2043	2044	30	5,228,694	461,014	31,895	492,909	4,767,680
31	6/30/2044	2044	31	4,767,680	463,827	29,083	492,909	4,303,853
32	12/30/2044	2045	32	4,303,853	466,656	26,254	492,909	3,837,197
33	6/30/2045	2045	33	3,837,197	469,503	23,407	492,909	3,367,695
34	12/30/2045	2046	34	3,367,695	472,367	20,543	492,909	2,895,328
35	6/30/2046	2046	35	2,895,328	475,248	17,662	492,909	2,420,080
36	12/30/2046	2047	36	2,420,080	478,147	14,762	492,909	1,941,933
37	6/30/2047	2047	37	1,941,933	481,064	11,846	492,909	1,460,870
38	12/30/2047	2048	38	1,460,870	483,998	8,911	492,909	976,872
39	6/30/2048	2048	39	976,872	486,951	5,959	492,909	489,921
40	12/30/2048	2049	40	489,921	489,921	2,989	492,909	(0)

Appendix D

Board of County Commissioners of Brevard County Resolution Number 2026-000

- (Draft Resolution to be voted on by the Brevard County Board of County Commissioners on April 7, 2026.)

RESOLUTION NUMBER 2026-

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF BREVARD COUNTY, FLORIDA, RELATING TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) STATE REVOLVING FUND (SRF), ADOPTION OF THE WASTEWATER FACILITIES PLAN FOR THE IMPLEMENTATION OF THE SOUTH BEACHES DEEP INJECTION WELL IMPROVEMENTS, AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, Florida Statutes provide for loans to local government agencies to finance the construction of wastewater facilities, and the Florida Administrative Code requires authorization by the Board to formally adopt a Facilities Plan outlining necessary wastewater facility improvements to comply with State of Florida funding requirements;

WHEREAS, formal adoption of the proposed Facilities Plan, including public participation through a public hearing, is required for Brevard County to participate in the State Revolving Loan Fund Program;

WHEREAS, the Board of County Commissioners of Brevard County, Florida agrees with the findings and summary of necessary improvements as outlined in the Facilities Plan for the purpose of providing reliable, long-term disposal for secondary treated effluent, eliminate routine and emergency surface water discharge in compliance with state regulations;

NOW THEREFORE BE IT RESOLVED by the Board of Commissioners of Brevard County, Florida, that:

SECTION 1. FINDINGS

The foregoing recitals are incorporated herein by reference and made a part hereof.

The Board of County Commissioners of Brevard County, Florida, is authorized to approve the proposed Facilities Plan, and hereby formally approves and adopts the South Beaches Deep Injection Well Improvements Facilities Plan as written and presented to the Board on this date, a copy of which is attached hereto and incorporated herein by reference.

The County Manager is hereby designated as the authorized representative to provide the assurances and commitments that will be required by the Facilities Plan.

The County Manager is hereby designated as the authorized representative to execute the Facilities Plan which will become the foundation of all activities related to the wastewater facility improvements. The County Manager is authorized to represent the County in carrying out the County's responsibilities under the Facilities Plan. The County Manager is authorized to delegate responsibility to appropriate County Staff to carry out technical, financial, and administrative activities associated with the Facilities Plan.

The legal authority for adoption of this facilities plan is pursuant to the County Charter, County Code of Ordinances, and the Laws of the State of Florida.

All Resolutions or part of Resolutions in conflict with any of the provisions of this Resolution are hereby repealed.

If any section or portion of a section of this Resolution proves to be invalid, unlawful, or unconstitutional, it shall not be held to invalidated or impair the validity, force, or effect or any other section or part of this Resolution.

SECTION 2. EFFECTIVE DATE

This Resolution shall take effect upon its approval and adoption by the Board.

APPROVED AND ADOPTED IN REGULAR SESSION THIS ____ DAY OF _____, .

ATTEST:

**BOARD OF COUNTY COMMISSIONERS
BREVARD COUNTY, FLORIDA**

CLERK

CHAIR (SEAL)

APPROVED AS TO FORM AND CONTENT:

RESOLUTION NUMBER 2026-026

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF BREVARD COUNTY, FLORIDA, RELATING TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) STATE REVOLVING FUND (SRF), ADOPTION OF THE WASTEWATER FACILITIES PLAN FOR THE IMPLEMENTATION OF THE SOUTH BEACHES DEEP INJECTION WELL IMPROVEMENTS, AND PROVIDING FOR AN EFFECTIVE DATE.

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WHEREAS, the Board of County Commissioners of Brevard County, Florida agrees with the findings and summary of necessary improvements as outlined in the Facilities Plan for the purpose of providing reliable, long-term disposal for secondary treated effluent, eliminate routine and emergency surface water discharge in compliance with state regulations;

NOW THEREFORE BE IT RESOLVED by the Board of Commissioners of Brevard County, Florida, that:

SECTION 1. FINDINGS

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The Board of County Commissioners of Brevard County, Florida, is authorized to approve the proposed Facilities Plan, and hereby formally approves and adopts the South Beaches Deep Injection Well Improvements Facilities Plan as written and presented to the Board on this date, a copy of which is attached hereto and incorporated herein by reference.

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The legal authority for adoption of this facilities plan is pursuant to the County Charter, County Code of Ordinances, and the Laws of the State of Florida.

All Resolutions or part of Resolutions in conflict with any of the provisions of this Resolution are hereby repealed.

If any section or portion of a section of this Resolution proves to be invalid, unlawful, or unconstitutional, it shall not be held to invalidated or impair the validity, force, or effect or any other section or part of this Resolution.

SECTION 2. EFFECTIVE DATE

This Resolution shall take effect upon its approval and adoption by the Board.

DONE, ORDERED, AND ADOPTED in Regular Session this 7th day of April,
2026.

ATTEST:



Rachel M. Sadoff, Clerk of Court

BOARD OF COUNTY COMMISSIONERS
OF BREVARD COUNTY, FLORIDA

By:



Thad Altman, Chair

As approved by the Board on:

APR 07 2026



Facilities Plan FDEP SRF# WW05119

Document no: 260126125050_e136a634
Version: Final

Brevard County, Florida

South Beaches Wastewater Treatment Facility to Advanced Wastewater
Treatment (AWT) Conversion – 6 MGD Treatment Train
March 4, 2026



Digitally signed by
Joseph A. Margio
2026.03.25
17:19:25-04'00'

Joseph A. Margio, P.E., State of Florida, Professional Engineer, License No. 40180

This item has been digitally signed and sealed by Joseph A. Margio on the date indicated here. Signature must be verified on any electronic copies.

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Acronyms and Abbreviations

Acronym	Description
AADF	annual average day flow
AWT	advanced wastewater treatment
BNR	biological nutrient removal
BOCC	Board of County Commissioners
CAS	conventional activated sludge
CBOD ₅	5-day carbonaceous biochemical oxygen demand
CIRL BMAP	Central Indian River Lagoon Basin Management Action Plan
CPH	CPH, Inc.
DIW	deep injection well
DO	dissolved oxygen
ERP	Environmental Resource Permit
FAC	<i>Florida Administrative Code</i>
FDEP	Florida Department of Environmental Protection
gpm	gallon(s) per minute
HLD	high-level disinfection
hp	horsepower
IPaC	Information for Planning and Consultation
MG	million gallon(s)
mgd	million gallon(s) per day
mg/L	milligram(s) per day
MIT	mechanical integrity test
NAVD88	North American Vertical Datum of 1988
No.	number

PICS	process instrumentation and control supplier
O&M	operations and maintenance
RAS	return activated sludge
RFI	Request for Inclusion
SBWWTF	South Beaches Wastewater Treatment Facility
SCADA	supervisory control and data acquisition
SND	simultaneous nitrification and denitrification
SRF	State Revolving Fund
SWD	side water depth
TMDL	total maximum daily load
TN	total nitrogen
TP	total phosphorous
TSS	total suspended solids
WAS	waste activated sludge
VFD	variable-frequency drive

1. Facility Overview and Background

This Facilities Plan documents the proposed improvements to the Brevard County South Beaches Wastewater Treatment Facility (SBWWTF) and is submitted as part of Brevard County's application to the State of Florida Clean Water State Revolving Fund (SRF) program administered by the Florida Department of Environmental Protection (FDEP). Brevard County is seeking to secure a low-interest loan for funding proposed advanced wastewater treatment (AWT) improvements at the SBWWTF, which are needed to reduce nutrient loadings to surrounding surface waters and ensure wastewater treatment compliance with state regulations.

This planning document prepared for the purpose of the FDEP's SRF program review includes the following:

- Description of the existing wastewater treatment facility and major components of the project including purpose and need for proposed improvements
- Cost comparison and alternatives analysis with rationale for the selected alternative
- Environmental review and federal flood risk analysis
- Review of financial feasibility and loan repayment, where Appendix B presents the capital financing plan prepared for the proposed project
- Project implementation and public participation process, where Appendix C presents the draft adopting resolution implementing this Plan

This Plan has been prepared to meet the planning requirements as set forth in Section 62-503 and 62-552 of the *Florida Administrative Code* (FAC), in accordance with the FDEP SRF program.

1.1 Project Background

Brevard County owns and operates the SBWWTF, permitted by FDEP to treat 8.0 million gallons per day (mgd) on an annual average day flow (AADF) basis under permit number FLO040622, which has a permit expiration date of August 8, 2029. The SBWWTF consists of two parallel treatment plants, a 6.0 mgd dual-train carrousel oxidation ditch and a 2.0 mgd plug-flow-activated sludge plant. These components operate in parallel with a common preliminary treatment process (mechanical screening and grit removal) and separate aeration, followed by separate clarification, separate chemical feed facilities, filtration, and disinfection by chlorination for each plant, and ending with a common biosolids dewatering system. Biosolids from the facility are hauled to the landfill for disposal.

Treated wastewater effluent from the facility discharges to the following locations:

- **Underground Injection:** Deep Injection Well (DIW) #1 has a permitted effluent discharge capacity of 12.73 mgd AADF into Class G-IV groundwater. A second DIW is planned, with a proposed peak injection rate of 18.65 mgd.
- **Land Application:** 3.0 mgd discharge on an AADF basis to a slow-rate public access reuse system that primarily feeds golf courses and residential development within the reclaimed water transmission system service area.
- **Surface Water Discharge:** 0.11 mgd AADF surface water discharge to the Indian River Lagoon. Discharge to the Indian River Lagoon is permitted only during a 5-day period during the DIW mechanical integrity test (MIT) performed every 5 years.

The SBWWTF primarily sends its effluent to the reclaimed water system. Effluent that exceeds the reclaimed water system's demand or capacity is disposed of in the DIW #1. By January 1, 2032, discharge to the Indian River Lagoon will need to be eliminated; however, after July 1, 2025, discharge to the Indian River Lagoon is still allowable if the effluent meets AWT and the annual total maximum daily load (TMDL) waste allocation is met, per Florida Statutes Section 403.086 and Section 403.064.

Recently, the County experienced aeration issues with the 2.0 mgd activated sludge plant, which ultimately led the SBWWTF staff to shut it down and rely solely on the carousel oxidation ditches for treatment. Additionally, the plant's solids-holding tank aeration system has not been performing as intended and is suspected to have an aeration problem as well. The County received a grant from FDEP under Agreement Number (No.) WG008 to make improvements to its treatment processes by converting the 2.0 mgd activated sludge plant into an AWT plant and replacing the solids-holding tank aeration system to improve its performance. Furthermore, the County received grant funding from FDEP for the design of an additional DIW under Agreement No. LPA0477. The engineering design for these improvements is under a separate project and nearing completion. In addition to a proposed DIW and the AWT improvements to the 2.0 mgd plant and solids-handling process, the County is implementing improvements to the 6.0 mgd dual-train carousel oxidation ditches to convert this treatment process to AWT. The preliminary engineering design for the 6.0 mgd AWT process is underway.

1.2 South Beaches Wastewater Treatment Facility Description

The SBWWTF is at 2800 S Highway A1A in Melbourne Beach, Florida (Figure 1-1). Its service area falls between the Atlantic Ocean and the Indian River Lagoon and includes the municipalities of Satellite Beach, Indian Harbour Beach, Indialantic, Melbourne Beach, a portion of the City of Melbourne, and several areas of unincorporated Brevard County (Figure 1-2). The service area primarily consists of residential development and small commercial development associated with the residential subdivisions. No expansion of the existing service area is proposed. The wastewater collection system consists of 55 County-owned lift stations, private lift stations, and force mains. The SBWWTF effluent feeds a public access reuse system bounded by the Melbourne Causeway and the commercial area south of MacFarlane Street/Glengarry Avenue and dominated by residential land use.

Figure 1-1. South Beaches Wastewater Treatment Facility Location

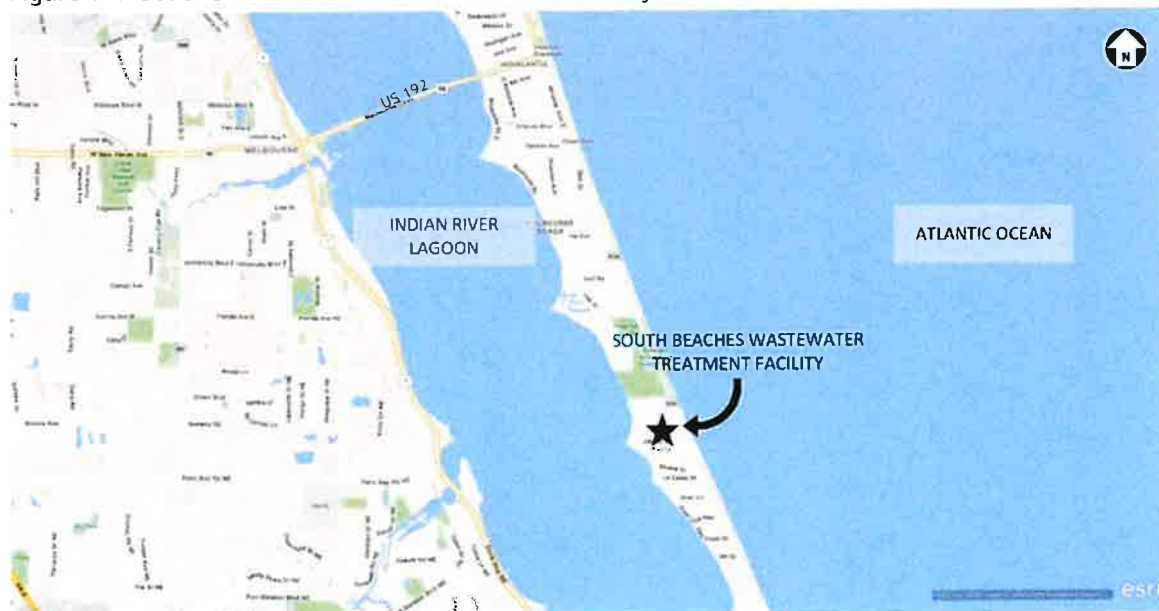


Figure 1-2. South Beaches Wastewater Treatment Facility Service Area



1.2.1 Existing Major Facilities

The SBWWTF is classified as a Secondary Treatment plus Filtration Facility (Category I, Class A) with a permitted capacity of 8.0 mgd AADF. The plant was first brought online in 1968, having only the 2.0 mgd activated sludge process, with effluent disposal via spray irrigation and surface water discharge into the Indian River Lagoon. Sometime between 1968 and 1987, DIW #1 was constructed, and the SBWWTF began using deep well injection for effluent disposal. Tertiary filters were later added in 1987. In 1991, two carousel oxidation ditches with a total capacity of 6.0 mgd AADF were added to increase the treatment capacity of the SBWWTF. During the same expansion in 1991, the solids-holding tank and dewatering building were constructed. In 1996, the 2.0 mgd activated sludge plant underwent rehabilitation and improvement. Since that time, no major changes or improvements have been made to any of the treatment processes. Table 1-1 summarizes the major facilities, which are also shown on Figure 1-3.

Table 1-1. South Beaches Wastewater Treatment Facility Major Facilities

Facility	Characteristics
Headworks	▪ One automatic self-cleaning, 6-millimeter mechanical screen by Huber ▪ One backup 1-inch manual screen ▪ Screenings compacting/dewatering screw system ▪ Centrifugal grit separator ▪ Grit classifier ▪ Odor control system
Biological Treatment	▪ Two 3.0 mgd carousel oxidation ditches (2.2 MG each with an SWD of 15 feet) with two 100-hp mechanical surface aerators per ditch ▪ One 2.0 mgd activated sludge process system (0.75 MG with an SWD of 15 feet) with three 50-hp centrifugal blowers and coarse bubble diffusers (currently, engineering design is being completed to convert this CAS process to an AWT process)
Secondary Clarifiers	▪ Two 102.5-foot-diameter and 15-foot SWD clarifiers with full-surface skimmers for the 6.0 mgd oxidation ditches ▪ One 65-foot-diameter and 10-foot SWD clarifier with full-surface skimmers for the 2.0 mgd conventional activated sludge process
RAS/WAS Pumping	▪ Three 25-hp (3,100 gpm) RAS pumps for the oxidation ditches clarifiers ▪ Two 15-hp (2,220 gpm) RAS pumps for the activated sludge process clarifier ▪ One 5-hp (760 gpm) WAS pump for the activated sludge process clarifier
Tertiary Filters^[a]	▪ Three 14-foot-by-14-foot, 1.0 mgd (each), dual-media filters (sand and anthracite) ▪ Filter backwash recovery tank
Disinfection	▪ One chlorine contact basin for public access reuse with five 39.7-foot-by-4-foot passes and an SWD of 5.75 feet ▪ Two chlorine contact basins for deep injection with three 100-foot-by-15-foot passes and an SWD of 14 feet each ▪ Sodium hypochlorite feed and storage systems
Dechlorination^[b]	▪ Sodium bisulfite feed and storage system

Facility	Characteristics
Solids Handling	- One 49-foot-by-29-foot, 0.1-MG sludge holding tank with coarse bubble diffusers - Two 2.0-meter belt filter presses (currently being replaced with screw presses)
Reclaimed Water	- One 0.6-MG ground storage tank - High-service pump station consisting of three 75-hp, 1,400-gpm vertical turbine pumps
DIWs	- Class I underground DIW #1, with a peak injection rate of 12.7 mgd - Proposed DIW #2 with a peak injection rate of 18.65 mgd is currently being designed

^(a) Filtration is solely done for the effluent sent to the public access reuse system.

^(b) Dechlorination is only needed in case of surface water discharge.

CAS = conventional activated sludge

gpm = gallon(s) per minute

hp = horsepower

MG = million gallon(s)

RAS = return activated sludge

SWD = side water depth

WAS = waste activated sludge

Figure 1-3. South Beaches Wastewater Treatment Facility Existing Facilities



Note: Abandoned package plant has been demolished and removed from the site.

1.2.2 Operation and Maintenance Program

Wastewater treatment plant equipment at the SBWWTF is rehabilitated, repaired, or replaced as needed to maintain normal operations. The SBWWTF keeps a copy of its operation and maintenance (O&M) manual onsite, which operators regularly review. The facility is staffed with licensed operators, and maintenance staff are on call 24 hours per day, 7 days per week. Records are also maintained for all equipment repairs and maintenance.

1.3 Purpose and Need

Because of recent changes to the Florida State regulations, such as Florida Statutes Section 403.086 and Section 403.064, and establishment of the Central Indian River Lagoon Basin Management Action Plan (CIRL BMAP), the SBWWTF requires modifications to its current treatment effluent disposal system to meet the more stringent requirements and reduce nutrient loadings into the environment.

Florida Statutes Section 403.086 disallows the discharge of effluent into the Indian River Lagoon after July 1, 2025, without providing AWT to produce a reclaimed water product that meets the following requirements on an annual average daily basis:

- 5-day carbonaceous biochemical oxygen demand (CBOD₅) and total suspended solids (TSS): Less than 5 milligrams per liter (mg/L)
- Total Nitrogen (TN): Less than 3 mg/L
- Total Phosphorus (TP): Less than 1 mg/L
- Has received high-level disinfection (HLD)

In accordance with Florida Statutes Section 403.086, any wastewater treatment facility that provides reclaimed water for land application within a nutrient BMAP is required to meet the aforementioned AWT standards for TN and TP if the department has determined that the use of reclaimed water is causing or contributing to the nutrient impairment being addressed in the BMAP.

Florida Statutes Section 403.064 requires that the SBWWTF submit a plan to FDEP to remove non-beneficial surface water discharges by January 1, 2032. Brevard County met this requirement with an engineering study and the submittal of its plan titled *Non-Beneficial Surface Water Discharge Elimination Plan*, prepared by CPH, Inc. (CPH) in October 2021. The plan presented two options for meeting the regulations at that time. Table 1-2 describes the CPH options.

Table 1-2. Non-Beneficial Surface Water Discharge Elimination Plan Options

	Option 1	Option 2
Phase 1	Conversion of 2.0 mgd conventional activated sludge treatment plant to meet AWT requirements	Conversion of 2.0 mgd conventional activated sludge treatment plant to meet AWT requirements
Phase 2	Installation of second DIW	Conversion of 6.0 mgd dual-train carousel oxidation ditch to meet AWT requirements

It was determined that, to meet the existing rules at that time, at a minimum, the SBWWTF should be upgraded to provide HLD for the entire treatment capacity of 8.0 mgd. Currently, HLD is only achieved when part of the flow is directed to the effluent filters and reuse chlorine contact chamber to supply reuse irrigation water for the golf course or reuse customers.

Phase 2 of Option 1 is the installation of a second DIW, which would eliminate the need to directly discharge to the Indian River Lagoon during the 5-year MIT and the need to convert the 6.0 mgd dual-train carousel oxidation ditch to AWT, as described in Option 2. The installation of a second DIW also provides redundancy for the deep well injection system to allow repair or maintenance of one of the wells while the other is in service. Under Option 1, the 6.0 mgd oxidation ditch treatment train effluent would need to be filtered and chlorinated before discharge to the proposed DIW to meet HLD requirements, in accordance with the FAC 62-528, Underground Injection Control. The 6.0 mgd oxidation ditch treatment train is currently meeting the former nutrient limits (10 mg/L TN and 6 mg/L TP) and can discharge a portion of its flow to the public access reuse system via the existing 2.0 mgd dual-media filtration facility.

Although the County is moving forward with the conversion of the 2.0 mgd train to AWT and installation of a second DIW, conversion of the oxidation ditches to AWT is also now necessary to comply with the recently updated rules and regulations requiring AWT. Therefore, the planned modifications for this project will include conversion of the existing 6.0 mgd dual-train carousel oxidation ditch to AWT using simultaneous nitrification and denitrification in the oxidation ditch and denitrification filters with metal salt addition for phosphorus removal, which will provide improvements to the existing facility treatment process and allow the SBWWTF to produce AWT effluent in accordance with the updated regulations. Furthermore, the proposed improvements to the 6.0 mgd treatment process will provide the following advantages:

- **Better operational flexibility:** Provides same treatment level as the 2.0 mgd AWT conversion, which provides flexibility for discharge to the golf course and reuse system.
- **Flexibility in the event of a discharge:** Allows discharge to the Indian River Lagoon during DIW mechanical integrity testing until January 1, 2032.
- **Higher quality reuse water produced:** Increases capability of producing more reuse water supply that meets higher levels of effluent treatment and AWT water quality that can be used in land application.
- **Increased redundancy:** Enables production of reuse quality effluent if the 2.0 mgd process is down for maintenance.
- **Additional nutrient loading reduction:** Allows additional reduction in TN and TP loadings into the Indian River Lagoon and CIRL BMAP areas as the public access effluent reuse system expands or as reuse demands increase because of other indirect factors.

2. Cost Comparison and Selected Alternative

This section presents the cost comparison analysis and selected alternative.

2.1 Alternatives Descriptions

For the reasons described in the previous section, the 6.0 mgd oxidation ditch treatment train was reviewed by Jacobs to determine feasible alternatives for implementing improvements to meet various levels of treatment in accordance with the new regulations. These levels of treatment include the following:

- AWT of 5 mg/L CBOD₅, 5 mg/L TSS, 3 mg/L TN, 1 mg/L TP on an annual average daily basis with HLD

Four potential wastewater treatment plant improvement alternatives were identified based on the three available effluent disposal options, the existing process facilities, constructability, and potential proposed facilities to meet the levels of treatment. Table 2-1 summarizes these alternatives.

Table 2-1. Preliminary Alternatives for Initial Feasibility Screening

Alternative	Associated Discharge Elimination Plan CPH Option (Table 1-2)	Effluent Discharge Options[a]	Treatment Type[a]	Description	Feasible (Y or N)
1	2	IRL, PAR, DIW	AWT	Upgrade and convert existing oxidation ditch treatment train to 8.0 mgd capacity and plug flow reactors with diffused aeration (surface aerators eliminated); chemical feed facilities for TN and TP removal 2.0 mgd CAS train eliminated Cloth media filtration for HLD	Yes
2	2	IRL, PAR, DIW	AWT	Upgrade existing oxidation ditch treatment train to 8.0 mgd capacity and oxidation ditches optimized for SND (surface aerators upgraded to deliver more oxygen); chemical feed facilities for TN and TP removal 2.0 mgd CAS train eliminated Denitrification filters for HLD and additional TN removal	Yes
3	2	IRL, PAR, DIW	OXD and CAS: AWT	Convert existing oxidation ditch treatment train to plug flow reactors at 6.0 mgd capacity with diffused aeration (surface aerators eliminated); chemical feed facilities for TN and TP removal 2.0 mgd CAS converted to AWT Cloth media filtration for HLD	Yes
4	2	IRL, PAR, DIW	OXD and CAS: AWT	Existing oxidation ditches optimized for SND at 6.0 mgd capacity (surface aerators upgraded to deliver more oxygen) 2.0 mgd CAS converted to AWT Denitrification filters with chemical feed for HLD and additional TN removal plus chemical feed for TP removal in the 6.0 mgd oxidation ditch train	Yes.

[a] Effluent discharge options and treatment types are described as follows:

AWT = 5 mg/L CBOD₅, 5 mg/L TSS, 3 mg/L TN, 1 mg/L TP on an annual average daily basis with HLD

CAS = conventional activated sludge treatment train

IRL = Indian River Lagoon

OXD = oxidation ditch treatment train

PAR = public access reuse (10 mg/L TN, 6 mg/L TP on an annual average daily basis with HLD)

SND = simultaneous nitrification and denitrification

2.2 Alternatives Comparison

Alternatives 1 and 2 involved increasing the capacity of the existing oxidation ditches to 8.0 mgd and eliminating the 2.0 mgd train with the benefit of simplified operation. However, it was decided that the conversion of the 2.0 mgd train to AWT should be done regardless because it reduces operational risk during construction in the 6.0 mgd train, provides greater redundancy when taking a train down for maintenance, and maintains greater flexibility for potential future rerating of plant capacity. Therefore, removal of the 2.0 mgd train did not need to be evaluated further, and Alternatives 1 and 2 were eliminated from consideration.

The two remaining alternatives, Alternatives 3 and 4, were further evaluated, and Table 2-2 presents a qualitative analysis of the two short-listed alternatives.

Alternatives 3 and 4 provide a higher level of treatment with modifications that allow these facilities to meet AWT standards. Alternative 3 will significantly modify the 6.0 mgd oxidation ditch treatment train and have the greatest amount of time with a basin out of service. Alternative 4 includes denitrification filters, which combines the second stage of nitrogen removal and filtration in a single step. Figures 2-1 and 2-2 depict conceptual process flow diagrams for the short-listed alternatives.

Table 2-2. Pros and Cons of Two Short-Listed Alternatives (Alternatives 3 and 4)

Alternative	Associated Discharge Elimination Plan CPH Option (Table 1-2)	Pros	Cons
3	2	AWT effluent quality Similar biological process operation in all trains	Significant work inside oxidation basins for conversion to diffused aeration and BNR process configuration Additional process equipment Chemical addition for AWT Construction sequencing must be coordinated with 2.0 mgd AWT project
4	2	AWT effluent quality Significantly less construction work and maintenance inside oxidation basins than Alternative 3 Operational flexibility to meet AWT or public access reuse in oxidation ditch train Construction sequencing and maintenance of plant operation	Repumping required after clarification to lift secondary effluent to top of denitrification filters Chemical addition for AWT More complex filter operation

BNR = biological nutrient removal

Figure 2-1. Conceptual Process Flow Diagram – Alternative 3

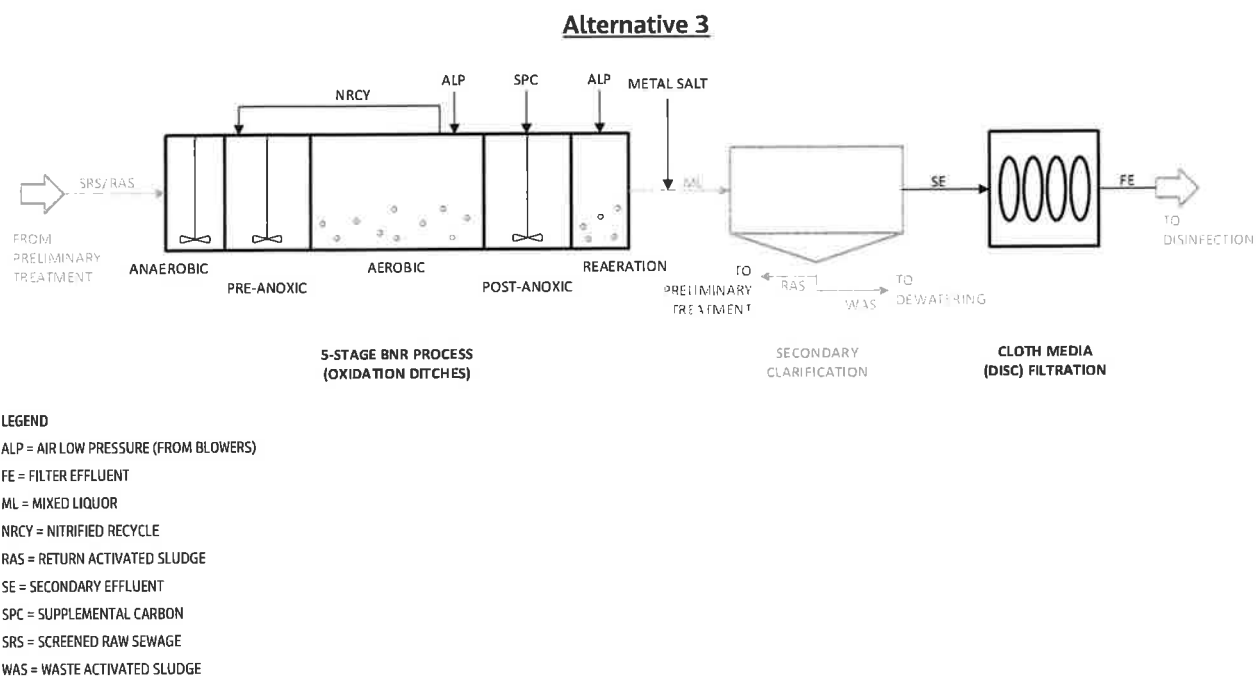
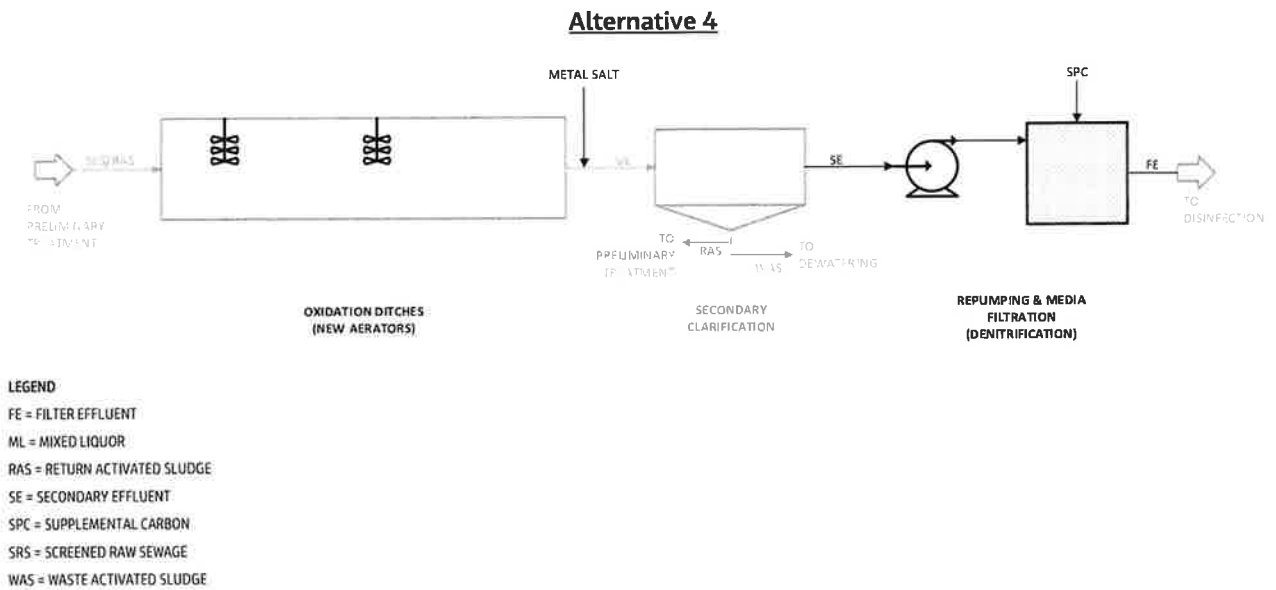


Figure 2-2. Conceptual Process Flow Diagram – Alternative 4



2.2.1 Cost Comparison

Preliminary cost estimates for construction were developed and are presented in Table 2-3 for the short-listed alternatives. These estimates should be considered Class 5, according to the Association for the Advancement of Cost Engineering, which is used for concept screening with an expected accuracy of -30% to +50%.

For each alternative, the filtration capacity needs to meet the peak hydraulic flowrate through the plant. The existing peak flowrate is 20.0 mgd based on the historical collection system capacity.

Table 2-3. Preliminary Construction Cost Estimates of Short-Listed Alternatives^[a]

	Alternative 3	Alternative 4
Oxidation Ditch Upgrades	\$10,600,000	\$3,300,000
Blowers	\$3,000,000	-
Repumping	-	\$2,500,000
Filtration	\$4,300,000	\$13,000,000
AWT Chemicals	\$900,000	\$900,000
Site Work (4%) ^[b]	\$800,000	\$800,000
Yard Piping (8%) ^[b]	\$1,500,000	\$1,600,000
Plant Network (9%) ^[b]	\$1,700,000	\$1,800,000
Site Electrical (15%) ^[b]	\$2,800,000	\$3,000,000
Subtotal Direct Costs	\$25,600,000	\$26,900,000
Contractor Costs ^[c]	\$6,900,000	\$7,200,000
Total Construction	\$32,500,000	\$34,100,000

^[a] All facility and discipline costs were developed in Jacobs Replica Parametric Design tool, which uses parametric data and historical cost factors and includes a contingency to account for the conceptual level of this work. Cost estimating was completed in December 2023.

^[b] Discipline cost based on percent of combined facilities costs for each alternative

^[c] Contractor related markups: General conditions and Overhead – 12%; Profit – 10%; Mobilization/Bond/Insurance – 3%

Preliminary annual O&M costs were developed and are presented in Table 2-4 for the short-listed alternatives.

Table 2-4. Preliminary Operations and Maintenance-Related Cost Estimates of Short-Listed Alternatives^[a]

	Alternative 3	Alternative 4
Power ^[b]	\$130,000	\$250,000
Chemical ^[d]	\$140,000	\$140,000
Maintenance ^[e]	\$240,000	\$150,000
Total Annual O&M	\$510,000	\$540,000

^[a] O&M costs based on 6.0 mgd at annual average daily loading.

^[b] Power costs based on \$0.10 per kilowatt-hour operating at 50% of installed horsepower, assuming variable-frequency drives (VFDs) included in upgrades.

^[c] Power costs assume operating at 100% of installed aerator horsepower.

^[d] Chemical costs based on \$3 per gallon for supplemental carbon and \$0.10 per pound of metal salt.

^[e] Annual maintenance costs based on \$10,000 per year for each unit of process equipment.

^[f] Annual maintenance costs for existing aerator increased to \$20,000 per year.

A life-cycle analysis was also used to compare the short-listed alternatives. The analysis is presented in Table 2-5 and considers the cost of money in today's value using the cost of construction as the initial capital investment. The present worth of each alternative was calculated based on the following:

- Planning period of 30 years
- Discount rate of 3% (assuming a discount rate of 0% in 2025)
- Capital costs of each alternative
- O&M costs of each alternative

Table 2-5. 30-Year Present Worth Comparison

Cost Component	Alternative 3	Alternative 4
Capital Cost	\$32,500,000	\$34,100,000
Annual O&M Cost	\$510,000	\$540,000
Present Worth O&M Cost = Annual O&M Cost * 19.6004	\$9,996,225	\$10,584,238
30-Year Present Worth = Capital Cost + Present Worth O&M Cost	\$42,496,225	\$44,684,238

2.2.2 Rerating and Plant Modification Considerations

The plant currently operates at approximately between 75% to 85% capacity, based on AADF. The footprint of the SBWWTF service area is fairly established and does not have much room to expand out horizontally; therefore, there currently is not a need to increase plant capacity. However, with trends across Florida of construction near the coast going to higher density vertical development, there is a distinct possibility of an eventual need to expand the plant capacity from the current 8.0 mgd to 10.0 mgd. This increase in capacity of 2.0 mgd would come from rerating the 6.0 mgd oxidation ditch treatment train to 8.0 mgd.

For the short-listed alternatives, the improvements needed for a 6.0 mgd capacity are the same for 8.0 mgd, except larger equipment and unit process (for example filtration) capacities are needed for the 8.0 mgd rerating. Table 2-6 describes the improvements needed for each alternative for 6.0 mgd capacity and the additional improvements needed to rerate from 6.0 mgd to 8.0 mgd in the future. Because most of the improvements for Alternative 4 are separate from the existing facilities, impacts to existing treatment operations are reduced. Note that only the components affected by the 6.0 mgd improvements are considered in Table 2-6. Other unit processes, such as DIW pumps, DIWs, and headworks capacity, may also require improvement to rerate the entire plant to 10.0 mgd but are not captured here.

Table 2-6. Rerating Improvements

Alternative	6.0 mgd Improvements	Improvements to Rerate to 8.0 mgd
3	For both oxidation ditches, partition the oxidation ditches into anoxic and aerobic zones to create a 5-Stage Bardenpho system. Replace the surface aerators with a diffused aeration system consisting of fine bubble diffusers and a proposed aeration blower facility. Add mixers to the proposed anoxic zones. Ferric salt chemical feed facility for the addition of ferric to precipitate phosphorus for removal during sedimentation and filtration. Supplemental carbon chemical feed facility to drive the denitrification process in the anoxic zones. Add cloth media disk filtration facility.	Install additional diffusers inside oxidation ditches. Provide additional blower in aeration blower facility. Add larger chemical metering pumps for ferric and carbon feed facilities. Expand cloth media disk filtration.
4	For both oxidation ditches, convert the ditches to operate in a simultaneous nitrification and denitrification mode by upgrading the surface aerators and process controls. Ferric salt chemical feed facility for the addition of ferric to precipitate phosphorus for removal during sedimentation and filtration. Supplemental carbon chemical feed facility to drive the denitrification process in the anoxic zones. Repumping facility to lift secondary effluent to denitrification filtration facility. Add denitrification filtration facility.	Replace aerators with larger units. Add larger chemical metering pumps for ferric and carbon feed facilities. Expand repumping facility with additional pump. Expand denitrification filtration.

Any modifications or upgrades now or in the future need to consider maintaining operations during construction of those modifications or upgrades. Each short-listed alternative includes work affecting operation of the oxidation ditches. Alternative 3 involves significant work within the basin to make structural modifications and the installation of diffused aeration and mixing equipment. With one oxidation ditch offline for several months, the remaining oxidation ditch and the 2.0 mgd CAS will need to treat the influent flow. Given the risk of operating the oxidation ditches with only one train in service while the other is significantly upgraded for several months, Alternative 3 is not recommended.

In contrast, Alternative 4 requires less work affecting the oxidation ditch operation because only the surface aerators will need to be upgraded. This advantage is noted in Table 2-2. This alternative requires the construction of a filtration facility outside the oxidation ditches, which does not affect operations except during short-term construction activities, such as connections to existing yard piping. Alternative 4 also includes the construction of denitrification filters, which combines suspended solids removal to meet HLD requirements and nutrient removal.

Alternative 4 is a feasible option to upgrade the plant to meet various water quality criteria. As stated earlier, Alternative 3 is not recommended because of the risk of operating with only one oxidation ditch. Considering ease of construction while maintaining plant operation, flexibility of effluent usage to meet

reclaimed water demand, and advantages when considering potential future rerating or upgrade of plant capacity, Alternative 4 is the recommended option.

2.3 Selected Alternative

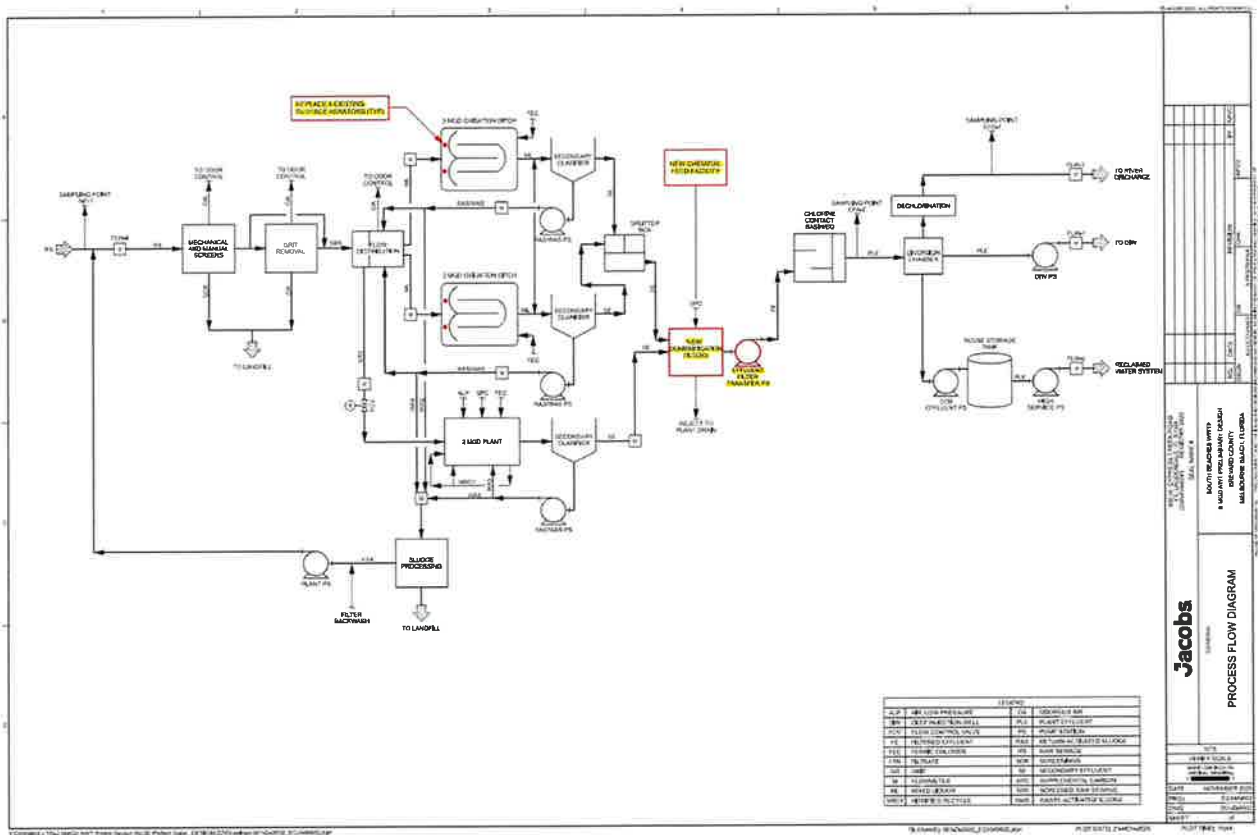
Several alternatives were presented and evaluated in Sections 2.1 and 2.2 for consideration to achieve the updated treatment goals. Based on the alternatives comparison discussed previously, Alternative 4 was selected to implement the SBWWTF modifications. Alternative 4 aligns with the updated nutrient reduction strategies and new AWT standards aimed at protecting surface waters and areas governed by the CIRL BMAP. The modified SBWWTF will have the following processes in place after the improvements outlined in Alternative 4 are completed:

- Existing preliminary treatment processes of screening and grit will remain in service at the Pretreatment Building. Weirs at the pretreatment effluent channel will split the screened and degritted wastewater between the two treatment trains.
- Oxidation ditches will continue to provide secondary treatment and nutrient removal. This project will replace the four existing 100-hp aerators with 125-hp aerators to provide full nitrification at the design conditions. Instrumentation and process control features will also be improved to optimize simultaneous nitrification/denitrification in the oxidation ditches.
- To meet the AWT requirement for TN, an additional process step is needed. SBWWTF will add denitrification filters to accomplish this. These filters will provide the necessary TSS reduction to meet HLD (required for AWT and public access reuse) and provide the additional nitrogen removal necessary. The filters will be sized to receive secondary effluent from both treatment trains.
- Proposed chemical storage and feed facility will also be included as part of these improvements. Supplemental carbon is needed at the filters for denitrification, and ferric chloride will be dosed at the oxidation ditches for chemical removal of TP.
- Final component of these improvements is a filter effluent pump station. This pump station is necessary for Operations to use the full capacity of the existing chlorine contact basin/equalization basin downstream of filtration when the need arises.

Compared with the other short-listed alternatives, Alternative 4 provides the greatest advantages, allowing for straightforward construction without disrupting ongoing plant operations and offering strategic advantages for future capacity expansions or facility enhancements. Figure 2-3 illustrates the proposed site plan and improvements at the SBWWTF. Figure 2-4 presents a process flow diagram depicting the existing and proposed wastewater treatment processes at the SBWWTF.



Figure 2-4. Process Flow Diagram



2.3.1 Plant Control System and Supervisory Control and Data Acquisition System

The following discusses the proposed control system architecture of each unit process included in the selected alternative, as it relates to the plant control system and supervisory control and data acquisition (SCADA) system. Control narratives and related loop specifications for each unit process will be developed as part of the detailed design. The control system philosophy will be based on 24-hour-per-day, 7-day-per-week operation of the plant and the control of equipment from a proposed process instrumentation and control supplier (PICS) control panel, vendor packaged control panel, and packaged local control panels, with integration into the existing SCADA system for remote monitoring, alarming, and operation. The proposed process monitoring and control system upgrades for Alternative 4 will include the following:

- **Oxidation Ditch No. 1 and 2:** To increase aeration capacity for improved nitrogen removal, the existing surface aerators at the oxidation ditches will be replaced by a total of four proposed, higher horsepower surface aerators, two at each oxidation ditch. The aerators will operate off proposed VFDs, with automatic speed control based on the dissolved oxygen (DO) level from the existing DO probe in each oxidation ditch. A proposed PICS control panel will monitor and control the surface aerators via hardwired control signals to the VFDs, with DO level shared from the existing control panel via data exchange over the existing control system network.
- **Denitrification Filters:** The denitrification filters will operate using a package vendor-supplied control system. The filter system will have a package vendor-supplied master control panel that will monitor TN on the filter influent and pressure and low level on the influent channel. One local control panel will control the constant speed rotary screw compressors and communicate back to the master control panel via hardwired control signals. The filter system master control panel will interface with SCADA through the proposed PICS control panel, where SCADA commands, status, and alarms will be exchanged.
- **Filter Effluent Pump Station:** The filter effluent pump station will contain four adjustable speed pumps to convey filter effluent from the filter effluent wet well to the equalization and chlorine contact basin. The proposed PICS control panel will monitor and control the pumps operation via hardwired control signals with the pump VFDs. There will be three duty pumps and one standby, with automatic lead/lag 1/lag 2 control of the transfer pumps based on a radar level transducer in the filter effluent wet well and backup level floats.
- **Chemical Feed Systems:** There are two chemical feed systems: a supplemental carbon system and a ferric chloride system. Each system will have one local control panel that will control its respective metering pumps and related instrumentation. The proposed PICS control panel will coordinate interlocks, provide pump start/stop commands, provide dosage setpoints, and coordinate data transfer between the chemical feed systems local control panels and SCADA via hardwired signals.
- **Process Instrumentation and Control Supplier Control Panel:** One proposed PICS control panel is planned for this project. The control panel will be a NEMA 4X enclosure, 316 stainless steel. Location of this proposed control panel will be determined during the detailed design phase.
- **SCADA Human-Machine Interface System and Network:** The SCADA human-machine interface system will be updated to reflect additions and changes to the plant control system and processes. Proposed control panels will tie into the SCADA network via fiber optic cable at fiber optic patch panels to be determined during the detailed design phase. Surge protection devices (that is, surge suppressors) will be installed to protect equipment, instruments, and control hardware from electrical transients and lightning strikes.

2.3.2 Cost Comparison with Previous Evaluation

In 2019, the Brevard County Utility Services Department tasked CPH with evaluating the feasibility of upgrading the SBWWTF to meet AWT standards. The results of the evaluation are documented in the report *South Beaches Regional Water Reclamation Facility AWT Feasibility Evaluation* (CPH 2019). The evaluation presented different options to meet the AWT requirements, where conversion of the 6.0 mgd oxidation ditches to a 5-Stage Bardenpho using disk filtration was the selected option to proceed with for design. The opinion of probable construction cost for the option was approximately \$12 million. Brevard County's FDEP grant for converting the 6.0 mgd oxidation ditches to AWT (Agreement No. LPA0421) was based on this \$12 million estimate.

In 2023, Jacobs was selected to design the SBWWTF 6.0 mgd AWT conversion and initially tasked by the County to evaluate alternatives to meet the updated effluent disposal regulatory requirements. As part of this evaluation, Jacobs developed and recommended Alternative 4 with an opinion of probable cost of \$34.1 million, as detailed and summarized in previous sections of this Facilities Plan.

The 5-Stage Bardenpho cost estimate by CPH is approximately \$12 million, and the Alternative 4 cost estimate by Jacobs is approximately \$34.1 million. The primary reasons for the higher cost for Alternative 4 are as follows:

1. **Difference in Scope:** The overall treatment schemes and equipment for the two options are significantly different. Some of these major differences are:
 - a. **Filtration Technology:** Disk filtration, as part of the CPH option, has a smaller footprint and a simplified backwash system. A denitrification filtration facility is a granular media filtration facility that requires a larger footprint and a more complex backwashing system; therefore, it is a much higher cost than disk filtration. A denitrification filtration facility is needed because retrofitting the oxidation ditches to achieve the AWT nitrogen limits is a constructability issue, as previously discussed in the alternatives evaluation. To reduce the TN after the oxidation ditches to meet AWT standards requires an additional denitrification process. The denitrification filters in conjunction with the oxidation ditches reduce the TN to less than AWT standards through denitrification and meets the TSS limit of 5 mg/L through filtration simultaneously. Because disk filters do not reduce the TN and only reduce TSS to less than 5 mg/L, the TN limits will not be met with disk filters alone.
 - b. **Filtration Capacity:** The 5-Stage Bardenpho cost estimate includes a disk filtration facility with a capacity to treat 8.0 mgd. The Alternative 4 cost estimate includes a denitrification filtration facility with a capacity to treat approximately 20.0 mgd peak flow. The denitrification facility was sized to pass the peak hydraulic flowrate coming into the plant because up to 18.0 mgd peak flow has passed through the plant during a hurricane. Therefore, the cost for the denitrification filtration facility is higher than that of the disk filtration facility because of the higher treatment capacity.
 - c. **Ferric Salt Chemical Feed Facility:** A ferric salt chemical feed facility for phosphorus chemical precipitation was not included in the 5-Stage Bardenpho option but is included in Alternative 4.
 - d. **Repumping Facility:** A repumping facility to transfer secondary effluent from the clarifiers to the proposed denitrification facility is needed for Alternative 4 because the headloss through the denitrification filter is greater than what is available.
2. **Cost Escalation:** Cost estimating for the 5-Stage Bardenpho option was performed in 2019, while the cost estimate for Alternative 4 was completed in 2023, which is about a 4- to 5-year difference in cost

escalation. Cost escalation during the early 2020s was significantly higher than normal, and construction costs increased approximately by about 30% to 50% over the 4- to 5-year period.

3. **Contingency Level:** A 30% contingency was used for the Alternative 4 estimate as opposed to a 20% contingency used in the 5-Stage Bardenpho estimate.

3. Environmental Review

The proposed project includes modifications to an existing developed wastewater treatment facility within an established wastewater treatment facility site. The proposed project is not considered to be a substantial improvement. Construction and operation limits of this project are confined to the existing wastewater treatment property boundary. Therefore, the proposed improvements will not have any adverse effects upon flora, fauna, threatened or endangered plant or animal species, surface water bodies, prime agricultural lands, wetlands, or undisturbed natural areas. Furthermore, no environmental justice concerns are associated with this wastewater facility improvements project.

3.1 Threatened and Endangered Species

The U.S. Fish and Wildlife Service Information for Planning and Consultation (IPaC) tool was searched to determine any threatened, endangered, proposed, and candidate species and designated critical habitats present that may be affected by activities in the project area. The following list of potential species was identified:

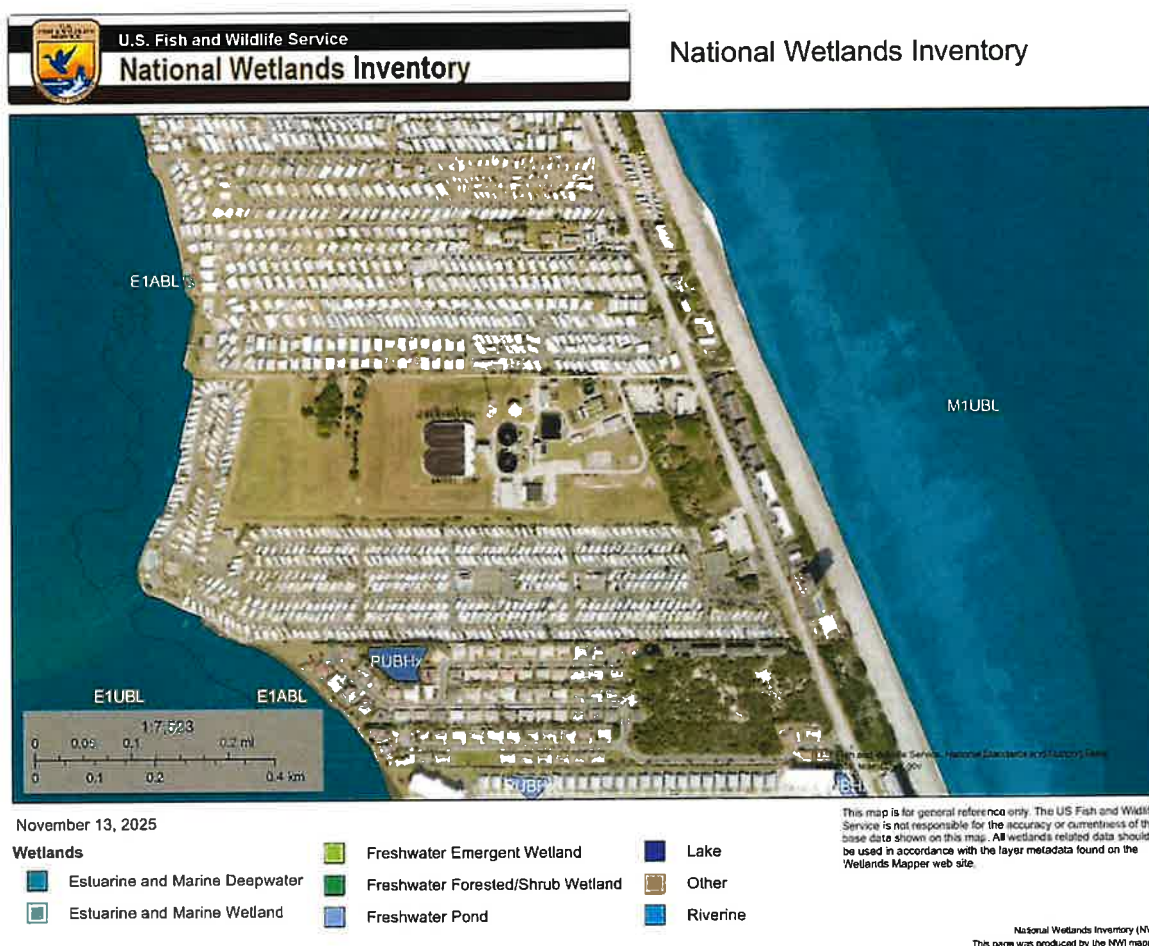
- Mammals
 - West Indian Manatee (Threatened)
- Birds
 - Crested Caracara (Threatened)
 - Eastern Black Rail (Threatened)
 - Everglade Snail Kite (Endangered)
 - Florida Scrub-Jay (Threatened)
 - Rufa Red Knot (Threatened)
 - Wood Stork (Threatened)
- Reptiles
 - American Crocodile (Threatened)
 - Eastern Indigo Snake (Threatened)
 - Green Sea Turtle (Threatened)
 - Gopher Tortoise (State-designated Threatened)
- Insects
 - Monarch Butterfly (Proposed Threatened)
- Flowering Plants
 - Carter's Mustard (Endangered)
 - Lewton's Polygala (Endangered)

IPaC confirmed no critical habitats are present in the project area. Project construction and operation will be within the existing wastewater facility site boundaries and only on lands that have been previously cleared and disturbed from their natural conditions. Based on this review, the proposed project is not anticipated to have any significant adverse effects upon threatened or endangered plant or animal species.

3.2 Wetlands and Surface Water Bodies

The U.S. Fish and Wildlife Service National Wetlands Inventory was used to identify wetlands and other surface water bodies within the project area. Figure 3-1 presents the findings from the evaluation. Review of the National Wetlands Inventory indicates that several freshwater ponds are within the Melbourne Beach boundaries; however, no wetlands are within the project area. Furthermore, the proposed improvements will reduce TN and TP loadings being discharged to the Indian River Lagoon, which is a priority water body as identified by the St. Johns River Water Management District.

Figure 3-1. National Wetlands Inventory



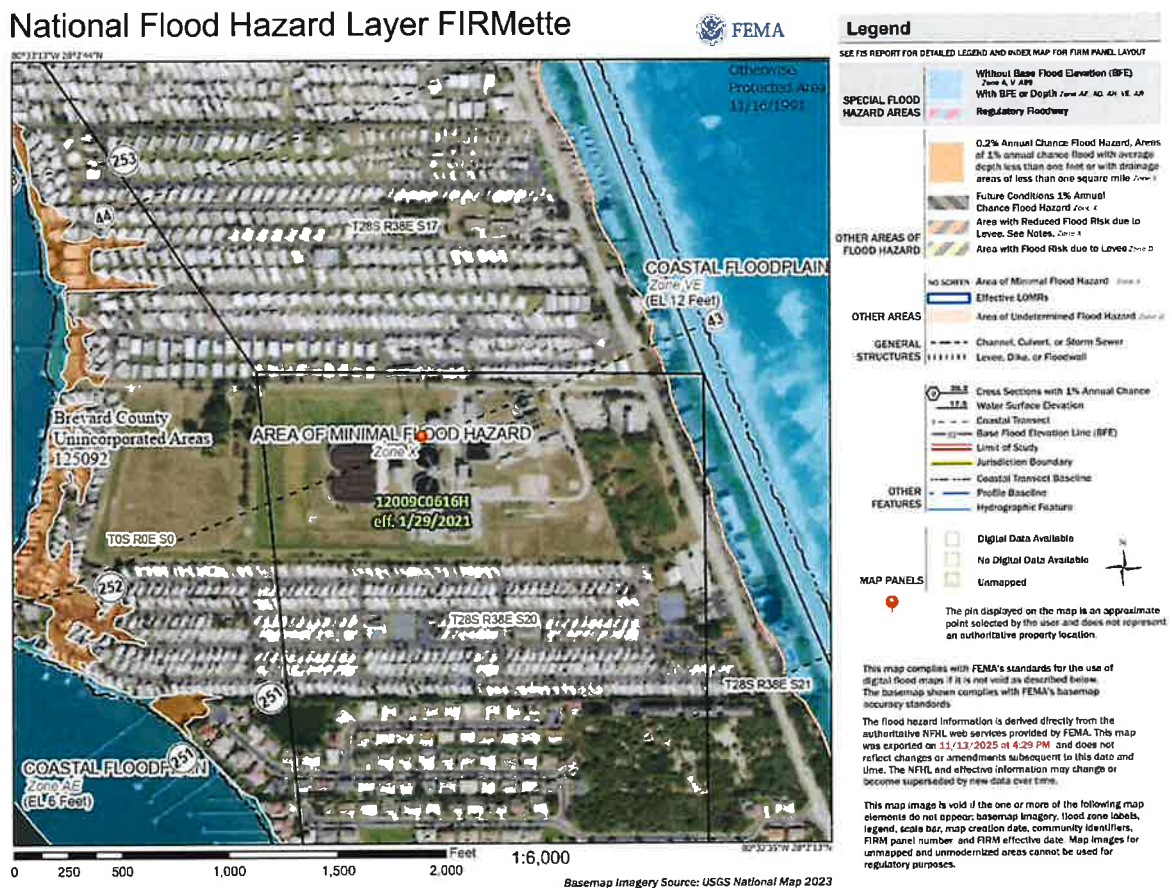
3.3 Minority and Low-Income Communities

The proposed project will have no significant adverse human health or environmental effects on any populations, including minority and low-income communities. The improvements are in the public interest and will contribute to increased water quality and protection of public health.

3.4 Flood Risk

Review of the Federal Emergency Management Agency flood maps indicates the site is within Flood Zone X and, therefore, not within the 100-year special flood hazard. There are no defined floodways within the project limits, and the project will result in no floodplain encroachments. However, because of the site's proximity to the Atlantic Ocean to the east and the associated coastal storm surge (Zone VE) floodplain elevation of 12 feet North American Vertical Datum of 1988 (NAVD88), equipment pads for electrical features, pumps, and control panels will be designed at elevation 14 feet NAVD88 or higher. Proposed structures and foundation finished floors will also be at elevation 14 feet NAVD88 or higher. Figure 3-2 presents the flood zone for the planning area.

Figure 3-2. National Flood Hazard FIRMette



4. Implementation and Financial Planning

This section provides implementation and financial planning details.

4.1 Schedule

The following is a conceptual schedule for implementation of the SBWWTF improvements project:

▪ Submit all planning documentation to FDEP SRF:	March 2026
▪ Complete Preliminary design:	January 2026
▪ Complete 75% Design:	April 2026
▪ Complete 90% Design:	June 2026
▪ Complete 100% Design and obtain permits:	August 2026
▪ Notice to proceed to contractor:	December 2026
▪ Complete construction activity:	November 2028

The project is anticipated to be constructed in one phase. Brevard County has the sole responsibility and authority to implement the proposed improvements at the SBWWTF. At this time, there is no official action by Brevard County enacting any commitment to implement the project.

4.2 Public Participation

An advertised public meeting will be held to explain the proposed project and address the environmental impacts, project alternatives, and financial costs and engage public comments and feedback. Records of the public notice, sign-in sheet, meeting minutes, and other documentation will be retained for future reference.

4.3 Permitting

Permitting through FDEP and the Brevard County Building Department will be required to implement the proposed improvements to the SBWWTF. The following provides details of the anticipated permits required before project construction and subsequent operation.

4.3.1 Florida Department of Environmental Protection Wastewater Permit

As part of this project, application documents for the FDEP Wastewater Permit required for the proposed improvements will be developed. After the County accepts the improvements design, a virtual pre-application meeting will be coordinated with FDEP to discuss the proposed improvements. Any feedback received from FDEP will be considered and incorporated into the design and permit application if acceptable by the County. The application documents will include *FDEP Wastewater Facility or Activity Permit Application-General Information-Form 1 (Activity Permit – Form 62-620.910[1])*, *Wastewater Permit Application Form 2A for Domestic Wastewater Facilities (Form 62-620.910[2])*, and required attachments. The permit application package will be submitted to FDEP shortly after the pre-application meeting.

4.3.2 Florida Department of Environmental Protection Environmental Resource Permit

Permitting of the proposed site improvements and stormwater system may be required through FDEP's Environmental Resource Permit (ERP) program. The SBWWTF has an existing ERP under Permit No. 42-008-2229NG. The total impervious area from the proposed facilities is approximately 7,720 square feet. The St. John's River basin has a permit threshold of 5,000 square feet for permit modifications, so this project may not qualify for an exemption for a permit modification. A pre-application meeting or phone call with FDEP will be held to confirm whether an ERP permit modification is required.

4.3.3 Brevard County Building Permit

Based on Chapter 62 of the Code of Ordinances of Brevard County, Florida, a Land Development Permit is not required. In accordance with Section 62-3202 (b)(5), sewer lift station, sewer vacuum station, and other water and sewer utility infrastructure are exempt.

However, a building permit will be required with the Brevard County Building Department for the proposed improvements. As part of this project, application documents for the initial County's Building Permit application will be developed. After the 90% Design is accepted by the County, a virtual pre-application meeting will be coordinated with the County's Building Department to discuss the proposed improvements. Any feedback received from the Building Department will be considered and incorporated into the design and permit application if acceptable by the Utility Services Department. The application materials will include only the engineering disciplines requested by the Building Department. The final application will be based on 100% Design, with the actual Building Department permit to be pulled by the contractor.

4.4 Financial Feasibility

Brevard County intends to design, bid, and construct this project with funding support from the FDEP SRF Loan Program. FDEP has provided a \$12 million grant under Agreement No. LPA0421 and a \$2 million grant under a separate application for this 6.0 mgd project already; this SRF loan will provide supplemental funding to compensate for the increased total estimated cost of \$34.1 million, as discussed in Section 2.2.1 of this Facilities Plan. To initiate the process for receiving an SRF loan, and in accordance with FAC 62-503.200(33), a Request for Inclusion (RFI) on the Clean Water Priority List form with attachments was prepared and submitted to FDEP on December 23, 2025. Appendix A provides a copy of the RFI submittal.

A Capital Financing Plan was prepared on behalf of Brevard County by Raftelis Financial Consultants and demonstrates Brevard County's ability to repay potential loans associated with this project, including the 1.15 coverage factor. The County has already adopted indexing provisions tied to the Water and Sewer Maintenance Index, allowing for annual rate adjustments. The projected financial analysis indicates that this indexing mechanism is projected to yield approximately 4% annually. When combined with anticipated customer growth, this revenue will provide sufficient funds to support debt coverage for existing and projected bonds and State Revolving Fund loans through 2030. Consequently, no rate adjustments beyond the adopted index are anticipated to be required to meet debt coverage requirements. Appendix B provides a copy of the Capital Financing Plan. A fiscal sustainability plan will be developed and provided for FDEP review before the project's final disbursement. The approved fiscal sustainability plan will be implemented at the SBWWTF for maintaining critical project components and ensuring adequate funds will be available for any needed expenses.

4.5 Project Authorization

The Brevard County Board of County Commissioners (BOCC) will consider an adopting resolution for implementing the SBWWTF 6.0 mgd AWT Improvements Facilities Plan following FDEP's review and approval. The BOCC's official action will take place during a scheduled publicly noticed board session. Appendix C provides a draft resolution developed from an example provided by FDEP.

5. References

CPH, Inc. (CPH). 2019. *South Beaches Regional Water Reclamation Facility AWT Feasibility Evaluation*. Prepared for Brevard County.

CPH, Inc. (CPH). 2021. *Non-Beneficial Surface Water Discharge Elimination Plan*. Prepared for Brevard County. October.

Appendix A

Request for Inclusion Form





Florida Department of Environmental Protection

REQUEST FOR INCLUSION ON THE CLEAN WATER PRIORITY LIST

Clean Water State Revolving Fund Program
3900 Commonwealth Blvd., MS 3505, Tallahassee, FL 32399-3000

Process to receive a State Revolving Fund (SRF) Loan. This Request for Inclusion (RFI) form, Form RFI 1 per subsection 62-503.200(33), F.A.C., lets us know that you are interested in obtaining an SRF loan. Each RFI will be assigned a project engineer to assist you throughout the SRF funding process. The information contained in the RFI is used to determine a priority score for your project; and the priority score is used to rank projects on the SRF priority list. Only projects ranked on the fundable portion of the priority list will receive consideration for a loan. Your project engineer will assist you in understanding all program requirements necessary before you are asked to submit a loan application, Form Application 1 or Form Application 2 per paragraph 62-503.430(1)(a), F.A.C. Please note that costs incurred before the adoption of the project on the fundable or waiting portion of the priority list are ineligible for reimbursement.

Type of Loan Requested in this Application. Select only one loan category and project type.

Loan Category: Planning ☐ Design ☐ Inflow/Infiltration Rehabilitation ☐ Construction ☒
Project Type: Design/Bid/Build ☐ Design/Build (D/B) ☐ Construction Manager at Risk (CMR) ☒

Note: Procurement of professional services must meet the requirements of the Consultants' Competitive Negotiation Act, Section 287.055, F.S.

1. Applicant's Name and Address.

Project Sponsor: Brevard County Utility Services Department **Contact Person:** Edward Fontanin, PE **Title:** Utility Services Director
2725 Judge Fran Jamieson Way, A-213 Viera Brevard FL 32940
(street address) (city) (county) (state) (zip code)
321.633.2091 utility.development@brevardfl.gov
(telephone) (ext.) (email address)

Contact Person Address (if different): _____
(street address) (city) (state) (zip code)

2. Name and Address of Applicant's Consultant (if any).

Firm: Jacobs Engineering Group, Inc. **Contact Person:** GJ Schers **Title:** US South Principal Technologist
550 W. Cypress Creek Rd., Suite 400 Fort Lauderdale FL 33309
(street address) (city) (county) (state) (zip code)
(239) 404-0245 gj.schers@jacobs.com
(telephone) (ext.) (email address)

3. Certification by Authorized Representative. I certify that this form and attachments have been completed by me or at my direction and that the information presented herein is, to the best of my knowledge, accurate.

Edward.fontanin@brevardfl.gov 12/22/25
(email address) (date)
Edward Fontanin, PE Utility Services Director
(name, typed) (title)


(signature)

REQUEST FOR INCLUSION ON THE CLEAN WATER PRIORITY LIST

4. Eligible Projects.

- a. Stormwater management facilities, such as detention/retention facilities, treatment facilities, etc. sponsored by a local government (eligible under Section 212 of the amended Clean Water Act).
- b. Wastewater management facilities, such as sewers, pump stations, treatment plants, reuse facilities, sludge facilities, etc. sponsored by a local government (eligible under Section 212 of the amended Clean Water Act).
- c. Nonpoint source pollution control best management practices for agriculture, silviculture, on-site treatment and disposal, wetlands, mining, marinas, brownfields or groundwater protection sponsored by any entity (eligible under Section 319 or 320 of the amended Clean Water Act).

5. Project Information (Please attach). See Attachment A

- a. Describe the project, its location, the scope, why it's needed and the environmental benefit.
- b. Attach maps showing system boundaries, existing and proposed service area, and project area.

6. Estimated Costs (Clean Water Act Section 212, 319, and 320).

- | | |
|--|--------------|
| a. Planning and/or SSES including geotechnical studies and surveying | N/A |
| b. Design | N/A |
| c. Special Studies including feasibility studies | N/A |
| d. Eligible Land (necessary land divided by total land times purchase price) | N/A |
| e. Construction, Equipment, Materials, Demolition and Related Procurement | \$31,000,000 |
| f. Construction Contingency (10% of Item e) | \$3,100,000 |
| g. Technical Services during Construction | \$2,100,000 |
| h. Sum of Items a. through g. | \$36,200,000 |

7. Project Schedule.

(Month and Year)

- | | |
|--|------------|
| a. Submit the planning or SSES documentation | N/A |
| b. Submit the design documents, obtain permits, and acquire sites (as necessary) | 8/31/2026 |
| c. Start activity (such as construction or non-structural best management practice) | 12/1/2026 |
| d. Complete activity (such as construction or non-structural best management practice) | 11/30/2028 |

8. Population

- | | |
|---|--------|
| a. Population served by the system | 58,260 |
| b. Population to be served by the project | 58,260 |

9. Project Priority

- a. Baseline Priority Categorization.

In the Table below, identify each of the project components for which the project qualifies and provide the component's construction cost. The baseline priority score (BPS) will be determined by prorating each component. The project sponsor must provide documentation that supports the selection of a base priority score of 350 points or greater.

REQUEST FOR INCLUSION ON THE CLEAN WATER PRIORITY LIST

<u>Project Component</u>	<u>Priority Points</u>	<u>Component Construction Cost</u>
1. Eliminate a documented acute or chronic public health hazard. Examples include elimination of failing septic tanks, failing package plants, or elimination of sanitary sewer overflows.	500 points	_____
2. Implement a project included in, or to be implemented as a direct result of, an adopted Basin Management Action Plan or a Reasonable Assurance Plan approved pursuant to section 403.067, F.S.	450 points	\$36,200,000
3a. Protect surface or ground water by preventing or reducing a documented source of pollution, pollution reductions necessary to meet regulatory requirements; or		
3b. Projects or activities by local governments or on-site system management entities, under section 319 of the Act, that correct septic tank failures in springsheds of first magnitude springs; or correct septic tank contributions to nutrient impaired spring systems.	400 points	_____
4. Address a compliance problem documented in an enforcement action where the Department has issued a notice of violation or entered a consent order with the project sponsor.	375 points	_____
5. Meet the criteria for a Green Project; correct excessive inflow/infiltration or other issues within the collection and transmission system that cause sanitary sewer overflows; scheduled rehabilitation; replacement; repair described in an approved asset management plan; or reuse that replaces an existing or proposed demand on a water supply.	350 points	_____
6. Planning and design loans; projects for the installation of wastewater transmission facilities to be constructed concurrently with other construction projects occurring within or along a transportation facility right-of-way; or for rehabilitation, replacement or repair not included in an approved asset management plan.	340 points	_____
7. Projects that construct other reclaimed water systems or residuals reuse systems that do not meet the criteria of component 5. above.	300 points	_____
8. Ensure compliance with other enforceable standards or requirements.	200 points	_____
9. Timely submitted projects that otherwise meet the requirements of the Act (including land or wastewater system acquisition projects).	100 points	_____
b. Restoration and Protection of Special Water Bodies.		
In order to qualify for a base score multiplier, identify which of the water bodies listed below that the project will assist in restoring or protecting; and reference the location in existing documentation where substantiating information may be found or attach other such substantiating information. If none are selected, the multiplier equals 1.0. If one or more are selected, the multiplier is 1.2. Supporting documentation must be provided for items selected.		
1. A priority water body identified in an adopted Surface Water Improvement and Management (SWIM) Plan.		☒
2. A water body classified as Outstanding Florida Waters or Wild and Scenic Rivers.		☐
c. Projects that document any of the following shall have bonus points added to the priority score after the adjustment under paragraph (b) above, as indicated. Items 3, 4 and 5 below are only applicable to financially disadvantaged small communities.		
1. Elimination of Ocean Outfalls.	15 points	☐
2. Consistency with an Integrated Water Resource Management (One Water) plan.	15 points	☐
3. Population of 10,000 or less as of most recent decennial census, and affordability index less than or equal to 100.	1000 divided by the affordability Index = _____ points.	
4. Negative population trend as defined in 62-505.300(2)(c)2, F.A.C.	25 points	☐
5. End of useful life as defined in 62-505.300(2)(c)3., F.A.C.	25 points	☐

Return the completed form to the State Revolving Fund Program, 3900 Commonwealth Blvd., MS 3505, Tallahassee, Florida, 32399-3000. The form may be scanned and emailed to SRFRFI@FloridaDEP.gov.

ATTACHMENT A
BREVARD COUNTY SOUTH BEACHES WASTEWATER TREATMENT FACILITY
6 MGD CONVERSION TO ADVANCED WASTEWATER TREATMENT

REQUEST FOR INCLUSION – PROJECT INFORMATION

Background

The South Beaches Wastewater Treatment Facility (SBWWTF) is a domestic wastewater treatment facility permitted by Florida Department of Environmental Protection (FDEP) under permit number FL0040622 to treat 8 mgd of wastewater on an annual average day flow (AADF) basis. The SBWWTF is located at 2800 S Highway A1A in Melbourne Beach, Florida (Figure 1) and its service area includes the municipalities of Satellite Beach, Indian Harbour Beach, Indialantic, Melbourne Beach, a portion of the City of Melbourne, and several areas of unincorporated Brevard County. The existing service area is illustrated in Figure 2. No expansion of the existing service area is proposed.



Figure 1. SBWWTF Project Location



Figure 2. SBWWTF Service Area

The SBWWTF consists of two activated sludge treatment trains, where one treatment train contains a 6 mgd dual train carrousel oxidation ditch and the other train contains a 2 mgd conventional activated sludge (CAS) basin (Figure 3). Treated wastewater from the SBWWTF is discharged via the following three permitted effluent disposal methods:

- 12.7 mgd (peak flow rate) deep injection well (DIW)
- 3.0 mgd AADF slow-rate public access system for irrigation within the reuse service area
- 0.11 mgd AADF surface water discharge to the Indian River Lagoon; discharge to the Indian River Lagoon is permitted only during a 5-day period during the deep injection well mechanical integrity test (MIT) performed every 5 years



Figure 3. SBWWTF Existing Facilities

Due to recent changes to the Florida State regulations, such as issuance of Final Order Office of General Counsel (OGC) Case No. 21-0081 by FDEP on February 17, 2021, the SBWWTF requires modifications to its current treatment and effluent disposal system in order to comply with more stringent wastewater requirements and reduce nutrient pollution in the Indian River Lagoon watershed. Final Order OGC Case No. 21-0081 established the Central Indian River Lagoon Basin Management Action Plan (CIRL BMAP) and required wastewater facilities that discharge effluent in the CIRL BMAP area to meet new total nitrogen (TN) and total phosphorus (TP) effluent limitations. The SBWWTF is listed as a facility in the CIRL and is therefore subject to the new CIRL BMAP provisions (refer to Table 11 in the CIRL BMAP).

Potential alternatives were identified based on available effluent disposal options, existing process facilities, constructability, and potential new facilities to meet the new levels of treatment and reduce nutrient loading to the CIRL. After reviewing the treatment alternatives, conversion of the existing 6 mgd train to advanced wastewater treatment (AWT) for simultaneous nitrification and denitrification was determined to be the best option for the County.

Proposed Project

Based on recommendations developed from the treatment alternatives analysis, the proposed project will provide improvements to the existing facility treatment process as well as allow the SBWWTF to produce AWT effluent in accordance with Chapter 403.086(4) of the Florida Statutes to meet the new regulations. All proposed modifications for this project are listed below, and illustrated in the site plan shown in Figure 4:

- Modification of the existing oxidation ditches to create an environment for nitrification and denitrification to occur simultaneously through aeration control and oxidation-reduction potential monitoring.
- Upgrade to four oxidation ditch aerators to meet aeration requirements based on updated influent flows and loads.
- Denitrification filtration facility including media filters, backwash pumps, air scour blowers, backwash water supply tank, and backwash recovery basin.
- Effluent transfer pump station directly downstream of the denitrification filters to transfer treated effluent to the equalization/chlorine contact basin.
- Chemical storage and feed facilities for adding supplemental carbon substrate (e.g. Micro C) to enhance denitrification, ferric salt to remove phosphorus and an additional sodium hypochlorite feed pump.
- Electrical switchgear, standby generator and other electrical facilities for the 6 mgd train of the SBWWTF, including new MCCs and power panels, associated with the denitrification facility, transfer pump station and chemical feed facilities.
- Yard piping from the clarifier splitter box to the denitrification filter facility and from the denitrification facility to the equalization/chlorine contact basin.
- Associated site civil, electrical and process control and instrumentation facilities.

The oxidation ditch improvements will be designed for a 6 mgd AADF while the transfer pump station and denitrification filters will be designed for a peak hour flow of 20 mgd. Brevard County intends to design, bid, and construct this project with funding support from the FDEP State Revolving Fund (SRF) Loan Program. FDEP has provided a \$12,000,000 grant for this 6 mgd project already under Agreement No. LPA0421; this SRF loan will provide supplemental funding to compensate for increased total estimated cost.

Conversion of the 2 mgd CAS process to an AWT process and addition of a new DIW are each being designed separately and will be constructed as part of a separate project from this project. A \$2,200,000 FDEP grant funding with 50/50% match was received for the 2 mgd system AWT conversion under Agreement No. WG008. A \$2,000,000 FEP grant funding was received for the additional DIW under Agreement No. LPA0477.

Appendix B

Capital Financing Plan



CAPITAL FINANCING PLAN

Brevard County Utility Services
(Project Sponsor)
Edward Fontanin
(Authorized Representative and Title)
Viera, Florida 32940
(City, State, and Zip Code)

Thierry Boveri, Senior Vice President, 407-628-2600
(Capital Financing Plan Contact, Title and Telephone Number)
341 N Maitland Ave Suite 300
(Mailing Address)
tboveri@raftelis.com
(Email Address)
Maitland, FL 32751
(City, State, and Zip Code)

The Department needs to know about the financial capabilities of potential State Revolving Fund (SRF) loan applicants. Therefore, a financial capability demonstration (and certification is required well before the evaluation of the actual loan application).

The sources of revenues being dedicated to repayment of the SRF loan are Utility operating revenues **(Note: Projects pledging utility operating revenues should attach a copy of the existing /proposed rate ordinance)**

Estimation of Proposed SRF Loan Debt Service

Capital Cost [1]	\$ 22,200,000
Loan Service Fee (2% of Capital Cost)	\$ 444,000
Subtotal	\$ 22,644,000
Capitalized Interest [2]	\$ 276,257
Total Cost to be Amortized (Rounded)	\$ 22,920,257
Interest Rate [3]	1.22%
Annual Debt Service	\$ 1,294,981
Annual Debt Service Including Coverage Factor [4]	\$ 1,489,228

Notes:

- [1] Capital Cost = Allowance + Construction Cost.
- [2] Estimated based on linear draw of project amount over a 2 year construction period.
- [3] Based on previous CFP interest rate submission. FY 25/26 Q2 reported CWSRF rate equals 1.22%.
- [4] Coverage Factor is assumed at 1.15 recognizing that no impact fees are assumed within the Schedule of Revenue and Debt Service Coverage.

SCHEDULE OF EXISTING DEBT SERVICE AND DEBT EQUIVALENTS ^[1]

List annual debt service beginning two years before the anticipated loan agreement date and continuing at least fifteen fiscal years.

Use additional pages as necessary.

IDENTIFY EACH OBLIGATION

#1 Water & Wastewater Utility Revenue Bonds, Series 2014 Coverage % [2] 110% Revenue Pledge Lien Priority 1st Insured (Yes/No) Yes	#2 CW-051170 Coverage % 115% Revenue Pledge Lien Priority 2nd Insured (Yes/No) N/A	#3 WW05110 Coverage % 115% Revenue Pledge Lien Priority 2nd Insured (Yes/No) N/A
#4 CW-051130 Coverage % 115% Revenue Pledge Lien Priority 2nd Insured (Yes/No) N/A	#5 Estimate - SRF Loan 1 (CDM2) Coverage % 115% Insured (Yes/No) N/A	#6 Estimate - SRF Loan 2 (WT) Coverage % 115% Insured (Yes/No) N/A
#7 Estimate - SRF Loan 3 (CDM1) Coverage % 115% Insured (Yes/No) N/A		

Fiscal Year	Annual Debt Service (Principal + Interest)							Total Non-SRF Debt Service w/coverage	Total SRF Debt Service w/ coverage
	#1	#2 ^[3]	#3 ^[3]	#4	#5 [4]	#6 [4]	#7[4]	(Excludes Leases)	
2025	1,473,431	113,183	2,166,769	598,006	0	0	\$0	\$1,620,774	\$3,309,652
2026	1,473,431	113,183	2,166,769	598,006	0	0	0	\$1,620,774	\$3,309,652
2027	1,475,056	113,183	2,166,769	598,006	0	0	0	\$1,622,562	\$3,309,652
2028	1,472,406	113,183	2,166,769	598,006	0	557,545	0	\$1,619,647	\$3,950,828
2029	1,474,156	113,183	2,166,769	598,006	982,848	1,115,089	1,350,980	\$1,621,572	\$7,275,908
2030	1,475,156	113,183	2,166,769	598,006	982,848	1,115,089	1,350,980	\$1,622,672	\$7,275,908
2031	1,475,406	113,183	2,166,769	598,006	982,848	1,115,089	1,350,980	\$1,622,947	\$7,275,908
2032	1,472,781	113,183	2,166,769	598,006	982,848	1,115,089	1,350,980	\$1,620,059	\$7,275,908
2033	1,474,344	113,183	2,166,769	598,006	982,848	1,115,089	1,350,980	\$1,621,778	\$7,275,908
2034	1,473,800	113,183	2,166,769	598,006	982,848	1,115,089	1,350,980	\$1,621,180	\$7,275,908
2035	1,471,075	113,183	2,166,769	598,006	982,848	1,115,089	1,350,980	\$1,618,183	\$7,275,908
2036	1,472,650	113,183	2,166,769	598,006	982,848	1,115,089	1,350,980	\$1,619,915	\$7,275,908
2037	1,472,200	113,183	2,166,769	598,006	982,848	1,115,089	1,350,980	\$1,619,420	\$7,275,908
2038	1,474,725	113,183	2,166,769	598,006	982,848	1,115,089	1,350,980	\$1,622,198	\$7,275,908
2039	1,475,000	113,183	2,166,769	598,006	982,848	1,115,089	1,350,980	\$1,622,500	\$7,275,908
2040	1,473,025	113,183	1,083,385	598,006	982,848	1,115,089	1,350,980	\$1,620,328	\$6,030,016
2041	1,473,800	113,183		299,003	982,848	1,115,089	1,350,980	\$1,621,180	\$4,440,270
2042	1,473,400	113,183			982,848	1,115,089	1,350,980	\$1,620,740	\$4,096,417
2043	1,471,000	113,183			982,848	1,115,089	1,350,980	\$1,618,100	\$4,096,417
2044	1,471,600	56,592			982,848	1,115,089	1,350,980	\$1,618,760	\$4,031,336
2045					982,848	1,115,089	1,350,980	\$0	\$3,966,256
2046					982,848	1,115,089	1,350,980	\$0	\$3,966,256
2047					982,848	1,115,089	1,350,980	\$0	\$3,966,256
2048					982,848	557,545	1,350,980	\$0	\$3,325,080
2049								\$0	\$0
2050								\$0	\$0
2051								\$0	\$0
2052								\$0	\$0
2053								\$0	\$0
2054								\$0	\$0

Footnote:

- [1] Reflects debt service schedules from outstanding bonds and active SRF loans. It should be noted that the projections contained herein do not reflect any additional debt service that may be contemplated or required to fund future capital pursuant to the County's Capital Improvement Plan.
- [2] Pursuant to the Bond Resolution authorizing the issuance of the outstanding Water and Wastewater Revenue Bonds, Series 2014, the county must:
- a) generate sufficient Net Revenue equal to or greater than 110% of the annual debt service of the outstanding bonds; and b) generate sufficient Net Revenues plus impact fees equal to or greater than 120% of the annual debt service of the outstanding bonds. For purposes of the CFP we have assumed the senior lien coverage requirement at 110% in recognition that no impact fees were assumed in the projections contained in the *schedule of Projected Revenues and Debt Coverage for Pledged Revenue*.
- [3] Amounts shown reflect estimates and are subject to change based on completion of actual project cost and timing of completion.
- [4] Amounts shown reflect estimates of additional proposed SRF loans which would be submitted in parallel with the current submission.

SCHEDULE OF ACTUAL REVENUES AND DEBT COVERAGE FOR PLEDGED REVENUE

(Provide information for the two fiscal years preceding the anticipated date of the SRF loan agreement)

	FY 23-24 ^[1]	FY 24-25 ^[1]
(a) Operating Revenues (Identify)		
Charges for Service [2]	\$ 52,168,786	\$ 57,601,404
Other Operating Revenue	-	-
(b) Interest Income	\$6,075,498	\$4,907,624
(c) Other Incomes or Revenues	\$0	\$0
(d) Total Revenues	\$58,244,284	\$62,509,028
(e) Operating Expenses (excluding interest on debt, depreciation and other non-cash items)	\$41,469,096	\$43,860,028
(f) Net Revenues (f = d - e)	\$16,775,188	\$18,649,000
(g) Debt Service (including coverage) Excluding SRF Loans [3]	\$1,618,849	\$1,620,774
(h) Debt Service (including coverage) for Outstanding SRF Loans [3]	\$3,179,491	\$3,193,528
(i) Net Revenues After Debt Service (i = f - g - h)	\$11,976,847	\$13,834,698

Source:

Notes:

[1] Unless otherwise noted, amounts shown are derived from the County's audited financial statements for FY24 and unaudited budget to actuals document for FY25.

[2] The Board approved the following rate adjustments at the February 8, 2022 Public Hearing;

a. The water and sewer user rates will be indexed as follows effective each year:

2022 – 6.5%

2023 – 8.5%

2024 – 8.5%

2025 – 8.5%

2026 – 7.5%

Beginning and in all subsequent years, the water and sewer user rates shall automatically increase based on the actual change in the Consumer Price Index Sewer and Water Maintenance Index (S W M I)(U) based on the average of the Index from the previous 12 months (November to November).

[3] Amounts shown reflect debt service as noted in the prior *Schedule Of Debt Service And Debt Equivalents*.

**SCHEDULE OF PROJECTED REVENUES AND DEBT COVERAGE
FOR PLEDGED REVENUE**

	2026	2027	2028	2029	2030
(a) Operating Revenues Service Charges [1]	\$58,515,000	\$60,776,000	\$63,127,000	\$65,573,000	\$68,116,000
(b) Interest Income [2]	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000
(c) Other Incomes or Revenues (Identify) [3]	\$0	\$0	\$0	\$0	\$0
(d) Total Revenues	\$62,015,000	\$64,276,000	\$66,627,000	\$69,073,000	\$71,616,000
(e) Operating Expenses (excluding interest on debt, depreciation and other non-cash items) [4]	\$46,698,633	\$48,416,401	\$50,197,623	\$52,044,655	\$53,959,937
(f) Net Revenues (f = d - e)	\$15,316,367	\$15,859,599	\$16,429,377	\$17,028,345	\$17,656,063
(g) Existing Debt Service on Non-SRF Projects (including coverage) [5]	\$1,620,774	\$1,622,562	\$1,619,647	\$1,621,572	\$1,622,672
(h) Existing SRF Loan Debt Service (including coverage)	\$3,309,652	\$3,309,652	\$3,950,828	\$7,275,908	\$7,275,908
Total Existing Debt Service (i = g + h)	\$4,930,426	\$4,932,214	\$5,570,475	\$8,897,480	\$8,898,580
(j) Projected Debt Service on Non-SRF Future Projects (including coverage)	\$0	\$0	\$0	\$0	\$0
(k) Projected SRF Loan Debt Service (including coverage) [6]	\$0	\$0	\$0	\$744,614	\$1,489,228
Total Debt Service (Existing and Projected) (l = i + j + k)	\$4,930,426	\$4,932,214	\$5,570,475	\$9,642,094	\$10,387,808
(m) Net Revenues After Debt Service (m = f - l) [7]	\$10,385,941	\$10,927,385	\$10,858,901	\$7,386,251	\$7,268,255

Source:

Notes:

- [1] Revenue projection for FY26 is assumes a 7.5% rate adjustment (adopted by the County) (pro rated for only 8 months since it is effective February 1st 2026) and for all future years 4.0% rate adjustments were assumed which is slightly below the 5 year average for the BLS water and sewerage maintenance index which the County adopted as its rate adjustment index for future years. Revenue projections exclude impact fees.
- [2] Includes interest income on unrestricted cash balances, which were assumed to be held constant during the forecast.
- [3] Although excluded from the projections, the County recovered on average approximately \$4.76 million in water and wastewater impact fees during the Fiscal Years 2024 and 2025. The County continues to charge new connections the impact fees.
- [4] Amounts are based on the County's adopted budget for operating expenses for the Fiscal Year 2026 and escalated thereafter at an average annual factor of approximately 3.7%.
- [5] Pursuant to the Bond Resolution authorizing the issuance of the outstanding Water and Wastewater Revenue Bonds, Series 2014, the county must:
a) generate sufficient Net Revenue equal to or greater than 110% of the annual debt service of the outstanding bonds; and b) generate sufficient Net Revenues plus impact fees equal to or greater than 120% of the annual debt service of the outstanding bonds. For purposes of the CFP we have assumed the senior lien coverage requirement at 110% in recognition that no impact fees were assumed in the projections contained in the Schedule of Projected Revenues and Debt Coverage for Pledged Revenue.
- [6] Amounts reflect the estimated annual debt service for the proposed SRF Loan.
- [7] For the purposes of full disclosure, the County budgets and funds: a) transfers to the general fund associated with Payment in Lieu of Taxes and b) capital outlay for minor units of equipment and vehicles. The following provides a forecast of net revenues after such transfers and payments:

Net Revenues After Debt	\$10,385,941	\$10,927,385	\$9,516,950	\$7,386,251	\$7,268,255
Less:					
Payment in Lieu of Taxes (PILOT)	\$1,754,149	\$1,754,149	\$1,754,149	\$1,754,149	\$1,754,149
Capital Outlay (Excludes Major Maintenance)	2,750,000	2,750,000	2,750,000	2,750,000	2,750,000
Net Available to Utility Reserve Fund	\$5,881,792	\$6,423,237	\$5,012,801	\$2,882,102	\$2,764,106

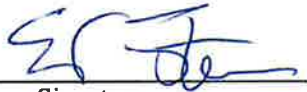
CERTIFICATION

I, Edward Fontanin, PE, certify that I have reviewed the information
Utility Services Department Director

included in the preceding capital financing plan worksheets, and to the best of my knowledge, this
information accurately reflects the financial capability of Brevard County Utility Services
Department
Local Government

I further certify that Brevard County Utility Services Department
Local Government

adequate construction, operation, and maintenance of the system, including this SRF project.


Signature

MAR 18/26
Date

Appendix C

Draft Adopting Resolution



RESOLUTION NUMBER 2026-000

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF BREVARD COUNTY, FLORIDA, RELATING TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) STATE REVOLVING FUND (SRF), ADOPTION OF THE WASTEWATER FACILITIES PLAN FOR THE IMPLEMENTATION OF THE SOUTH BEACHES WASTEWATER TREATMENT FACILITY TO ADVANCED WASTEWATER TREATMENT (AWT) CONVERSION – 6 MGD TREATMENT TRAIN, AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, Florida Statutes provide for loans to local government agencies to finance the construction of wastewater facilities, and the Florida Administrative Code requires authorization by the Board to formally adopt a Facilities Plan outlining necessary wastewater facility improvements to comply with State of Florida funding requirements;

WHEREAS, formal adoption of the proposed Facilities Plan, including public participation through a public hearing, is required for Brevard County to participate in the State Revolving Loan Fund Program;

WHEREAS, the Board of County Commissioners of Brevard County, Florida agrees with the findings and summary of necessary improvements as outlined in the Facilities Plan for the purpose of improving the existing facility treatment process to reduce nutrient loadings to surrounding surface waters and ensure wastewater treatment compliance with state regulations;

NOW THEREFORE BE IT RESOLVED by the Board of Commissioners of Brevard County, Florida, that:

SECTION 1. FINDINGS

The foregoing recitals are incorporated herein by reference and made a part hereof.

The Board of County Commissioners of Brevard County, Florida, is authorized to approve the proposed Facilities Plan, and hereby formally approves and adopts the South Beaches Wastewater Treatment Facility to AWT Conversion - 6 MGD Treatment Train Facilities Plan as written and presented to the Board on this date, a copy of which is attached hereto and incorporated herein by reference.

The County Manager is hereby designated as the authorized representative to provide the assurances and commitments that will be required by the Facilities Plan.

The County Manager is hereby designated as the authorized representative to execute the Facilities Plan which will become the foundation of all activities related to the wastewater facility improvements. The County Manager is authorized to represent the County in carrying out the County's responsibilities under the Facilities Plan. The County Manager is authorized to delegate responsibility to appropriate County Staff to carry out technical, financial, and administrative activities associated with the Facilities Plan.

The legal authority for adoption of this facilities plan is pursuant to the County Charter, County Code of Ordinances, and the Laws of the State of Florida.

All Resolutions or part of Resolutions in conflict with any of the provisions of this Resolution are hereby repealed.

If any section or portion of a section of this Resolution proves to be invalid, unlawful, or unconstitutional, it shall not be held to invalidated or impair the validity, force, or effect or any other section or part of this Resolution.

SECTION 2. EFFECTIVE DATE

This Resolution shall take effect upon its approval and adoption by the Board.

APPROVED AND ADOPTED IN REGULAR SESSION THIS ____ DAY OF _____, .

ATTEST:

**BOARD OF COUNTY COMMISSIONERS
BREVARD COUNTY, FLORIDA**

CLERK

CHAIR (SEAL)

APPROVED AS TO FORM AND CONTENT:

RESOLUTION NUMBER 2026-027

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF BREVARD COUNTY, FLORIDA, RELATING TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) STATE REVOLVING FUND (SRF), ADOPTION OF THE WASTEWATER FACILITIES PLAN FOR THE IMPLEMENTATION OF THE SOUTH BEACHES WASTEWATER TREATMENT FACILITY TO ADVANCED WASTEWATER TREATMENT (AWT) CONVERSION – 6 MGD TREATMENT TRAIN, AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, Florida Statutes provide for loans to local government agencies to finance the construction of wastewater facilities, and the Florida Administrative Code requires authorization by the Board to formally adopt a Facilities Plan outlining necessary wastewater facility improvements to comply with State of Florida funding requirements;

WHEREAS, formal adoption of the proposed Facilities Plan, including public participation through a public hearing, is required for Brevard County to participate in the State Revolving Loan Fund Program;

WHEREAS, the Board of County Commissioners of Brevard County, Florida agrees with the findings and summary of necessary improvements as outlined in the Facilities Plan for the purpose of improving the existing facility treatment process to reduce nutrient loadings to surrounding surface waters and ensure wastewater treatment compliance with state regulations;

NOW THEREFORE BE IT RESOLVED by the Board of Commissioners of Brevard County, Florida, that:

SECTION 1. FINDINGS

The foregoing recitals are incorporated herein by reference and made a part hereof.

The Board of County Commissioners of Brevard County, Florida, is authorized to approve the proposed Facilities Plan, and hereby formally approves and adopts the South Beaches Wastewater Treatment Facility to AWT Conversion - 6 MGD Treatment Train Facilities Plan as written and presented to the Board on this date, a copy of which is attached hereto and incorporated herein by reference.

The County Manager is hereby designated as the authorized representative to provide the assurances and commitments that will be required by the Facilities Plan.

The County Manager is hereby designated as the authorized representative to execute the Facilities Plan which will become the foundation of all activities related to the wastewater facility improvements. The County Manager is authorized to represent the County in carrying out the County's responsibilities under the Facilities Plan. The County Manager is authorized to delegate responsibility to appropriate County Staff to carry out technical, financial, and administrative activities associated with the Facilities Plan.

The legal authority for adoption of this facilities plan is pursuant to the County Charter, County Code of Ordinances, and the Laws of the State of Florida.

All Resolutions or part of Resolutions in conflict with any of the provisions of this Resolution are hereby repealed.

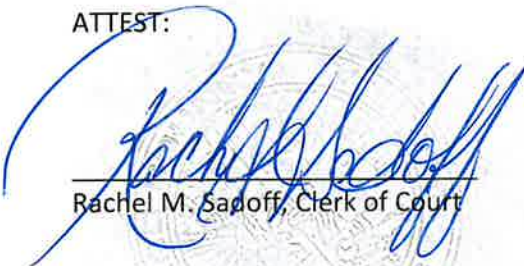
If any section or portion of a section of this Resolution proves to be invalid, unlawful, or unconstitutional, it shall not be held to invalidated or impair the validity, force, or effect or any other section or part of this Resolution.

SECTION 2. EFFECTIVE DATE

This Resolution shall take effect upon its approval and adoption by the Board.

DONE, ORDERED, AND ADOPTED in Regular Session this 7th day of April, 2026.

ATTEST:



Rachel M. Sadoff, Clerk of Court

BOARD OF COUNTY COMMISSIONERS
OF BREVARD COUNTY, FLORIDA

By: 
Thad Altman, Chair

As approved by the Board on:

APR 07 2026



South Beaches: Riverside Drive Force Main Improvements - 30-inch Parallel Force Main

Project Number: WW05118

FACILITIES PLAN

February 16, 2026



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Acronyms	
AACE	Association for the Advancement of Cost Engineering International
AADF	Annual Average Daily Flow
BCUSD	Brevard County Utility Services Department
DIP	Ductile Iron Pipe
EPS	Extended Period Simulation
FAC	Florida Administrative Code
FAWN	Florida Automated Weather Network
FDEP	Florida Department of Environmental Protection
FM	Force Main
fps	Feet per second
GIS	Geographic Information System
gpm	Gallons per Minute
HDD	Horizontal Directional Drill
HDPE	High-Density Polyethylene
HP	Horsepower
LF	Linear Feet
MG	Million Gallons
NOAA	National Oceanic and Atmospheric Administration
O&M	Operation and Maintenance
PHF	Peak Hourly Flow
PVC	Polyvinyl Chloride
SBWWTF	South Beach Regional Wastewater Treatment Facility
SCADA	Supervisory Control and Data Acquisition
SOIRL	Save Our Indian River Lagoon
SSO	Sanitary Sewer Overflow
VFD	Variable Frequency Drive
WRF	Wastewater Reclamation Facility
WWF	Wet Weather Flow

1.0 EXECUTIVE SUMMARY

1.1 Introduction

This Facilities Plan has been prepared to establish the eligibility of Brevard County for State Revolving Fund (SRF) loans to finance wastewater system improvements. The SRF program provides low interest loans to local governments for the planning, design, and construction of utility systems.

The Florida Department of Environmental Protection (FDEP) administers the Florida SRF program. Under the SRF program, local governments are required to submit a Facilities Plan containing detailed planning, financial, and technical information for the purpose of obtaining environmental clearance, identifying project alternatives and costs, and coordinating public participation for the proposed project.

This Facilities Plan was prepared to meet the requirements of the SRF loan program for wastewater systems within Brevard County's South Beaches service area. Maps of the planning area and the project area are included in Section 2 (Figure 2-1) and Section 5 (Figure 5-1).

Review of this planning document, consideration of public input, and adoption of the Facilities Plan by Brevard County's Board of County Commissioners is required by the SRF program. Adoption of the plan by Brevard County in no way commits the Brevard County Utility Services Department (BCUSD) to construct the project, nor does it commit the BCUSD to use SRF funding.

1.2 Existing Wastewater Treatment and Collection System

Brevard County owns and operates several wastewater treatment plants and collection systems throughout its service area. The South Beaches collection system consists of a network of gravity sewer mains interconnected by sanitary sewer manholes which discharge into lift stations. Lift stations, consisting of submersible and dry pit duplex and triplex stations which range from 5 to 185 horsepower, contribute flow into a shared, manifolded force main that conveys wastewater to the SBWWTF. The pressurized piping network is comprised of larger diameter pipes, with the majority of the system being made up of 20-inch and 24-inch diameter pipes, accounting for 25.5% and 38.5% of the total system, respectively. The total length of the force main system spans nearly 23 miles and pipe materials varies, although ductile iron pipe is the most prevalent material across multiple sizes.

Sewage from the collection system is conveyed to the SBWWTF for treatment and disposal.

1.3 Need for the Project

The wastewater system improvements proposed in this Facilities Plan are needed to improve the reliability and long-term performance of the wastewater collection system by addressing aging infrastructure and reducing the risk of failures that can lead to SSOs. The proposed improvements will add redundancy where feasible and strengthen system resilience during peak wet-weather conditions,

power interruptions, and equipment outages. This will help to ensure continuous service to customers. By minimizing the likelihood of SSOs, improvements protect the public health and safety by reducing potential exposure to untreated wastewater, by preventing impacts to streets and private property, and by safeguarding nearby waterways and environmentally sensitive areas. The project supports responsible utility operations by enhancing system dependability and helping the County maintain compliance with applicable regulatory requirements.

1.4 The Selected Plan

The proposed project includes construction of 5,945 LF of 30-inch PE4710 Force Main, 1,331 LF of 30-inch DIP force main, eight 30-inch valves, five Air Release Valve Assemblies, fittings, and associated appurtenances as well as restoration to areas impacted by HDD trenching equipment and trench excavation during construction. Additionally, this alternative includes the costs to connect to the existing system and serve in parallel to the existing 24-inch force main.

1.5 Financing the Improvement Project

Brevard County is responsible for financing its wastewater system improvements and plans to use SRF loan funding to minimize the financial impact of the project on the rate-payers. The pledged revenues supporting this debt issue will be the generated by sewer impact fees and the utilities operating revenues.

The preliminary estimate of probable construction cost of the project is approximately \$16.72 million. Adding other elements associated with the SRF program, the anticipated loan value is approximately \$19.74 million including capitalized interest.

2.0 INTRODUCTION

2.1 Background

Brevard County's roots trace back to Florida's early settlement era along the Indian River Lagoon and Atlantic barrier islands, beginning with Indigenous communities and later Spanish and American influence. The county was originally organized as St. Lucie County in 1844 and was later renamed Brevard County in 1855 (after Florida Comptroller Theodore W. Brevard). Today, Brevard County is one of Florida's larger coastal counties, stretching approximately 72 miles north-to-south and including 16 municipalities, with a 2024 estimated population of 658,447 residents across 1,015 square miles of land area.

Brevard County is governed under a commission-manager form of government where the community elects a Board of County Commissioners to set countywide policy, adopt the budget, and approve major ordinances and long-range plans. The board is made up of commissioners elected from individual districts who represent residents across the county and make decisions in public meetings. The day-to-day administration of county operations is handled by a professional County Manager appointed by the commission, who oversees county departments and implements the board's direction. The County is responsible for operating multiple departments, including the Utility Services Department, which oversees water/wastewater utilities in its service area to ensure adequate levels of service to the residents, businesses, and visitors of Brevard County.

The Brevard County Utilities Services Department operates a comprehensive wastewater collection and treatment system designed to manage and treat wastewater from six distinct service areas: North Brevard, Port St. John, Merritt Island, South Central, South Beaches, and Barefoot Bay. Wastewater collected from these areas are conveyed to six wastewater reclamation facilities (WRFs): North Brevard (NBWRF), Port St. John (PSJWRF), Sykes Creek Regional (SCRWRF), South Central (SCWRF), South Beaches Wastewater Treatment Facility (SBWWTF), and Barefoot Bay Advanced (BFBWRF). This facilities plan focuses on a project within the SBWWTF service area.

2.2 Planning Area

In 2025, Wade Trim completed the *South Beaches Service Area Hydraulic Model Expansion and Improvement Study* to identify cost-effective projects that reduce the probability of sanitary sewer overflow occurrences and improve long-term system reliability for BCUSD. Building on prior regional work, the hydraulic network was extended to include 15 lift stations manifolded to the primary force main, integrated updated GIS, SCADA, pressure monitoring, rainfall, and as-built information, and produced a validated and calibrated SewerGEMS model suitable for planning and design support.

The model was used to evaluate existing and future conditions, including Average Annual Daily Flow (AADF), and a Future (Year 2045) 24-hour, 25-year wet weather flow (WWF) event selected to be consistent with state agency and BCUSD objectives. Results indicate that lift stations in the northern portion of the service area exhibit the greatest sensitivity to surcharge and elevated Sanitary Sewer

Overflow risk under the 2045 WWF scenario, while stations south of SBWWTF generally retain available capacity. These findings focused the improvement concepts on relieving head, upsizing pumping capacity, and adding targeted storage where it is most effective.

An optimization framework then tested thousands of project combinations, balancing capital cost against performance penalties for SSOs, high/low velocities, and high pressures. A preferred scenario was selected as the optimized solution because it achieves the targeted hydraulic performance and reliability with lower complexity and greater cost efficiency compared to the alternatives.

The selected scenario comprises a coordinated set of projects that address the primary constraints: Lift Station B06 replacement (capacity and reliability gains), a parallel force main along South Patrick (30-in corridor) to increase conveyance and redundancy, a 24-in interconnect on Riverside Drive to provide a relief pathway and operational flexibility, and major upgrades at Lift Station B20 to manage both base and peak flows. Collectively, these projects reduce SSO probability, improve operability, and strengthen system resiliency in the areas of greatest need.

A construction sequencing plan prioritizes early conveyance relief and redundancy, completing the Riverside interconnect, South Patrick parallel force main, and B06 replacement in parallel, followed by the Lift Station B20 dry-weather, wet-weather, and equalization facilities, and then the hydraulic isolation north of Lift Station B20. The recommended program equips BCUSD with a clear, defensible path to reduce the probability of SSO occurrences under future wet-weather conditions, enhance operational flexibility, and invest capital where it most improves reliability. The study provides a calibrated planning tool, prioritized projects, transparent cost assumptions, and an implementation roadmap to guide near-term decisions and long-term resilience.

2.3 Planning Area Needs

The Clean Water projects identified in this Facilities Plan will provide additional sewer infrastructure to serve approximately 30,000 residents of the South Beaches service area. The primary objectives of the projects are to reduce the probability of SSOs and to ensure that the South Beaches collection system has adequate and reliable capacity to meet short- and long-term planning requirements. A map of the South Beaches service area as well as the general location of the proposed project is shown in Figure 2-1.

In accordance with FDEP requirements, this Facilities plan provides the following:

- an environmental assessment of the proposed project area,
- project alternatives,
- a detailed cost estimate for the project alternatives,
- a financing plan, and
- public participation meeting documentation

Figure 2-1. Project Planning/Service Area



3.0 ENVIRONMENTAL REVIEW

3.1 Introduction

The environmental aspects of the project construction areas (PCA) have been evaluated as described in this section. It is not anticipated that any negative site related environmental impacts will occur; however, Florida Royal Palms located in landscaped areas within the project limits may require relocation to accommodate the project. The project design will mitigate these and any other potential impacts, and the specifications will require appropriate mitigation measures.

Temporary adverse impacts anticipated during construction include increased noise levels and an increase in the amount of airborne particulates. Control measures will be implemented to mitigate these temporary impacts.

It is expected that review by various environmental agencies will establish that the proposed project will not have a significant adverse effect upon flora, fauna, threatened or endangered plant or animal species, prime agricultural lands, wetlands, undisturbed natural areas, or the socioeconomic character of the area. Refer to **Appendix C** for additional detail related to the environmental review.

3.2 Description of the Project Construction Area

The PCA runs along Florida State Road 513 (SR-513), from North Riverside Drive, extends north along South Patrick Drive through a connection point at the existing Lift Station B20 in Riverside Park Drive. The PCA is entirely within the Brevard County public right of way, and the PCA encompasses an area of approximately 14.4 acres.

This road serves as local connection to the barrier-island communities of Indian Harbour Beach, Satellite Beach, and South Patrick Shores. The PCA includes urban roadways, stormwater infrastructure, connections to local waterways, residential and commercial developments on both sides immediately adjacent or within the road right-of-way.

3.3 Climate

The PCA has a humid, subtropical climate. The month of January typically has the lowest temperatures during the year with an average high of 72° Fahrenheit (F) and an average low of 51° F. The average high temperature steadily increases during the year until reaching an average of 91° F in July before beginning to cool again through December. The PCA experiences a distinct rainy season from June to September, with the wettest months being July and August (± 8 inches) while the drier winter months (Nov-April) see significantly less rainfall of around ± 3 inches.

3.4 Topography and Drainage

The topography of the PCA is characterized as relatively flat, low-lying, and poorly draining. The elevation is between 4 feet (ft) and 7 ft above sea level. Both natural and man-made drainage features

currently accommodate stormwater drainage within the PCA. These systems provide on-site retention/detention and a certain amount of percolation of run-off.

3.5 Geology and Soils

The PCA has, according to the US Department of Agriculture's (USDA) Natural Resources Conservation Services (NRCS), five (5) soil types exist within the footprint of the Project. **Table 3.1** provides a summary of the project area soils. A map of the soils is provided in **Figure 3-1**.

Map Unit	Soil Type	Hydric Rating	Capability Unit	Acreage	Percentage
36	Myakka Sand	Yes	IVw-2	5.5	37.90%
49	Pomello Sand	Yes	Vis-3	1.2	8.30%
50	Pomello-Urban Land Complex	Yes	Not Assigned	2	14%
51	Pompano Sand	Yes	Ivw-1	2.4	16.90%
69	Urban Land	Yes	Not Assigned	3.3	22.80%
			Total	14.4	100%

A detailed description of the encountered soils is as follows:

- **Myakka sand (Mk), 0 to 2 percent slopes (Map Unit: 36)** – The Myakka Series consists of nearly level, poorly drained sandy soils in broad areas in the flatwoods and in areas between sand ridges and sloughs and ponds. The representative profile has a sandy surface layer about 8 inches thick. This Series is ranked as a hydric soil and flooded for 2 to 7 days once in 1 to 5 years. Capability unit IVw-2.
- **Pomello sand (Ps), 0 to 5 percent slopes (Map Unit: 49)** – The Pomello Series consists of nearly level, moderately well drained sandy soils on broad low ridges and low knolls in the flatwoods. The representative profile has a surface layer of about 3 inches thick. This Series is ranked as a hydric soil. Capability unit Vis-3.
- **Pomello-Urban land complex (Pu) (Map Unit: 50)** – This complex is about 45-60 percent of Pomello sand, 20 percent Pomello sand that has been altered for use as building sites, and 20-45 percent Urban land or areas covered by houses, streets, driveways, buildings, parking lots, and other related uses. This complex is ranked as a hydric soil; however, it does not have an assigned capability unit.
- **Pompano sand (Pw), 0 to 2 percent slopes (Map Unit: 51)** – The Pompano Series consists of nearly level, poorly drained soils on broad flats, in shallow depressions, and in sloughs. The

representative profile has a sandy surface layer about 7 inches thick. Capability unit IVw-1. This Series is ranked as a hydric soil.

- **Urban land (Ur), 0 to 2 percent slopes (Map Unit: 69)** – The Urban land consists of areas covered with about 60-75 percent streets, buildings, large parking lots, shopping centers, industrial parks, airports, and related facilities. This Series is ranked as a hydric soil; however, it does not have an assigned capability unit.

Figure 3-1. Project Area Soils Map



3.6 Land Use

The Land use descriptions have been created for the entire state by the Florida Department of Transportation. These Florida Land Use, Cover, and Forms Classifications System (FLUCCS) codes are used to generally categorize land types by use and vegetative compositions. The descriptions that are closest to the habitats onsite are utilized to document the current land use. Modifications of categories are done to be more descriptive of conditions onsite.

FLUCCS data, aerial photographs, and USGS National Wetland Inventory (NWI) map were reviewed to evaluate past and current land use and habitat types within the PCA. The Project is compatible with the existing land use and is located in land designated for transportation (FLUCCS 814) and commercial activities (FLUCCS 140). Table 3-2 describes the existing land use within the project area.

Type	FLUCCS Code	FLUCCS Description	Acreage (approx)	Percentage
Uplands	814	Transportation [Roads and highways (divided 4-lane with medians)]	10.6	73.60%
Uplands	140	Urban and Built-Up (Commercial and Services)	3.8	26.40%
total			14.4	100%

A detailed explanation of the FLUCCS Code descriptions is as follows:

- FLUCCS 814 (Transportation): Transportation facilities are used for the movement of people and goods; therefore, they are major influences on land, and any land use boundaries are outlined by them. This category involves rail-oriented facilities including stations, round-houses, repair and switching yards and related areas.
- FLUCCS 140 (Urban and Built-Up): Urban and built-up land consists of areas of intensive use with much of the land occupied by man-made structures. Included in this category are cities, towns, villages, strip developments along highways and such areas as those occupied by malls, shopping centers, industrial and commercial complexes and institutions that may, in some instances, are isolated from urban areas.
 - Commercial areas are predominantly associated with the distribution of products and services. This category is composed of a large number of individual types of commercial land uses which often occur in complex mixtures. This category includes all secondary structures associated with an enterprise in addition to the main building

and integral areas assigned to support the base unit. This includes sheds, warehouses, office buildings, driveways, parking lots and landscaped areas.

3.7 Protected Species

The PCA was evaluated for the presence of federally and state listed species in accordance with Part 2, Chapter 16 of the FDOT PD&E Manual, and Section 7 of the Endangered Species Act (ESA). In addition, field observations were conducted in December 2025.

According to the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) online system, protected species may occur in the Project vicinity. However, federally listed species were not observed in the project study area during the field observations. Furthermore, critical habitat does not occur within the project footprint. The PCA is located within the existing roadway footprint and does not contain typical features to support wildlife and their habitat.

Protected plant species do not occur within the project study area, with exception for Florida Royal Palm (*Roystonea elata*) that was observed within the South Patrick Drive median and landscape areas. The Florida Royal Palm is a state endangered species that typically grows in tropical and subtropical habitats such as coastal lowlands, hammocks, and wetlands. This species is extensively planted and proliferates in disturbed habitats. Although not federally listed, it is considered endangered in Florida due to habitat loss and limited natural range. This species plays an important ecological role in providing food and shelter for wildlife and is often used in restoration and landscaping projects to preserve native biodiversity. Due to the Project design this species may need to be relocated to accommodate the required construction zones (e.g., launching and receiving areas) for the proposed force main. Anticipated impacts to this species would be mitigated following FDACS Chapter 5B.40.0055, F.A.C., and Chapter 62, Section 62-4331 of Brevard County Code of Ordinances. Table 4-1 outlines federally and state regulated species that may occur in the vicinity and outside the Project.

3.8 Wetlands and Surface Waters

Wetlands and other surface waters were evaluated in accordance with Chapter 62-340, F.A.C., USACE 1987 Corps of Engineers Wetland Delineation Manual, and 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0) (ERDC/EL TR-10-20).

According to the USFWS National Wetlands Inventory, and Brevard County databases, wetland does not occur within the project study area (see **Figure 3-2**). A non-navigable jurisdictional man-made canal crosses the Project just north of Yacht Club Boulevard, with two (2) 60-inch box culverts. This canal extends from west to east across South Patrick Drive, ultimately connecting to the Indian River on the west side. The canal primarily functions as stormwater infrastructure, collecting runoff from Golden Beach Estates and Town House Estates areas. The proposed 30-inch force main will be installed using

horizontal directional drilling at approximately 25 feet below the canal bed. Therefore, impacts to this canal are not anticipated.

Figure 3-2. Project Area Wetlands Inventory



3.9 Essential Fish Habitat

The Project has been evaluated for potential impacts to Essential Fish Habitat (EFH) in accordance with the Magnuson-Stevens Fishery Conservation and Management Act. EFH and Habitat Areas of Particular Concern (HAPC) are designated by the National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS) and the regional fishery management councils for species to support the conservation of habitats critical to the lifecycles of federally managed fish species.

The review of EFH in the project study area follows guidelines from the FDOT PD&E Manual (Part 2, Chapter 17), and the USFWS. Available NMFS data were assessed to evaluate if EFH and HAPC occur within the project study area, as these types of habitats are protected under the Magnuson-Stevens

Fishery Conservation and Management Act, which helps safeguard marine species and their environment.

Based on the NMFS EFH Mapper, EFH does not occur within the project study area. Therefore, the Project will have “no effect” on EFH.

3.10 Cultural, Archaeological and Historic Sites

The Project was evaluated to identify the presence of archaeological resources within the project study area and to assess their eligibility for listing on the National Register of Historic Places (NRHP), in accordance with Section 106 of the National Historic Preservation Act (NHPA). According to the NRHP, there are no listed properties within or to be affected by the Project. The nearest NRHP-listed property, Historic Rossetter House Museum, is approximately 1.80 miles west of the project site.

According to the Florida Master Site File (FMSF) obtained on January 14, 2026, three (3) cultural resources were identified in the vicinity of the Project. Based on the FMSF database, resource BR00101 has been mapped within the PCA. However, open-cut work or staging activities are not planned in this location. Therefore, no effect on this resource or location is anticipated.

Based on the results of the NRHP and FMSF review, the Proposed Action is not anticipated to affect any historic properties. Although one recorded cultural resource (BR00101) is located within the project limits, no ground disturbing activities are planned in that area, and no impacts are expected. With State Historic Preservation Office (SHPO) review and concurrence requested on January 14, 2026, the cultural resource analysis for the Project supports a determination that the Proposed Action will have no effect on historic properties.

3.11 Flood Plain

According to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map Panels 38 (12009C0536H, and 12009C0538H, eff. 1/29/2021), the Project is located within Zone X, and Zone AE with Base Flood Elevation (BFE) estimated in 3 to 4 feet (see Figure 5-5 and Figure 5-6). Zone X corresponds to area of minimal flood hazard, while Zone AE consists of areas subject to the 1-percent annual chance flood hazard in a coastal zone. Due to the nature of the Project and proposed installation method using HDD and trenchless excavation, no impacts on flood elevation are anticipated.

3.12 Potential Risk of Known Contamination Sites

A Level I Contamination Screening Evaluation Report (CSER) was conducted to assess potential contamination involvement and evaluate the level of risk associated with known sites containing hazardous materials or petroleum products in the vicinity of the Project. The CSER follows Chapter 20 of the FDOT PD&E Manual (effective July 31, 2024).

The contamination screening identified a total of 60 reported sites or facilities within the vicinity of the Project with current or historical activities involving hazardous materials or petroleum products. Each site was assessed and assigned a risk rating based on its distance from the project, environmental compliance history, and available information from federal, state, and local environmental databases. None of the documented contamination sites intersect the project limits; therefore, no contamination impacts are expected based on current information. However, risk ratings may change if sites fall out of regulatory compliance, new contamination is discovered, or site operations are altered.

3.13 Environmental Review Summary

No impacts on federally protected species, wetlands or EFH are expected as a result of the Proposed Action. Due to the nature of the Project and proposed installation method using horizontal directional drilling, dewatering may be employed during construction. Best management practices and protective measures will be implemented to avoid or minimize any possibility of unanticipated impacts. Since the Proposed Action does not involve impacts to natural resources or impacts are anticipated to be minimal, a technical memorandum is applicable and sufficient for this phase.

Pursuant to Section 7 of the ESA and Part 2, Chapter 16 of the FDOT PD&E Manual, the project study area was evaluated for the presence of protected species. According to the USFWS IPaC online system, federally protected species or designated critical habitat do not occur within the project study area. In addition, federally protected species were not observed during site observations. Therefore, the Proposed Action would have no effect on federally listed species.

Furthermore, the Florida Royal Palm (*R. elata*) was observed in some sections along South Patrick Drive during site observations. Due to the Project design this species may be relocated to accommodate the proposed force main. Anticipated impacts to this species will be mitigated following FDACS, Chapter 5B.40.0055, F.A.C., and Chapter 62, Section 62-4331 of Brevard County Code of Ordinances.

Wetland does not occur within the project limits. Therefore, no impacts on this resource are expected. Although a non-navigable jurisdictional man-made canal crosses the Project, the Project does not include impacts to this canal. In addition, due to the project design and proposed installation method using horizontal directional drilling at approximately 25 feet below the canal bed, impacts to water resources are not anticipated.

Best management practices and protective measures will be implemented to avoid or minimize any possibility of unanticipated impacts, specifically due to construction dewatering. Any construction dewatering would be short-term and best management practices would be implemented by the contractor during construction phase.

4.0 EXISTING SYSTEM

4.1 Description of the Existing Wastewater System

Brevard County owns and operates several wastewater treatment plants and collection systems throughout its service area. The overall system is comprised of six wastewater treatment plants, 598 miles of sanitary gravity sewers, 205 miles of sanitary force main, and 291 public lift stations.

The South Beaches collection system consists of a network of gravity sewer mains interconnected by sanitary sewer manholes which discharge into lift stations. Lift stations, consisting of submersible and dry pit duplex and triplex stations which range from 5 to 185 horsepower, contribute flow into a shared, manifolded force main that conveys wastewater to the SBWWTF. The pressurized piping network is comprised of larger diameter pipes, with the majority of the system being made up of 20-inch and 24-inch diameter pipes, accounting for 25.5% and 38.5% of the total system, respectively. The total length of the force main system spans nearly 23 miles and pipe materials varies, although ductile iron pipe is the most prevalent material across multiple sizes.

Sewage from the collection system is conveyed to the SBWWTF for treatment and disposal.

4.2 Need for Facilities

The wastewater system improvements proposed in this Facilities Plan are needed to improve the reliability and long-term performance of the wastewater collection system by addressing aging infrastructure and reducing the risk of failures that can lead to SSOs. The proposed improvements will add redundancy where feasible and strengthen system resilience during peak wet-weather conditions, power interruptions, and equipment outages. This will help to ensure continuous service to customers. By minimizing the likelihood of SSOs, improvements protect the public health and safety by reducing potential exposure to untreated wastewater, by preventing impacts to streets and private property, and by safeguarding nearby waterways and environmentally sensitive areas. The project supports responsible utility operations by enhancing system dependability and helping the County maintain compliance with applicable regulatory requirements.

5.0 PROGRAM ALTERNATIVES

5.1 Introduction

To provide better service and ensure current and future demands needs are met, BCUSD intends to make necessary improvements to its wastewater system. The alternatives listed below have been evaluated and compared based on cost effectiveness, technical feasibility, permit requirements, constructability, and environmental soundness.

Figure 5-1 illustrates the location of the proposed wastewater improvements that are described in Alternatives 1 and 2 of this section.

Figure 5-1. Proposed Wastewater Improvements



5.2 Alternative 1 – 30-Inch Parallel Force Main on South Patrick – Primarily HDD

Install a new 30-inch polyethylene pipe (PE4710) and ductile iron pipe force main, approximately 7,300 linear feet in length, extending from Lift Station B20 to the south side of Eau Gallie Boulevard along South Patrick Drive and North Riverside Drive. As South Patrick Drive is a large, primary thoroughfare through the planning area and contains numerous existing underground utility installations, 85% of the pipe will be installed via horizontal directional drilling (HDD). Though the project will require Maintenance of Traffic at points of connection to the existing system and HDD entry/receiving pits, much of the new force main will be over 20 feet deep and protected from surface-related disturbances.

The proposed force main would operate in parallel with the existing 24-inch force main, increasing conveyance capacity and providing critical redundancy along a key transmission corridor serving the South Beaches service area. By reducing overall system head and improving hydraulic performance, the parallel force main enhances operational reliability at multiple lift stations in the region, particularly during peak wet-weather conditions. The added conveyance and redundancy reduce the likelihood of surcharge conditions, improve system response during equipment outages or emergency events, and lower the risk of sanitary sewer overflows by improving the system's ability to reliably convey peak flows to the SBWWTF. Collectively, these benefits strengthen system resiliency, reduce operational vulnerability, and support long-term compliance with regulatory requirements.

5.3 Alternative 2 – 30-Inch Parallel Force Main on South Patrick – Open Cut

Install a new 30-inch ductile iron pipe force main, approximately 7,300 linear feet in length, extending from Lift Station B20 to the south side of Eau Gallie Boulevard along South Patrick Drive and North Riverside Drive. The open cut installation would occur primarily in the northbound side of South Patrick Drive due to the presence of multiple utilities in the southbound lane. An approximately 200-foot Jack and Bore of the force main would be completed through the intersection of South Patrick Drive and the Eau Gallie Causeway. Due to the number of utilities within the PCA, over 80 pipe deflections would be required. Significant Maintenance of Traffic efforts would be necessary to protect the public and the work.

The proposed force main would operate in parallel with the existing 24-inch force main, increasing conveyance capacity and providing critical redundancy along a key transmission corridor serving the South Beaches service area. By reducing overall system head and improving hydraulic performance, the parallel force main enhances operational reliability at multiple lift stations in the region, particularly during peak wet-weather conditions. The added conveyance and redundancy reduce the likelihood of surcharge conditions, improve system response during equipment outages or emergency events, and lower the risk of sanitary sewer overflows by improving the system's ability to reliably convey peak flows to the SBWWTF. Collectively, these benefits strengthen system resiliency, reduce operational vulnerability, and support long-term compliance with regulatory requirements.

5.4 Alternative 3 – No Action

This alternative consists of performing no action. No infrastructure additions or modifications to the community are considered as part of this alternative. BCUSD will continue to struggle with maintaining operations during wet weather and/or emergency events. The risk of SSOs will remain high and can result in environmental impacts to surrounding soils, surface waters, and sensitive receiving bodies, create public health concerns, cause odor and nuisance complaints, and result in potential regulatory enforcement actions, including consent orders and monetary penalties.

5.5 Cost Comparison of the Alternatives

The estimated present worth value associated with each clean water alternative is listed in **Table 5-1**. The present worth estimate is based on a planning period of 20 years and incorporates a discount interest rate of 2.2%. Annual O&M for the force main was estimated using an activity-based approach, including routine inspection, valve/air release valve exercising, periodic cleaning/pigging as needed to maintain conveyance capacity, and an allowance for corrective repairs. Salvage value was assumed to be zero since buried utility assets are typically abandoned in place and no salvage proceeds would be realized.

Name	Capital Cost	O&M Cost	Salvage Value	Present Worth
Alternative 1 – 30-Inch Parallel Force Main on South Patrick – Primarily HDD	\$19,232,000	\$81,966 \$5,110 (Annually)	\$0	\$19,313,966
Alternative 2 – 30-Inch Parallel Force Main on South Patrick – Open Cut	\$34,237,000	\$128,803 \$8,030 (Annually)	\$0	\$34,365,803
Alternative 3 – No Action	\$0	\$0	\$0	\$0

The construction cost estimates for Alternative 1 and Alternative 2 can be found in **Appendix D**.

5.6 Summary of Alternatives

The Clean Water alternatives have been compared based on complexity, construction impact to community, availability, Inflow and Infiltration potential, feasibility, environmental, and financial aspects. **Table 5-2** summarizes these comparisons.

Table 5-2. Wastewater Alternatives Selection Comparison Matrix

Criteria	Alternative 1 – HDD Installation	Alternative 2 – Open Cut Installation	Alternative 3 – No Action
Ease of Operation	3	3	1
Construction Impact to Community	2	1	3
Required Maintenance	3	3	1
Inflow and Infiltration Prevention	3	3	1
Private Property Cost to Customers	3	3	2
Environmental	3	3	1
Financial	2	1	2
Total	19	17	11

1 = Poor, 2 = Acceptable, 3 = Excellent

6.0 THE SELECTED PLAN

6.1 Introduction

The Brevard County Utility Services Department has established that the improvements to the wastewater system proposed in this plan are a necessary step to protect its residents and the environment.

6.2 Selected Improvement

Based primarily on the financial impact and the construction impact to the Indian Harbour Beach community, this facilities plan selects Wastewater Alternative 1 corresponding to the installation of a 30-inch sanitary sewer force main along South Patrick Drive primarily utilizing Horizontal Directional Drilling Technology.

The proposed project includes construction of 5,945 LF of 30-inch PE4710 Force Main, 1,331 LF of 30-inch DIP force main, 8 30-inch valves, 5 Air Release Valve Assemblies, fittings, and associated appurtenances as well as restoration to areas impacted by HDD trenching equipment and trench excavation during construction. Additionally, this alternative includes the costs to connect to the existing system and serve in parallel to the existing 24-inch force main.

6.3 Site Conditions

The project proposes to construct the alignment of the 30-inch force main primarily in the median spaces of South Patrick Drive utilizing the HDD method to minimize pipe installation cost and disturbances to the main roadway. The force main along Riverside Park Drive will be installed in the green space and the roadway (as needed). It is not anticipated that any site related environmental impacts will occur, however, the project design will mitigate any potential impacts and the specifications will provide for appropriate mitigation measures.

Site restoration is primarily limited to the green spaces of South Patrick Drive and the open cut areas (green space and asphalt) along Riverside Park Drive.

6.4 Construction Costs

The preliminary estimate of probably construction costs for the proposed project is \$19,232,000.

6.5 Operational and Maintenance Costs

The estimate of annual operations and maintenance costs for the proposed project is \$5,110.

BCUSD currently operates and maintains a wastewater collection system that includes force mains of similar size and complexity. Existing operations and maintenance staff and procedures will be used for the proposed improvements, which can be supported within BCUSD's existing managerial and technical capacity.

7.0 IMPLEMENTATION AND COMPLIANCE

7.1 Public Hearing

A Public Participation Meeting was held to present this Facilities Plan to the public for review and comment in conjunction with the adoption of the Plan by the Brevard County Board of Commissioners. The selected alternatives were discussed, and the environmental and cost impacts were presented. This public participation meeting allowed the public to participate in the evaluation of the alternatives as well as any potential financial impacts to the affected parties. **Appendix B** contains a copy of the Notice of Public Participation Meeting and a copy of the Resolution adopted by the County.

7.2 Regulatory Agency Review

7.2.1 Florida Department of Environmental Protection

FDEP is the lead agency dealing with issues of environmental quality with regulatory authority encompassing large and small quantity hazardous waste generators, air pollution emissions, solid waste disposal, potable water usage, dredge and fill permitting, and development in environmentally sensitive areas. FDEP is the State agency with regulatory authority over the use of submerged lands and waters. FDEP is also charged with protecting and conserving Florida's natural resources and managing State owned land and aquatic preserves. The project is located within FDEP's Central District.

7.2.2 Florida Department of Agriculture and Consumer Services

The Florida Department of Agriculture and Consumer Services (FDACS) administers statewide programs that promote and regulate agriculture, ensure consumer protection and fair business practices, oversee food and measurement standards, manage forest resources and wildfire response, and enforce pesticide and related environmental regulations.

7.2.3 Florida Department of Health

The Florida Department of Health (DOH) performs water tests for surface water quality and has the authority to issue health notices, advisories, and boil water orders when the potential for contamination exists in public water supply systems. It also issues health warnings and notices for surface water bodies and food sources that may place the public at a health risk.

7.2.4 Florida Fish and Wildlife Conservation Commission

The Florida Fish and Wildlife Conservation Commission (FWC) manages and regulates the State's fish and wildlife resources and enforces related laws. With regards to the State Revolving Fund Program, the FWC serves as a principle reviewer of the environmental assessment portion of each submitted Facilities Plan to protect endangered wildlife, flora, and the overall environmental welfare of protected areas.

7.2.5 St. Johns River Water Management District

The St. Johns Water Management District (SJRWMD) is one of five water management districts in Florida created by the Water Resources Act of 1972. SJRWMD is responsible for managing groundwater and surface water supplies in part or all of 18 counties in northeast and east-central Florida. The District contains 119 local governments spread over approximately 12,000 square miles. SJRWMD provides a variety of regulatory programs including programs regulating the consumptive use of water, construction of wells, licensing water well contractors, surface water management facilities, stormwater management systems, and artificial recharge of ground water.

7.2.6 United States Environmental Protection Agency

The United States Environmental Protection Agency (EPA) reviews the actions of other governmental agencies and retains the authority to veto permits under the provisions of Section 404 of the Clean Water Act. It also manages the collection of water supply quality information under the Information Collection Rule. Many EPA responsibilities have been delegated to State agencies for implementation.

7.2.7 Clean Air Act

The Clean Air Act was amended in 1990. The Clean Air Act Amendments, Title I, address regional air quality for six criteria pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter and sulfur dioxide. If a particular area does not meet national ambient air quality standards it is established as a non-attainment area.

7.2.8 Federal Water Pollution Control Act

The Federal Water Pollution Control Act, commonly known as the Clean Water Act, was passed by Congress in 1972 to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands.

7.2.9 United States Army Corps of Engineers

The United States Army Corps of Engineer (USACE) mission is to provide vital public engineering services in peace and war to strengthen our Nation's security, energize the economy, and reduce risks from disasters. The Jacksonville District of the Corps was established in 1884 and encompasses Florida, Puerto Rico, and the U.S. Virgin Islands. The Corps also has a Civil Works environmental mission that ensures all Corps projects, facilities and associated lands meet environmental standards. The program has four functions: compliance, restoration, prevention and conservation.

7.2.10 Florida Department of Transportation

The Florida Department of Transportation's (FDOT) mission is to provide a safe transportation system that ensures the mobility of people and goods, enhances economic prosperity, and preserves the quality of our environment and communities. District Five includes nine counties: Brevard, Flagler,

Lake, Marion, Orange, Osceola, Seminole, Sumter, and Volusia counties. The District serves 4.1 million residents and encompasses approximately 9,000 square miles. The Central Florida District is headquartered at 719 South Woodland Boulevard in DeLand, Florida.

7.2.11 Brevard County Public Works

The Brevard County Public Works Department is responsible for planning, building, operating, and maintaining many of the county's essential infrastructure systems that support daily life and safe travel within Brevard County. The department typically oversees services such as roadway and drainage maintenance, stormwater management, traffic operations, and the repair and upkeep of public facilities and rights-of-way. Through capital improvement projects and ongoing maintenance programs, Public Works helps protect residents and property, improve mobility, and keep Brevard County's infrastructure reliable and resilient.

7.3 Implementation Responsibility

Brevard County has the sole responsibility and authority to implement the recommended improvements.

7.4 Implementation Schedule

Under the SRF program, entities who wish to receive funding must receive project and funding approval before construction may take place. This Facilities Plan, including the Capital Financing Plan, and biddable plans and specifications with all necessary permits to construct the selected plan must be approved by the FDEP for the entity to receive SRF funding for the proposed project.

Adoption of these Plans by Brevard County's Board of County Commissioners is a necessary step to establish eligibility for the SRF program; however, adoption of the Plans in no way commits Brevard County to construct the projects, nor does it commit the County to using SRF funding or FDEP to offering SRF funding.

The proposed schedule for this project is shown in Table 7-1.

Table 7-1. Proposed Project Schedule	
Activity	Target Completion Date
Readiness to Proceed – Submit biddable plans, specs, and permits to FDEP	June 27, 2026
Bid Project	August 2026
Begin Construction	November 2026
Substantial Completion	October 2027
Final Completion	November 2027

7.5 Compliance

The wastewater collected and treated will be in compliance with the FDEP clean water standards.

The wastewater system will meet the reliability requirements in Chapter 62-604, F.A.C.

The environmental aspects of the proposed facilities are satisfactory.

7.6 Request for Inclusion

An updated Request for Inclusion (RFI), reflecting the project scope, cost, and implementation schedule presented in this Facilities Plan, has been submitted to the Florida Department of Environmental Protection as part of the State Revolving Fund funding cycle. The revised RFI is consistent with the information contained herein and is incorporated by reference. See **Appendix E**.

8.0 FINANCIAL PLANNING

8.1 General

Brevard County is seeking to finance wastewater system improvements from the SRF Loan program. Adoption of these Plans by the Brevard County's Board of Commissioners is a necessary step to establish eligibility for the SRF program; however, adoption of the Plans in no way commits the County to construct the project, nor does it commit the County to use SRF funding or FDEP to offer SRF funding.

FDEP administers the Florida SRF program. Eligible entities are required to submit detailed project information to FDEP as part of the application process, consistent with the following SRF objectives:

- To establish the financial capability of local governments to provide complete wastewater systems; and,
- To ensure that local government capital financing plans will not jeopardize the viability of the SRF program; and,
- To ensure consistency between the capital financing plans, user system charges, and facilities plans; and,
- To ensure the timeliness and consistency of reviews of capital financing plans and public hearing documentation; and,
- To establish that adequate disclosure to the public of the project financing and public review and comment has been provided for; and,
- To identify unusual or potentially controversial financing mechanisms that may be of concern in negotiating loan agreements.

8.2 Projected Costs

The County is seeking funding eligibility for the construction of the wastewater system improvements projects included in this plan. **Table 8-1** summarizes the preliminary estimate of probable construction cost, loan service fees, and capitalized interest totaling approximately \$19.74 million.

Table 8-1. Preliminary Project Costs	
Project Components	Cost
Estimated Construction	\$16,720,000
Contingency	\$1,672,000
Technical Services During Construction	\$840,000
Capitalized Interest	\$119,662
Loan Service Fee	\$384,640
Total	\$19,736,302

8.3 Financing Capital Improvements

Brevard County is responsible for financing its wastewater system improvements and plans to use SRF loan funding to minimize the financial impact of the project on the rate-payers. The pledged revenues supporting this debt issue will be the generated by sewer impact fees and the utilities operating revenues.

SRF funding will be instrumental in allowing Brevard County to proceed with the project. This action supports the County's intent to secure maximum eligibility for all anticipated wastewater system improvements utilizing the lowest cost funding available. The County has already adopted indexing provisions tied to the Water and Sewer Maintenance Index, allowing for annual rate adjustments. The projected financial analysis indicates that this indexing mechanism is projected to yield approximately 4% annually. When combined with anticipated customer growth, this revenue will provide sufficient funds to support debt coverage for existing and projected bonds as well as State Revolving Fund loans through 2030. Consequently, no rate adjustments beyond the adopted index are anticipated to be required to meet debt coverage requirements.

The preliminary estimate of probable construction cost of the project is approximately \$16.72 million. Adding other elements associated with the SRF program, the anticipated loan value is approximately \$19.74 million including capitalized interest.

As the SRF interest rate may fluctuate by calendar quarters, a conservative rate of 1.22% has been used to calculate the estimated annual payments at \$1,282,353 (including coverage of 115%). The actual interest rate is set based on the quarter in which the loan agreement is signed and is anticipated similar to the rate used in this analysis.

The planning process for this project has established that the gross revenues currently generated by the system will be sufficient to support the estimated annual SRF loan debt payments.

The Capital Financing Plan can be found in **Appendix A**.

8.4 Operational and Maintenance Costs

The annual Operation and Maintenance costs are estimated at \$5,110 per year. This cost includes all anticipated operations and personnel costs related to the projects included in the Facilities Plan.

APPENDIX A. CAPITAL FINANCING PLAN

CAPITAL FINANCING PLAN

Edward Fontanin

(Project Sponsor)

Brevard County Utility Services Director

(Authorized Representative and Title)

Viera, FL 32940

(City, State, and Zip Code)

Thierry Boveri, Senior Vice President, 407-628-2600

(Capital Financing Plan Contact, Title and Telephone Number)

341 N Maitland Ave, Suite 300

(Mailing Address)

tboveri@raftelis.com

(Email Address)

Maitland, FL 32751

(City, State, and Zip Code)

The Department needs to know about the financial capabilities of potential State Revolving Fund (SRF) loan applicants. Therefore, a financial capability demonstration (and certification is required well before the evaluation of the actual loan application).

The sources of revenues being dedicated to repayment of the SRF loan are Utility operating revenues (Note: Projects pledging utility operating revenues should attach a copy of the existing /proposed rate ordinance)

Estimation of Proposed SRF Loan Debt Service

Capital Cost [1]	\$	19,232,000
Loan Service Fee (2% of Capital Cost)	\$	384,640
Subtotal	\$	19,616,640
Capitalized Interest [2]	\$	119,662
Total Cost to be Amortized (Rounded)	\$	19,736,302
Interest Rate [3]		1.22%
Annual Debt Service	\$	1,115,090
Annual Debt Service Including Coverage Factor [4]	\$	1,282,353

Notes:

- [1] Capital Cost = Allowance + Construction Cost.
- [2] Estimated based on linear draw of project amount over a 1 year construction period.
- [3] Based on previous CFP interest rate submission. FY 25/26 Q2 reported CWSRF rate equals 1.22%.
- [4] Coverage Factor is assumed at 1.15 recognizing that no impact fees are assumed within the Schedule of Revenue and Debt Service Coverage.

SCHEDULE OF EXISTING DEBT SERVICE AND DEBT EQUIVALENTS^[1]

List annual debt service beginning two years before the anticipated loan agreement date and continuing at least fifteen fiscal years.
Use additional pages as necessary.

IDENTIFY EACH OBLIGATION

#1 Water & Wastewater Utility Revenue Bonds, Series 2014 Coverage % [2] 110% Revenue Pledge Lien Priority 1st Insured (Yes/No) Yes	#2 CW-051170 Coverage % 115% Revenue Pledge Lien Priority 2nd Insured (Yes/No) N/A	#3 WW05110 Coverage % 115% Revenue Pledge Lien Priority 2nd Insured (Yes/No) N/A
#4 CW-051130 Coverage % 115% Revenue Pledge Lien Priority 2nd Insured (Yes/No) N/A	#5 Estimate - SRF Loan 1 (CDM2) Coverage % 115% Insured (Yes/No) N/A	#6 Estimate - SRF Loan 2 (Jacobs) Coverage % 115% Insured (Yes/No) N/A
#7 Estimate - SRF Loan 3 (CDM1) Coverage % 115% Insured (Yes/No) N/A		

Fiscal Year	Annual Debt Service (Principal + Interest)							Total Non-SRF Debt Service w/coverage	Total SRF Debt Service w/ coverage
	1	#2 ^[3]	#3 ^[3]	#4	#5 [4]	#6 [4]	#7[4]	(Excludes Leases)	
2025	1,473,431	113,183	2,166,769	598,006	0	0	\$0	\$1,620,774	\$3,309,652
2026	1,473,431	113,183	2,166,769	598,006	0	0	0	\$1,620,774	\$3,309,652
2027	1,475,056	113,183	2,166,769	598,006	0	0	0	\$1,622,562	\$3,309,652
2028	1,472,406	113,183	2,166,769	598,006	0	0	0	\$1,619,647	\$3,309,652
2029	1,474,156	113,183	2,166,769	598,006	982,848	647,491	1,350,980	\$1,621,572	\$6,738,169
2030	1,475,156	113,183	2,166,769	598,006	982,848	1,294,981	1,350,980	\$1,622,672	\$7,482,783
2031	1,475,406	113,183	2,166,769	598,006	982,848	1,294,981	1,350,980	\$1,622,947	\$7,482,783
2032	1,472,781	113,183	2,166,769	598,006	982,848	1,294,981	1,350,980	\$1,620,059	\$7,482,783
2033	1,474,344	113,183	2,166,769	598,006	982,848	1,294,981	1,350,980	\$1,621,778	\$7,482,783
2034	1,473,800	113,183	2,166,769	598,006	982,848	1,294,981	1,350,980	\$1,621,180	\$7,482,783
2035	1,471,075	113,183	2,166,769	598,006	982,848	1,294,981	1,350,980	\$1,618,183	\$7,482,783
2036	1,472,650	113,183	2,166,769	598,006	982,848	1,294,981	1,350,980	\$1,619,915	\$7,482,783
2037	1,472,200	113,183	2,166,769	598,006	982,848	1,294,981	1,350,980	\$1,619,420	\$7,482,783
2038	1,474,725	113,183	2,166,769	598,006	982,848	1,294,981	1,350,980	\$1,622,198	\$7,482,783
2039	1,475,000	113,183	2,166,769	598,006	982,848	1,294,981	1,350,980	\$1,622,500	\$7,482,783
2040	1,473,025	113,183	1,083,385	598,006	982,848	1,294,981	1,350,980	\$1,620,328	\$6,236,892
2041	1,473,800	113,183		299,003	982,848	1,294,981	1,350,980	\$1,621,180	\$4,647,146
2042	1,473,400	113,183			982,848	1,294,981	1,350,980	\$1,620,740	\$4,303,292
2043	1,471,000	113,183			982,848	1,294,981	1,350,980	\$1,618,100	\$4,303,292
2044	1,471,600	56,592			982,848	1,294,981	1,350,980	\$1,618,760	\$4,238,212
2045					982,848	1,294,981	1,350,980	\$0	\$4,173,131
2046					982,848	1,294,981	1,350,980	\$0	\$4,173,131
2047					982,848	1,294,981	1,350,980	\$0	\$4,173,131
2048					982,848	1,294,981	1,350,980	\$0	\$4,173,131
2049						647,491		\$0	\$744,614
2050								\$0	\$0
2051								\$0	\$0
2052								\$0	\$0
2053								\$0	\$0
2054								\$0	\$0

Footnote:

- [1] Reflects debt service schedules from outstanding bonds and active SRF loans. It should be noted that the projections contained herein do not reflect any additional debt service that may be contemplated or required to fund future capital pursuant to the County's Capital Improvement Plan.
- [2] Pursuant to the Bond Resolution authorizing the issuance of the outstanding Water and Wastewater Revenue Bonds, Series 2014, the county must:
- a) generate sufficient Net Revenue equal to or greater than 110% of the annual debt service of the outstanding bonds; and b) generate sufficient Net Revenues plus impact fees equal to or greater than 120% of the annual debt service of the outstanding bonds. For purposes of the CFP we have assumed the senior lien coverage requirement at 110% in recognition that no impact fees were assumed in the projections contained in the *schedule of Projected Revenues and Debt Coverage for Pledged Revenue*.
- [3] Amounts shown reflect estimates and are subject to change based on completion of actual project cost and timing of completion.
- [4] Amounts shown reflect estimates of additional proposed SRF loans which would be submitted in parallel with the current submission.

SCHEDULE OF ACTUAL REVENUES AND DEBT COVERAGE FOR PLEDGED REVENUE

(Provide information for the two fiscal years preceding the anticipated date of the SRF loan agreement)

	<u>FY 23-24</u> ^[1]	<u>FY 24-25</u> ^[1]
(a) Operating Revenues (Identify)		
Charges for Service [2]	\$ 52,168,786	\$ 57,601,404
Other Operating Revenue	<u>-</u>	<u>-</u>
(b) Interest Income	<u>\$6,075,498</u>	<u>\$4,907,624</u>
(c) Other Incomes or Revenues	<u>\$0</u>	<u>\$0</u>
(d) Total Revenues	<u>\$58,244,284</u>	<u>\$62,509,028</u>
(e) Operating Expenses (excluding interest on debt, depreciation and other non-cash items)	<u>\$41,469,096</u>	<u>\$43,860,028</u>
(f) Net Revenues (f = d - e)	<u>\$16,775,188</u>	<u>\$18,649,000</u>
(g) Debt Service (including coverage) Excluding SRF Loans [3]	<u>\$1,618,849</u>	<u>\$1,620,774</u>
(h) Debt Service (including coverage) for Outstanding SRF Loans [3]	<u>\$3,179,491</u>	<u>\$3,193,528</u>
(i) Net Revenues After Debt Service (i = f - g - h)	\$11,976,847	\$13,834,698

Source:

Notes:

[1] Unless otherwise noted, amounts shown are derived from the County's audited financial statements for FY24 and unaudited budget to actuals document for FY25.

[2] The Board approved the following rate adjustments at the February 8, 2022 Public Hearing:

a. The water and sewer user rates will be indexed as follows effective each year:

2022 – 6.5%

2023 – 8.5%

2024 – 8.5%

2025 – 8.5%

2026 – 7.5%

Beginning and in all subsequent years, the water and sewer user rates shall automatically increase based on the actual change in the Consumer Price Index Sewer and Water Maintenance Index (S W M I)(U) based on the average of the Index from the previous 12 months (November to November).

[3] Amounts shown reflect debt service as noted in the prior *Schedule Of Debt Service And Debt Equivalents*.

**SCHEDULE OF PROJECTED REVENUES AND DEBT COVERAGE
FOR PLEDGED REVENUE**

	2026	2027	2028	2029	2030
(a) Operating Revenues Service Charges [1]	\$58,515,000	\$60,776,000	\$63,127,000	\$65,573,000	\$68,116,000
(b) Interest Income [2]	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000
(c) Other Incomes or Revenues (Identify) [3]	\$0	\$0	\$0	\$0	\$0
(d) Total Revenues	\$62,015,000	\$64,276,000	\$66,627,000	\$69,073,000	\$71,616,000
(e) Operating Expenses (excluding interest on debt, depreciation and other non-cash items) [4]	\$46,698,633	\$48,416,401	\$50,197,623	\$52,044,655	\$53,959,937
(f) Net Revenues (f = d - e)	\$15,316,367	\$15,859,599	\$16,429,377	\$17,028,345	\$17,656,063
(g) Existing Debt Service on Non-SRF Projects (including coverage) [5]	\$1,620,774	\$1,622,562	\$1,619,647	\$1,621,572	\$1,622,672
(h) Existing SRF Loan Debt Service (including coverage)	\$3,309,652	\$3,309,652	\$3,309,652	\$6,738,169	\$7,482,783
Total Existing Debt Service (i = g + h)	\$4,930,426	\$4,932,214	\$4,929,299	\$8,359,741	\$9,105,455
(j) Projected Debt Service on Non-SRF Future Projects (including coverage)	\$0	\$0	\$0	\$0	\$0
(k) Projected SRF Loan Debt Service (including coverage) [6]	\$0	\$0	\$641,176	\$1,282,353	\$1,282,353
Total Debt Service (Existing and Projected) (l = i + j + k)	\$4,930,426	\$4,932,214	\$5,570,475	\$9,642,094	\$10,387,808
(m) Net Revenues After Debt Service (m = f - l) [7]	\$10,385,941	\$10,927,385	\$10,858,901	\$7,386,251	\$7,268,255

Source:

Notes:

- [1] Revenue projection for FY26 is assumes a 7.5% rate adjustment (adopted by the County) (pro rated for only 8 months since it is effective February 1st 2026) and for all future years 4.0% rate adjustments were assumed which is slightly below the 5 year average for the BLS water and sewerage maintenance index w the County adopted as its rate adjustment index for future years. Revenue projections exclude impact fees.
- [2] Includes interest income on unrestricted cash balances, which were assumed to be held constant during the forecast.
- [3] Although excluded from the projections, the County recovered on average approximately \$4.76 million in water and wastewater impact fees during the Fiscal Years 2024 and 2025. The County continues to charge new connections the impact fees.
- [4] Amounts are based on the County's adopted budget for operating expenses for the Fiscal Year 2026 and escalated thereafter at an average annual factor of approximately 3.7%.
- [5] Pursuant to the Bond Resolution authorizing the issuance of the outstanding Water and Wastewater Revenue Bonds, Series 2014, the county must:
a) generate sufficient Net Revenue equal to or greater than 110% of the annual debt service of the outstanding bonds; and b) generate sufficient Net Revenues plus impact fees equal to or greater than 120% of the annual debt service of the outstanding bonds. For purposes of the CFP we have assumed the senior lien coverage requirement at 110% in recognition that no impact fees were assumed in the projections contained in the Schedule of Projected Revenues and Debt Coverage for Pledged Revenue.
- [6] Amounts reflect the estimated annual debt service for the proposed SRF Loan.
- [7] For the purposes of full disclosure, the County budgets and funds: a) transfers to the general fund associated with Payment in Lieu of Taxes and b) capital outlay for minor units of equipment and vehicles. The following provides a forecast of net revenues after such transfers and payments:

Net Revenues After Debt	\$10,385,941	\$10,927,385	\$9,516,950	\$7,386,251	\$7,268,255
Less:					
Payment in Lieu of Taxes (PILOT)	\$1,754,149	\$1,754,149	\$1,754,149	\$1,754,149	\$1,754,149
Capital Outlay (Excludes Major Maintenance)	2,750,000	2,750,000	2,750,000	2,750,000	2,750,000
Net Available to Utility Reserve Fund	\$5,881,792	\$6,423,237	\$5,012,801	\$2,882,102	\$2,764,106

CERTIFICATION

I, Edward Fontanin, PE, certify that I have reviewed the information
Utility Services Department Director

included in the preceding capital financing plan worksheets, and to the best of my knowledge, this
information accurately reflects the financial capability of Brevard County Utility Services
Department,
Local Government

I further certify that Brevard County Utility Services Department
Local Government

adequate construction, operation, and maintenance of the system, including this SRF project.


Signature

MAR 18/26
Date

Table 6
Brevard County, Florida
Water and Wastewater Utility System
Projected Debt Service Coverage Analysis [1]

Line No.	Description	Historical			Projected						
		2023	2024	2025	2026	2027	2028	2029	2030	2031	
Gross Revenues:											
1	Water User Service Fees [1]	\$ 1,687,730	\$ 1,862,189	\$ 2,213,092	\$ 2,324,000	\$ 2,417,000	\$ 2,514,000	\$ 2,615,000	\$ 2,720,000	\$ 2,829,000	
2	Wastewater User Service Fees [2]	43,412,307	48,536,699	\$ 51,610,188	54,191,000	56,359,000	58,613,000	60,958,000	63,396,000	65,932,000	
3	Other Revenues	1,534,020	2,111,651	\$ 2,307,012	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	
4	Investment Earnings	2,259,620	3,836,317	\$ 4,121,471	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	
5	Transfers (to) / from Rate Stabilization Fund	-	-	-	-	-	-	-	-	-	
6	Total	\$ 48,893,677	\$ 56,346,856	\$ 60,251,762	\$ 62,015,000	\$ 64,276,000	\$ 66,627,000	\$ 69,073,000	\$ 71,616,000	\$ 74,261,000	
Operating Expenses:											
7	Compensation and Benefits	\$ 12,015,751	\$ 14,045,840	\$ 16,022,308	\$ 16,663,201	\$ 17,329,729	\$ 18,022,918	\$ 18,743,834	\$ 19,493,588	\$ 20,273,331	
8	Operating Expenses	21,313,536	28,337,664	\$ 29,019,741	30,035,432	31,086,672	32,174,706	33,300,820	34,466,349	35,672,671	
9	Total	\$ 33,329,287	\$ 42,383,504	\$ 45,042,049	\$ 46,698,633	\$ 48,416,401	\$ 50,197,623	\$ 52,044,655	\$ 53,959,937	\$ 55,946,003	
10	Net Revenues	\$ 15,564,390	\$ 13,963,351	\$ 15,209,713	\$ 15,316,367	\$ 15,859,599	\$ 16,429,377	\$ 17,028,345	\$ 17,656,063	\$ 18,314,997	
Footnotes:											

[1] Projected water revenues are increased by the County adopted inflationary index (water and sewerage maintenance index) of 4%

[2] Projected wastewater revenues are increased by the County adopted inflationary index (water and sewerage maintenance index) of 4%

APPENDIX B. PUBLIC HEARING DOCUMENTATION

RESOLUTION NUMBER 2026-

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF BREVARD COUNTY, FLORIDA, RELATING TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) STATE REVOLVING FUND (SRF), ADOPTION OF THE WASTEWATER FACILITIES PLAN FOR THE IMPLEMENTATION OF THE SOUTH BEACHES: RIVERSIDE DRIVE FORCE MAIN IMPROVEMENTS - 30-INCH PARALLEL FORCE MAIN, AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, Florida Statutes provide for loans to local government agencies to finance the construction of wastewater facilities, and the Florida Administrative Code requires authorization by the Board to formally adopt a Facilities Plan outlining necessary wastewater facility improvements to comply with State of Florida funding requirements;

WHEREAS, formal adoption of the proposed Facilities Plan, including public participation through a public hearing, is required for Brevard County to participate in the State Revolving Loan Fund Program;

WHEREAS, the Board of County Commissioners of Brevard County, Florida agrees with the findings and summary of necessary improvements as outlined in the Facilities Plan for the purpose of wastewater system improvements;

NOW THEREFORE BE IT RESOLVED by the Board of Commissioners of Brevard County, Florida, that:

SECTION 1. FINDINGS

The foregoing recitals are incorporated herein by reference and made a part hereof.

The Board of County Commissioners of Brevard County, Florida, is authorized to approve the proposed Facilities Plan, and hereby formally approves and adopts the South Beaches: Riverside Drive Force Main Improvements - 30-inch Parallel Force Main Facilities Plan as written and presented to the Board on this date, a copy of which is attached hereto and incorporated herein by reference.

The County Manager is hereby designated as the authorized representative to provide the assurances and commitments that will be required by the Facilities Plan.

The County Manager is hereby designated as the authorized representative to execute the Facilities Plan which will become the foundation of all activities related to the wastewater facility improvements. The County Manager is authorized to represent the County in carrying out the County's responsibilities under the Facilities Plan. The County Manager is authorized to delegate responsibility to appropriate County Staff to carry out technical, financial, and administrative activities associated with the Facilities Plan.

The legal authority for adoption of this facilities plan is pursuant to the County Charter, County Code of Ordinances, and the Laws of the State of Florida.

All Resolutions or part of Resolutions in conflict with any of the provisions of this Resolution are hereby repealed.

If any section or portion of a section of this Resolution proves to be invalid, unlawful, or unconstitutional, it shall not be held to invalidated or impair the validity, force, or effect or any other section or part of this Resolution.

SECTION 2. EFFECTIVE DATE

This Resolution shall take effect upon its approval and adoption by the Board.

DONE, ORDERED, AND ADOPTED in Regular Session this ____ day of _____,
_____.

ATTEST:

BOARD OF COUNTY COMMISSIONERS
OF BREVARD COUNTY, FLORIDA

Rachel M. Sadoff, Clerk of Court

By: _____
Thad Altman, Chair

As approved by the Board on:

APPENDIX C. ENVIRONMENTAL REVIEW DOCUMENTATION

Appendix E has been abbreviated for brevity. The full environmental technical memorandum is available upon request

NATURAL RESOURCES EVALUATION

Technical Memorandum

30-INCH PARALLEL FORCE MAIN

South Patrick/North Riverside Drive
Indian Harbour Beach
Brevard County, Florida

January 2026

Prepared for:

Wade Trim, Inc.
225 E. Robinson Street, Suite 210
Orlando, FL 32801
kscott@wadetrim.com

Prepared by:

McFarland-Johnson, Inc.
4601 Sheridan Street, Suite 500
Hollywood, FL 33021



McFARLAND
JOHNSON

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EXECUTIVE SUMMARY

This Natural Resources Evaluation (NRE) technical memorandum has been prepared in support to the proposed South Patrick/Riverside Drive Force Main Improvements Project (the “Proposed Action” or the “Project”). The purpose of this technical memorandum is to identify, review, and evaluate natural resources, such as protected species and habitat, wetlands, and Essential Fish Habitat (EFH) within the project boundaries that may be impacted by the Proposed Action. This technical memorandum has been prepared in accordance with Chapter 16 of the Florida Department of Transportation (FDOT) Project Development and Environment (PD&E) Manual (effective July 31, 2024)¹, and the FDOT Natural Resources Evaluation Outline and Guidance of August 2022². Since the Proposed Action does not involve impacts to natural resources or impacts are anticipated to be minimal, a technical memorandum is applicable and sufficient for this phase.

E.1 Proposed Action

The Proposed Action consists of the installation of approximately 7,146 linear feet of a new 30-inch sanitary parallel force main within public right-of-way (ROW) in Indian Harbour Beach, Brevard County, Florida. The Project alignment begins at North Riverside Drive, extends north along South Patrick Drive and terminates at a connection point at Riverside Park Drive. No ROW acquisition or eminent domain actions are anticipated (see **Appendix 1** for Project Design Plans).

The purpose of the Project is to increase conveyance capacity, reduce system head, improve redundancy, and enhance hydraulic performance at Lift Stations B20, S28, and S15. The new parallel force main will improve operational reliability, resiliency, and overall system optimization for Brevard County. The Project will also yield significant environmental benefits by reducing the risk of system overflows, minimizing potential impacts to the Indian River Lagoon and adjacent waterways. The Project is being advanced for funding consideration under the Florida Department of Environmental Protection (FDEP) State Revolving Fund (SRF) Program.

E.2 Project Location and Study Area

The project study area entails the Project footprint shown in **Appendix 1**, which runs along the existing Florida State Road 513 (SR-513), from North Riverside Drive, extends north along South Patrick Drive through a connection point at the existing Lift Station B20 in Riverside Park Drive. The Project is proposed entirely within the Brevard County public ROW, and the project study area encompasses an area of approximately 14.4 acres (see **Figure 1-1**). SR-513 is a two-directional-lane state-maintained road under FDOT jurisdiction, running approximately 5.25 miles from Eau Gallie Causeway (SR-518) in Indian Harbour Beach north to Pineda Causeway (SR-404), just south of Patrick Space Force Base. This road section serves as local connection to the barrier-island communities of Indian Harbour Beach, Satellite Beach, and South Patrick Shores. The project study area includes urban roadways, stormwater infrastructure, connections to local waterways, residential and commercial developments in both sides immediately adjacent or within the road right-of-way.

¹ https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/environment/pubs/pdeman/2024/pt2ch16_073124_clean.pdf?sfvrsn=284cd6c8_1

² https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/environment/pubs/protected-species/finalnreguidance082322.pdf?sfvrsn=dd265025_2

E.3 Protected Species and Habitat

The Project was evaluated for the presence of federally and state listed species in accordance with Part 2, Chapter 16 of the FDOT PD&E Manual, and Section 7 of the Endangered Species Act (ESA). In addition, field observations were conducted in December 2025.

According to the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) online system, protected species may occur in the Project vicinity (see **Appendix 2** for USFWS IPaC Official Species List). However, federally listed species were not observed in the project study area during field observations conducted in December 2025. Furthermore, critical habitat does not occur within the project footprint. The Project is located within the existing roadway footprint and does not contain typical features to support wildlife and their habitat.

Protected plant species do not occur within the project study area, with exception for Florida Royal Palm (*Roystonea elata*) that was observed within the South Patrick Drive median and landscaped areas, near design stations 35+00, 37+00, 39+00, 45+00, and 50+00. The Florida Royal Palm is a state endangered species that typically grows in tropical and subtropical habitats such as coastal lowlands, hammocks, and wetlands. This species is extensively planted and proliferates in disturbed habitats. Although not federally listed, it is considered endangered in Florida due to habitat loss and limited natural range. This species plays an important ecological role in providing food and shelter for wildlife and is often used in restoration and landscaping projects to preserve native biodiversity. Due to the Project design this species may need to be relocated to accommodate the required construction zones (e.g., launching and receiving areas) for the proposed force main. Anticipated impacts to this species would be mitigated following Chapter 5B.40.0055, Florida Administrative Code (F.A.C.)³ of Florida Department of Agriculture and Consumer Services (FDACS), and Chapter 62, Section 62-4331 of Brevard County Code of Ordinances⁴. **Table E-1** outlines federally and state regulated species that may occur in the vicinity and outside the Project.

³ <http://flrules.elaws.us/fac/5B-40.0055>

⁴

https://librarystage.municode.com/fl/brevard_county/codes/code_of_ordinances?nodeId=COORBRCOFLVOII_CH62LADERE_ARTXIIIILATRPRILACLLAAL_DIV2LACLLATRPR

Table E-1: Protected Species and Effect Determination

Common Name	Scientific Name	Listing Status ⁵		Potential of Occurrence	Present in Project Area	Effect Determination
		Federal	State			
Mammals						
Audubon's Crested Caracara	<i>Polyborus plancus audubonii</i>	T	FT			
Eastern Black Rail	<i>Laterallus jamaicensis ssp. jamaicensis</i>	T	FT			
Everglade Snail Kite	<i>Rostrhamus sociabilis plumbeus</i>	E	FE			
Florida Scrub-jay	<i>Aphelocoma coerulescens</i>	T	FT	Low	No	No Effect
Piping Plover	<i>Charadrius melodus</i>	T	FT			
Rufa Red Knot	<i>Calidris canutus rufa</i>	T	FT			
Wood Stork	<i>Mycteria americana</i>	T	FT			
Reptiles						
American Crocodile	<i>Crocodylus acutus</i>	T	FT			
Eastern Indigo Snake	<i>Drymarchon couperi</i>	T	FT	Low	No	No Effect
Insects						
Monarch Butterfly	<i>Danaus plexippus</i>	PT		Low	No	N/A ⁶
Plants						
Carter's Mustard	<i>Warea carteri</i>	E	E			
Lewton's Polygala	<i>Polygala lewtonii</i>	E	E	Low	No	No Effect
Florida Royal Palm	<i>Roystonea elata</i>	N	T	High	Yes	No adverse effect anticipated

⁵ T= Threatened; E= endangered; PT= Proposed Threatened; FE= Federally designated Endangered; FT= Federally designated Threatened; N= Not Listed

⁶ USFWS does not issue formal effect determination for species proposed for listing. Instead, Section 7(a)(4) of the Endangered Species Act (ESA) requires a conference process when an action is likely to jeopardize proposed species or adversely modify proposed critical habitat. If the species becomes listed prior to project completion, formal consultation under Section 7(a)(2) will be initiated with USFWS.

E.4 Essential Fish Habitat

Essential Fish Habitat (EFH) does not occur within the project study area. Therefore, no impacts to EFH are anticipated.

E.5 Wetlands and Other Surface Waters

According to the USFWS National Wetlands Inventory (NWI), and Brevard County databases, wetland does not occur within the project study area. A non-navigable jurisdictional man-made canal crosses the Project between STA 37+00 and STA 38+00, containing two (2) 60-inch box culverts. This canal extends from west to east across South Patrick Drive, ultimately connecting to the Indian River on the west side. The canal primarily functions as stormwater infrastructure, collecting runoff from Golden Beach Estates and Town House Estates areas. The proposed 30-inch force main will be installed using horizontal directional drilling at approximately 25 feet below the canal bed. Therefore, impacts to this canal are not anticipated.

E.5 Assumption and Limitations

This technical memorandum has been prepared based on the information available and within the defined scope of work:

- **Data Availability:** The report relies on information provided by the client, public records, and site observations. It is assumed that all data sources are accurate and complete.
- **Site Access:** Site observations and evaluation were limited to areas accessible during the site reconnaissance. Conditions in inaccessible areas may differ.
- **Design and Site Conditions:** It is assumed that site design and conditions remain consistent with those reviewed during the preparation of this report. Any changes may affect the findings and conclusions.
- **Regulatory Framework:** The report is based on current federal, state, and local regulations as of the report date. Future regulatory changes may alter compliance requirements.
- **Intrusive Investigation:** Unless otherwise stated, no soil and/or water sampling or wetland delineation were performed. Conclusions are based on visual observations and available documentation.
- **Third-Party Information:** Information obtained from third parties, including historical records and agency databases, is assumed to be reliable but has not been independently verified.

LIST OF ABBREVIATIONS AND ACRONYMS

EDR	Environmental Data Resources
EFH	Essential Fish Habitat
ESA	Endangered Species Act
F.A.C.	Florida Administrative Code
FDACS	Florida Department of Agriculture and Consumer Services
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FLUCCS	Florida Land Use, Cover and Forms Classification System
FNAI	Florida Natural Areas Inventory
FWC	Florida Fish and Wildlife Conservation Commission
HAPC	Habitat Areas of Particular Concern
HDD	Horizontal Directional Drilling
HDPE	High-Density Polyethylene
IPaC	Information for Planning and Consultation
MOT	Maintenance of Traffic Plan
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Services
NRE	Natural Resources Evaluation
NWI	National Wetlands Inventory
PD&E	Project Development and Environment
ROW	Right-of-Way

SJRWMD	St. Johns River Water Management District
SJWWMD	St. Johns River Water Management District
SRF	State Revolving Fund
TCP	Traffic Control Plan
USACE	United States Army Corps of Engineers
USDA	US Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	US Geological Survey

1. INTRODUCTION

1.1 Project Background

Brevard County proposes the installation of a 30-inch diameter force main along North Riverside Drive, South Patrick Drive and Riverside Park Drive (“the Project” or “the Proposed Action”) in Indian Harbour Beach, Florida. The Project begins at North Riverside Drive, extends north along South Patrick Drive and ends at exiting Lift Station B20 in Riverside Park Drive. No ROW acquisition or eminent domain actions are anticipated (see **Appendix 1** for Project Design Plans). The Project is being advanced for funding consideration under the Florida Department of Environmental Protection (FDEP) State Revolving Fund (SRF) Program (see **Figure-1-1** for Project Location and Project Study Area).

The Project begins roughly 300 feet south of North Riverside Drive and East Eau Gallie Boulevard, connecting to the existing system, and continues along South Patrick Drive to the existing Lift Station B20 at Riverside Park Drive.

A Natural Resources Evaluation (NRE) technical memorandum was prepared for the Project in accordance with Chapter 16 of Florida Department of Transportation (FDOT) Project Development and Environment (PD&E) Manual (effective July 31, 2024), and FDOT’s Natural Resources Evaluation Outline and Guidance (revised August 2022). The purpose of this technical memorandum is to identify, review, and evaluate natural resources, such as protected species and habitat, wetlands, and Essential Fish Habitat (EFH) within the project boundaries that may be impacted by the Proposed Action. Since the Proposed Action does not involve impacts to natural resources or impacts are anticipated to be minimal, a technical memorandum is applicable and is sufficient for this phase.

This technical memorandum involves a desktop screening of readily available data, and considers the following sources of information:

- Environmental records readily and publicly available through agency databases (i.e., Florida Department of Environmental Protection (FDEP), and Brevard County)
- Environmental Data Resources (EDR) historical aerial photos
- EDR Topographic Maps
- U.S. Geological Survey (USGS) Geologic Map
- Field Review and Site Reconnaissance
- Brevard County GIS Open Data Hub⁷
- FDEP Statewide Land Use Land Cover⁸
- FDOT Florida Land Use, Cover and Forms Classification System (FLUCCS) Handbook⁹
- FDEP Florida’s Geospatial Open Data¹⁰

⁷ <https://brevard-gis-open-data-hub-brevardbocc.hub.arcgis.com/>

⁸ <https://geodata.dep.state.fl.us/datasets/FDEP::statewide-land-use-land-cover/explore?location=26.092525%2C-80.124348%2C14.00>

⁹ <https://www.fdot.gov/docs/default-source/geospatial/documentsandpubs/fluccmanual1999.pdf>

¹⁰ <https://geodata.floridagov.gov/>

- U.S. Department of Agriculture (USDA) Web Soil Survey¹¹
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory¹²
- USFWS Information for Planning and Consultation (IPaC) online system¹³
- Florida Natural Areas Inventory¹⁴
- Florida Fish and Wildlife Conservation Commission (FWC) Florida's Endangered and Threatened Species¹⁵
- Project design plans (75% drawings)
- Wade Trim South Beaches Service Area Hydraulic Model Expansion and Improvements Study

Foreseeable impacts on protected species and their habitat are discussed in **Section 4**.

¹¹ <https://websoilsurvey.nrcs.usda.gov/app/>

¹² <https://www.fws.gov/program/national-wetlands-inventory>

¹³ <https://ecos.fws.gov/ecp/>

¹⁴ <https://www.fnai.org/>

¹⁵ <https://myfwc.com/media/1945/threatened-endangered-species.pdf>

Figure 1-1: Project Location (Project Study Area)



2. PROJECT DESCRIPTION

Brevard County proposes installing approximately 7,146 linear feet of a new 30-inch diameter force main in Indian Harbour Beach, Florida. The pipeline will be constructed entirely within Brevard County public ROW and will run parallel to the existing 24-inch diameter PVC force main. The Project begins roughly 300 feet south of North Riverside Drive and East Eau Gallie Boulevard, connecting to the existing system, and continues along South Patrick Drive to the existing Lift Station B20 at Riverside Park Drive (see **Appendix 1**).

The Project encompasses the following components:

- Construction of seven (7) Horizontal Directional Drilling (HDD) entry and exist pits along South Patrick Drive.
- Installation of 30-inch diameter high-density polyethylene (HDPE) force main pipe.
- Open-cut installation of 30-inch diameter ductile iron pipe to the existing 30-inch force main South of Eau Gallie Causeway.
- Open-cut installation of 30-inch diameter ductile iron pipe along Riverside Park Drive.
- Connection to existing 30-inch force main.
- Installation of necessary fittings, valves, and appurtenances.
- Maintenance of Traffic (MOT) Plan / Traffic Control Plan (TCP)
- Restoring all disturbed areas to pre-construction conditions, including roadway pavements and landscaping.

Most of the new force main will be installed using HDD beneath North Riverside Drive and South Patrick Drive, with limited open-cut trenching at tie-in locations and along Riverside Park Drive. Excavation pits necessary for HDD operations will be located within the roadway median and will require short term dewatering during construction. Open-cut sections will also involve temporary dewatering. Construction dewatering is necessary due to the high groundwater table elevation at the project site for the installation of the proposed force main.

2.1 Purpose and Need

The purpose of the Project is to increase conveyance capacity, reduce system head, improve redundancy, and enhance hydraulic performance at Lift Stations B20, S28, and S15. The new parallel force main will improve operational reliability, resiliency, and overall system optimization for Brevard County.

The Project will also yield significant environmental benefits by reducing the risk of system overflows, minimizing potential impacts to the Indian River Lagoon and adjacent waterways. Improved hydraulic efficiency decreases energy demand at upstream lift stations, supporting lower long-term operational emissions. Additionally, the use of HDD reduces surface disturbance, limits vegetation and habitat impacts, and minimizes construction-related runoff compared to traditional open-cut methods.

3. EXISTING CONDITIONS

3.1 Project Study Area

The project study area entails the Project footprint shown in **Appendix 1**, which runs along the existing Florida State Road 513 (SR-513), from North Riverside Drive, extends north along South Patrick Drive through a connection point at the existing Lift Station B20 in Riverside Park Drive. The Project is proposed entirely within the Brevard County public ROW, and the project study area encompasses an area of approximately 14.4 acres (see **Figure 1-1**). SR-513 is a two-directional-lane state-maintained road under FDOT jurisdiction, running approximately 5.25 miles from Eau Gallie Causeway (SR-518) in Indian Harbour Beach north to Pineda Causeway (SR-404), just south of Patrick Space Force Base (see **Table 3-1** for Project Boundaries). This road section serves as local connection to the barrier-island communities of Indian Harbour Beach, Satellite Beach, and South Patrick Shores. The project study area includes urban roadways, stormwater infrastructure, connections to local waterways, residential and commercial developments on both sides immediately adjacent or within the road right-of-way.

Table 3-1: Project Boundaries

Boundary	Description
North	South Patrick Drive (SR-513)
South	North Riverside Drive
East	Residential and commercial developments SR-513 North Riverside Drive E Eau Gallie Boulevard
West	Residential and commercial developments SR-513 North Riverside Drive E Eau Gallie Boulevard

3.2 Land Use

FLUCCS data, aerial photographs, and USGS National Wetland Inventory (NWI) map were reviewed to evaluate past and current land use and habitat types within the project study area. The Project is compatible with the existing land use and is located in land designated for transportation (FLUCCS 814) and commercial activities (FLUCCS 140). **Table 3-2** describes the existing land use within the project area.

Table 3-2: Existing Land Use

Type	FLUCCS Code	FLUCCS Description	Acreage (Approx.)	Percentage
Uplands	814	Transportation [Roads and highways (divided 4-lane with medians)]	10.6	73.6%
	140	Urban and Built-Up (Commercial and Services)	3.8	26.4%
Total			14.4	100%

- **FLUCCS 814 (Transportation):** Transportation facilities are used for the movement of people and goods; therefore, they are major influences on land, and any land use boundaries are outlined by them. This category involves rail-oriented facilities including stations, round-houses, repair and switching yards and related areas.
- **FLUCCS 140 (Urban and Built-Up):** Urban and built-up land consists of areas of intensive use with much of the land occupied by man-made structures. Included in this category are cities, towns, villages, strip developments along highways and such areas as those occupied by malls, shopping centers, industrial and commercial complexes and institutions that may, in some instances, are isolated from urban areas.
 - Commercial areas are predominantly associated with the distribution of products and services. This category is composed of a large number of individual types of commercial land uses which often occur in complex mixtures. This category includes all secondary structures associated with an enterprise in addition to the main building and integral areas assigned to support the base unit. This includes sheds, warehouses, office buildings, driveways, parking lots and landscaped areas.

3.3 Historical Aerial Photographs

A review of historical aerial photographs of the project area from 1943 to 2023 was conducted using EDR database (see **Appendix 3** for Historical Photos). Also included a review of USGS historical topo maps from 1941 to 2021 (see **Appendix 4**). **Table 3-3** provides a summary of historical aerial photographs of the project area dated 1943, 1951, 1958, 1969, 1979, 1980, 1983, 1993, 1994, 1999, 2007, 2010, 2015, 2019, and 2023.

Table 3-3: Historical Land Use Summary

Year	Comments
1943-1951	• Baseline period showing the natural state of the project study area. • Primarily undeveloped with woodland and pastureland.
1958	• First major infrastructure development with South Patrick Drive extending north of the project study area. • Beginning of residential development on the west side.
1969-1980	• Significant expansion period with both residential and commercial development. • Infrastructure improvement with South Patrick Drive widening to the south.
1983-1999	• Continued development phase including: ○ Noticeable residential and commercial growth, ○ Construction of Indian Harbour Place Shopping Center (west side), ○ Creation of pond on the north side of the project study area, near Riverside Park Drive.
2007-2010	• Development focus shifted to residential expansion east of the project area. • Development particularly noted near E Eau Gallie Boulevard.
2015-2023	• Current land use patterns established, with minimal changes from what exists today.

3.4 Soils

According to the US Department of Agriculture's (USDA) Natural Resources Conservation Services (NRCS), five (5) soil types exist within the footprint of the Project¹⁶. See **Figure 3-1** for Soil Map. A description of these soils is presented below.

- **Myakka sand (Mk), 0 to 2 percent slopes (Map Unit: 36)** – The Myakka Series consists of nearly level, poorly drained sandy soils in broad areas in the flatwoods and in areas between sand ridges and sloughs and ponds. The representative profile has a sandy surface layer about 8 inches thick. This Series is ranked as a hydric soil and flooded for 2 to 7 days once in 1 to 5 years. Capability unit IVw-2.
- **Pomello sand (Ps), 0 to 5 percent slopes (Map Unit: 49)** – The Pomello Series consists of nearly level, moderately well drained sandy soils on broad low ridges and low knolls in the flatwoods. The representative profile has a surface layer of about 3 inches thick. This Series is ranked as a hydric soil. Capability unit VIs-3.
- **Pomello-Urban land complex (Pu) (Map Unit: 50)** – This complex is about 45-60 percent of Pomello sand, 20 percent Pomello sand that has been altered for use as building sites, and 20-45 percent Urban land or areas covered by houses, streets, driveways, buildings, parking lots, and other related uses. This complex is ranked as a hydric soil; however, it does not have an assigned capability unit.
- **Pompano sand (Pw), 0 to 2 percent slopes (Map Unit: 51)** – The Pompano Series consists of nearly level, poorly drained soils on broad flats, in shallow depressions, and in sloughs. The representative profile has a sandy surface layer about 7 inches thick. Capability unit IVw-1. This Series is ranked as a hydric soil.
- **Urban land (Ur), 0 to 2 percent slopes (Map Unit: 69)** – The Urban land consists of areas covered with about 60-75 percent streets, buildings, large parking lots, shopping centers, industrial parks, airports, and related facilities. This Series is ranked as a hydric soil; however, it does not have an assigned capability unit.

Table 3-4: Soil Composition

Map Unit	Soil Type	Hydric Rating	Capability Unit	Acreage (Approx.)	Percentage
36	Myakka sand, 0 to 2 percent slopes	Yes	IVw-2	5.5	37.9%
49	Pomello sand, 0 to 5 percent slopes	Yes	VIs-3	1.2	8.3%
50	Pomello-Urban land complex	Yes	Not Assigned	2	14%
51	Pompano sand, 0 to 2 percent slopes	Yes	IVw-1	2.4	16.9%
69	Urban land, 0 to 2 percent slopes	Yes	Not Assigned	3.3	22.8%
Total				14.4	100%

¹⁶ <https://archive.org/details/brevardFL1974/mode/2up>

Figure 3-1: Soil Map



4. PROTECTED SPECIES

The Project was evaluated for the presence of federally and state listed species in accordance with Part 2, Chapter 16 of the FDOT PD&E Manual, and Section 7 of the Endangered Species Act (ESA). In addition, field observations were conducted in December 2025.

According to the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) online system, protected species may occur in the Project vicinity (see **Appendix 2**). However, federally listed species were not observed in the project study area during field observations conducted in December 2025. Furthermore, critical habitat does not occur within the project footprint. The Project is located within the existing roadway footprint and does not contain typical features to support wildlife and their habitat.

Protected plant species do not occur within the project study area, with exception for Florida Royal Palm (*Roystonea elata*) that was observed within the South Patrick Drive median and landscape areas, near design stations 35+00, 37+00, 39+00, 45+00, and 50+00. The Florida Royal Palm is a state endangered species that typically grows in tropical and subtropical habitats such as coastal lowlands, hammocks, and wetlands. This species is extensively planted and proliferates in disturbed habitats. Although not federally listed, it is considered endangered in Florida due to habitat loss and limited natural range. This species plays an important ecological role in providing food and shelter for wildlife and is often used in restoration and landscaping projects to preserve native biodiversity. Due to the Project design this species may need to be relocated to accommodate the required construction zones (e.g., launching and receiving areas) for the proposed force main. Anticipated impacts to this species would be mitigated following FDACS Chapter 5B.40.0055, F.A.C., and Chapter 62, Section 62-4331 of Brevard County Code of Ordinances. **Table 4-1** outlines federally and state regulated species that may occur in the vicinity and outside the Project.

Table 4-1: Protected Species Potentially Occurring in Project Vicinity

Common Name	Scientific Name	Listing Status ¹⁷ Federal	State	Potential of Occurrence	Present in Project Area	Effect Determination
Mammals						
Audubon's Crested Caracara	<i>Polyborus plancus audubonii</i>	T	FT			
Eastern Black Rail	<i>Laterallus jamaicensis ssp. jamaicensis</i>	T	FT			
Everglade Snail Kite	<i>Rostrhamus sociabilis plumbeus</i>	E	FE			
Florida Scrub-jay	<i>Aphelocoma coerulescens</i>	T	FT	Low	No	No Effect
Piping Plover	<i>Charadrius melodus</i>	T	FT			
Rufa Red Knot	<i>Calidris canutus rufa</i>	T	FT			
Wood Stork	<i>Mycteria americana</i>	T	FT			
Reptiles						
American Crocodile	<i>Crocodylus acutus</i>	T	FT	Low	No	No Effect
Eastern Indigo Snake	<i>Drymarchon couperi</i>	T	FT			
Insects						
Monarch Butterfly	<i>Danaus plexippus</i>	PT		Low	No	N/A ¹⁸
Plants						
Carter's Mustard	<i>Warea carteri</i>	E	E	Low	No	No Effect
Lewton's Polygala	<i>Polygala lewtonii</i>	E	E			
Florida Royal Palm	<i>Roystonea elata</i>	N	T	High	Yes	No adverse effect anticipated

¹⁷ T= Threatened; E= endangered; PT= Proposed Threatened; FE= Federally designated Endangered; FT= Federally designated Threatened; N= Not Listed

¹⁸ USFWS does not issue formal effect determination for species proposed for listing. Instead, Section 7(a)(4) of the Endangered Species Act (ESA) requires a conference process when an action is likely to jeopardize proposed species or adversely modify proposed critical habitat. If the species becomes listed prior to project completion, formal consultation under Section 7(a)(2) will be initiated with USFWS.

5. WETLANDS AND OTHER SURFACE WATERS

Wetlands and other surface waters were evaluated in accordance with Chapter 62-340, F.A.C., USACE 1987 Corps of Engineers Wetland Delineation Manual, and 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0) (ERDC/EL TR-10-20).

According to the USFWS National Wetlands Inventory, and Brevard County databases, wetland does not occur within the project study area (see **Figure 5-1**). A non-navigable jurisdictional man-made canal crosses the Project between STA 37+00 and STA 38+00, containing two (2) 60-inch box culverts. This canal extends from west to east across South Patrick Drive, ultimately connecting to the Indian River on the west side. The canal primarily functions as stormwater infrastructure, collecting runoff from Golden Beach Estates and Town House Estates areas. The proposed 30-inch force main will be installed using horizontal directional drilling at approximately 25 feet below the canal bed. Therefore, impacts to this canal are not anticipated.

Figure 5-1: National Wetlands Inventory Map



6. ESSENTIAL FISH HABITAT

The Project has been evaluated for potential impacts to Essential Fish Habitat (EFH) in accordance with the Magnuson-Stevens Fishery Conservation and Management Act. EFH and Habitat Areas of Particular Concern (HAPC) are designated by the National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS) and the regional fishery management councils for species to support the conservation of habitats critical to the life cycles of federally managed fish species.

The review of EFH in the project study area follows guidelines from the FDOT PD&E Manual (Part 2, Chapter 17)¹⁹, and the USFWS. Available NMFS data²⁰ were assessed to evaluate if EFH and HAPC occur within the project study area, as these types of habitats are protected under the Magnuson-Stevens Fishery Conservation and Management Act, which helps safeguard marine species and their environment.

Based on the NMFS EFH Mapper²¹, EFH does not occur within the project study area. Therefore, the Project will have “no effect” on EFH (See **Appendix 2**).

¹⁹ https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/environment/pubs/pdeman/2024/pt2ch17-073124_clean.pdf?sfvrsn=e9b75cb4_1

²⁰ <https://noaa.maps.arcgis.com/apps/webappviewer/index.html?id=68d8df16b39c48fe9f60640692d0e318>

²¹ <https://www.habitat.noaa.gov/apps/efhmapper/?page=South-Atlantic-Map>

7. ANTICIPATED PERMITS

Due to the nature of the Project, impacts on water resources or federally protected species are not expected. Coordination with regulatory agencies may be required during the permitting process, as necessary. **Table 7-1** provides a description of anticipated permits for the Proposed Action.

Table 7-1: Anticipated Permits and Authorization

Regulatory Agency	Permit Description	Requirements
SJWWMD	Environmental Resource Permit	Not required – No impacts on wetland or surface waters.
FDEP	NPDES Construction Generic Permit	Yes – Applies to construction sites that disturb ≥ 1 acre, or < 1 acre if part of a common plan of development or sale, and discharge stormwater to surface waters or a municipal separate storm sewer system (MS4).
	Wastewater Permit	Yes – Force main.
	Notice of Intent	Yes – Force main.
USACE	Section 404 Permit	Not required – No impacts on wetland or surface waters.
USFWS	Protected Species Consultation	Not required – No effect on protected species or critical habitat.
Brevard County	ROW Permit	Yes – Impacts on existing county ROW.
	Utility Coordination	Yes – Impacts on utilities.
	Land Clearing / Tree Protection Permit	Yes – Relocation of native species (<i>R. elata</i>). Required under native vegetation and tree protection ordinances.
FADCS	Native Plant Harvesting Permit	Yes – Relocation of native species (<i>R. elata</i>).

8. CONCLUSION

No impacts on federally protected species, wetlands or EFH are expected as a result of the Proposed Action. Due to the nature of the Project and proposed installation method using horizontal directional drilling, dewatering may be employed during construction. Best management practices and protective measures will be implemented to avoid or minimize any possibility of unanticipated impacts. Since the Proposed Action does not involve impacts to natural resources or impacts are anticipated to be minimal, a technical memorandum is applicable and sufficient for this phase.

8.1 Protected Species and Habitat

Pursuant to Section 7 of the ESA and Part 2, Chapter 16 of the FDOT PD&E Manual, the project study area was evaluated for the presence of protected species. According to the USFWS IPaC online system, federally protected species or designated critical habitat do not occur within the project study area. In addition, federally protected species were not observed during site observations. Therefore, the Proposed Action would have no effect on federally listed species.

Furthermore, the Florida Royal Palm (*R. elata*) was observed in some sections along South Patrick Drive during site observations. Due to the Project design this species may be relocated to accommodate the proposed force main. Anticipated impacts to this species will be mitigated following FDACS, Chapter 5B.40.0055, F.A.C., and Chapter 62, Section 62-4331 of Brevard County Code of Ordinances.

Table 8-1: Protected Species and Effect Determination

Common Name	Scientific Name	Listing Status Federal	Status State	Potential of Occurrence	Present in Project Area	Effect Determination
Mammals						
Audubon's Crested Caracara	<i>Polyborus plancus audubonii</i>	T	FT	Low	No	No Effect
Eastern Black Rail	<i>Laterallus jamaicensis ssp. jamaicensis</i>	T	FT			
Everglade Snail Kite	<i>Rostrhamus sociabilis plumbeus</i>	E	FE			
Florida Scrub-jay	<i>Aphelocoma coerulescens</i>	T	FT			
Piping Plover	<i>Charadrius melodus</i>	T	FT			
Rufa Red Knot	<i>Calidris canutus rufa</i>	T	FT			
Wood Stork	<i>Mycteria americana</i>	T	FT			
Reptiles						
American Crocodile	<i>Crocodylus acutus</i>	T	FT	Low	No	No Effect
Eastern Indigo Snake	<i>Drymarchon couperi</i>	T	FT			
Insects						
Monarch Butterfly	<i>Danaus plexippus</i>	PT		Low	No	N/A
Plants						
Carter's Mustard	<i>Warea carteri</i>	E	E	Low	No	No Effect
Lewton's Polygala	<i>Polygala lewtonii</i>	E	E			
Florida Royal Palm	<i>Roystonea elata</i>	N	T	High	Yes	No adverse effect anticipated

8.2 Wetlands and Other Surface Waters

Wetland does not occur within the project limits. Therefore, no impacts on this resource are expected. Although a non-navigable jurisdictional man-made canal crosses the Project between STA 37+00 and STA 38+00, the Project does not include impacts to this canal. In addition, due to the project design and proposed installation method using horizontal directional drilling at approximately 25 feet below the canal bed, impacts to water resources are not anticipated.

8.3 Essential Fish Habitat

Essential Fish Habitat (EFH) does not occur within the project study area. Therefore, no impacts to EFH are anticipated.

8.4 Implementation Measures and Environmental Commitments

8.4.1 Implementation Measures

Best management practices and protective measures will be implemented to avoid or minimize any possibility of unanticipated impacts, specifically due to construction dewatering. Any construction dewatering would be short-term and best management practices would be implemented by the contractor during construction phase. The dewatering activities to be conducted during construction would take into consideration the following protection measures:

- Avoid direct discharge of untreated dewatering water into natural water bodies or open water canal.
- Avoid direct discharge of untreated dewatering water into high functional wetland ecosystems.
- Avoid permanent impacts to downgradient natural resources or property.
- Awareness of location of known contamination sites adjacent to the Project and control exacerbation of known contamination plume
- Install silt fence along trench lines where runoff may occur.
- Use inlet protection at nearby storm drains.
- Provide stabilized construction entrance to minimize sediment tracking.
- Apply water spray for dust control during trenching and backfill.
- Designate lined concrete washout areas.
- Store fuels and lubricants in secondary containment; maintain spill kits.
- Keep pipe and materials on stabilized surfaces within ROW.

8.4.2 Environmental Commitments

- The contractor will comply with all federal and state requirements regarding native species.
- Land clearing and grubbing would be performed in such a manner as to minimize damage outside the Project footprint. Maintain construction activities within authorized project boundaries, construction staging areas and clearing limits as per approved permits.

- Prior to the initiation of the earthwork phase involving vegetation clearing and tree trimming, the site would be inspected to validate that imperiled species or active nests from migratory birds are not within the construction work zone. The contractor would be directed not to damage or remove any nest without prior approval or confirmation from the FWC or USFWS.
- Use appropriate dust control methods during construction activities such as water sprays.
- Re-vegetate exposed soils following completion of construction activities in designated areas.
- Minimize the amount of exposed soil at any given time during construction activities. Dispose of debris and solid waste generated by the Project according to applicable federal, state, and local regulations.
- Stage and service construction equipment in designated staging areas. Perform construction vehicle maintenance and inspections to reduce the potential for incidental release of vehicle fluids.
- Maintain spill kits to rapidly respond to and limit impacts from accidental releases of vehicle fluids.

9. REFERENCES

- Brevard County, Florida. *Code of Ordinances, Chapter 62 – Land Development Regulations, Sections 62-4218-62-4300: Landscaping, Tree Protection, Land Clearing and Land Alteration*. Available at https://librarystage.municode.com/fl/brevard_county/codes/code_of_ordinances?nodeId=COORBRCOFLVOI|CH62LADERE_ARTXIIILATRPR|LACLLAAL_DIV2LACLLATPR
- Environmental Data Resources. (2025). *EDR Lightbox Standard Package for S Patrick/N Riverside Dr 30 Parallel Force Main Project*.
- Florida Department of Transportation. (1999). *Florida Land Use, Cover and Forms Classification System*. Available at <https://www.fdot.gov/docs/default-source/geospatial/documentsandpubs/fluccmanual1999.pdf>
- Florida Department of Transportation. (2022). *Natural Resources Evaluation Outline and Guidance*. Available at https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/environment/pubs/protected-species/finalnreguidance082322.pdf?sfvrsn=dd265025_2
- Florida Department of Transportation. (2024). *Project Development & Environment (PD&E) Manual, Part 2, Chapter 17, Essential Fish Habitat*. Available at https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/environment/pubs/pdeman/2024/pt2ch17-073124_clean.pdf?sfvrsn=e9b75cb4_1
- Florida Department of Transportation. (2024). *Project Development & Environment (PD&E) Manual, Part 2, Chapter 16, Protected Species and Habitat*. Available at https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/environment/pubs/pdeman/2024/pt2ch16_073124_clean.pdf?sfvrsn=284cd6c8_1
- Florida Fish and Wildlife Conservation Commission. (2022). *Florida's Endangered and Threatened Species*. Available at <https://myfwc.com/media/1945/threatened-endangered-species.pdf>
- U.S. Department of Agriculture. Natural Resources Conservation Service. (1974). *Soil Survey of Brevard County, Florida*. Accessible at <https://archive.org/details/brevardFL1974/mode/2up>
- Wade Trim (2025). *South Beaches Service Area Hydraulic Model Expansion and Improvement Study: Data Review and Model Scenarios Technical Memorandum*.

10. APPENDICES

Appendix 1	Project Design Plans Set
Appendix 2	USFWS IPaC Official Species List
Appendix 3	Historical Aerial Photos
Appendix 4	Historical Topo Maps
Appendix 5	Photographic Documentation

Appendix 1

Project Design Plans Set Appendix Excluded - Available Upon Request

Natural Resources Evaluation – Technical Memorandum
30-Inch Parallel Force Main
South Patrick/North Riverside Drive
Brevard County, Florida

Appendix 2

USFWS IPaC Official Species List



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Florida Ecological Services Field Office

777 37th St

Suite D-101

Vero Beach, FL 32960-3559

Phone: (352) 448-9151 Fax: (772) 562-4288

Email Address: fw4flesregs@fws.gov

<https://www.fws.gov/office/florida-ecological-services>



In Reply Refer To:

11/21/2025 15:12:59 UTC

Project Code: 2026-0018636

Project Name: South Patrick/North Riverside Drive 30-inch Parallel Force Main

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat.

Please include your Project Code, listed at the top of this letter, in all subsequent correspondence regarding this project. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Florida bonneted bat: If the Florida bonneted bat or Florida bonneted bat Critical Habitat is on your Official Species List, please make sure you are using the [2024 Florida Bonneted Bat Guidelines and Key](#) and submitting acoustic survey data to [NABat](#) if acoustic surveys are conducted.

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/program/migratory-bird-permits/what-we-do>.

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of

Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Marine Mammals
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Florida Ecological Services Field Office

777 37th St

Suite D-101

Vero Beach, FL 32960-3559

(352) 448-9151

PROJECT SUMMARY

Project Code: 2026-0018636
Project Name: South Patrick/North Riverside Drive 30-inch Parallel Force Main
Project Type: Water Supply Pipeline - New Constr - Below Ground
Project Description: Brevard County proposes the installation of approximately 7,146 linear feet of a new 30-inch diameter parallel force main in Indian Harbour Beach, Florida. The new force main will operate in parallel with the existing 24-inch PVC force main, running from Riverside Park Drive to the south side of Eau Gallie Blvd, along the east side of South Patrick Drive and North Riverside Drive.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@28.14690105,-80.5989602793292,14z>



Counties: Brevard County, Florida

ENDANGERED SPECIES ACT SPECIES

There is a total of 14 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
West Indian Manatee <i>Trichechus manatus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. This species is also protected by the Marine Mammal Protection Act, and may have additional consultation requirements. Species profile: https://ecos.fws.gov/ecp/species/4469 General project design guidelines: https://ipac.ecosphere.fws.gov/project/7H34RYBYJZCLFO245XOBJDUUVY/documents/generated/7281.pdf	Threatened

BIRDS

NAME	STATUS
Crested Caracara (audubon's) [fl Dps] <i>Caracara plancus audubonii</i> Population: FL DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8250	Threatened
Eastern Black Rail <i>Laterallus jamaicensis ssp. jamaicensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10477	Threatened
Everglade Snail Kite <i>Rostrhamus sociabilis plumbeus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7713	Endangered
Florida Scrub-jay <i>Aphelocoma coerulescens</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6174	Threatened
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Rufa Red Knot <i>Calidris canutus rufa</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Wood Stork <i>Mycteria americana</i> Population: AL, FL, GA, MS, NC, SC No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8477 General project design guidelines: https://ipac.ecosphere.fws.gov/project/7H34RYBYJZCLFO245XOBJDUUVY/documents/generated/6954.pdf	Threatened

REPTILES

NAME	STATUS
American Crocodile <i>Crocodylus acutus</i> Population: U.S.A. (FL) There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6604	Threatened
Eastern Indigo Snake <i>Drymarchon couperi</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/646	Threatened
Green Sea Turtle <i>Chelonia mydas</i> Population: North Atlantic DPS There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

FLOWERING PLANTS

NAME	STATUS
Carter's Mustard <i>Warea carteri</i> Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5583	Endangered
Lewton's Polygala <i>Polygala lewtonii</i> Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6688	Endangered

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act ² and the Migratory Bird Treaty Act (MBTA) ¹. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

-
1. The [Bald and Golden Eagle Protection Act](#) of 1940.
 2. The [Migratory Birds Treaty Act](#) of 1918.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are Bald Eagles and/or Golden Eagles in your [project](#) area.

Measures for Proactively Minimizing Eagle Impacts

For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the [National Bald Eagle Management Guidelines](#). You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to [Bald Eagle Nesting and Sensitivity to Human Activity](#).

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

If disturbance or take of eagles cannot be avoided, an [incidental take permit](#) may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the [Do I Need A Permit Tool](#). For assistance making this determination for golden eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

Ensure Your Eagle List is Accurate and Complete

If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the [Supplemental Information](#)

[on Migratory Birds and Eagles](#), to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read ["Supplemental Information on Migratory Birds and Eagles"](#), specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

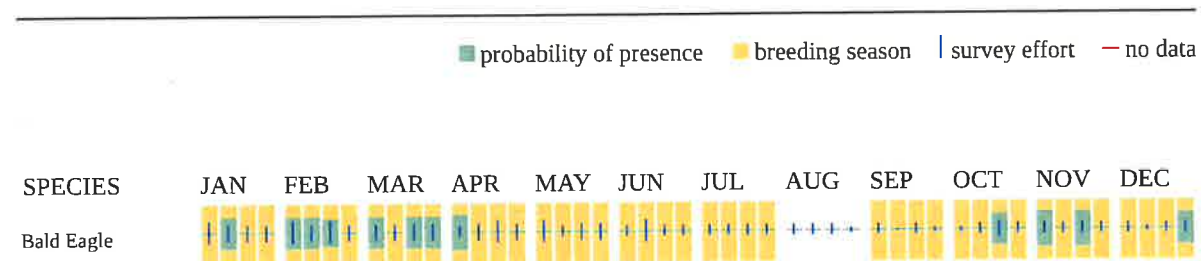
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

A week is marked as having no data if there were no survey events for that week.



Non-BCC
Vulnerable

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) ¹ prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Kestrel <i>Falco sparverius paulus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9587	Breeds Apr 1 to Aug 31
Bachman's Sparrow <i>Peucaea aestivalis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6177	Breeds May 1 to Sep 30

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31
Black Skimmer <i>Rynchops niger</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Great Blue Heron <i>Ardea herodias occidentalis</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/10590	Breeds Jan 1 to Dec 31
Least Tern <i>Sternula antillarum antillarum</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/11919	Breeds Apr 25 to Sep 5
Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Magnificent Frigatebird <i>Fregata magnificens</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9588	Breeds Oct 1 to Apr 30
Painted Bunting <i>Passerina ciris</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9511	Breeds Apr 25 to Aug 15
Prairie Warbler <i>Setophaga discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9513	Breeds May 1 to Jul 31
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10

NAME	BREEDING SEASON
Reddish Egret <i>Egretta rufescens</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/7617	Breeds Mar 1 to Sep 15
Ruddy Turnstone <i>Arenaria interpres morinella</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/10633	Breeds elsewhere
Semipalmated Sandpiper <i>Calidris pusilla</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9603	Breeds elsewhere
Short-billed Dowitcher <i>Limnodromus griseus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Swallow-tailed Kite <i>Elanoides forficatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8938	Breeds Mar 10 to Jun 30
Whimbrel <i>Numenius phaeopus hudsonicus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11991	Breeds elsewhere
Willet <i>Tringa semipalmata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10669	Breeds Apr 20 to Aug 5
Worthington's Marsh Wren <i>Cistothorus palustris griseus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9560	Breeds Apr 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (🟡)

Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (1)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

A week is marked as having no data if there were no survey events for that week.





Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

MARINE MAMMALS

Marine mammals are protected under the [Marine Mammal Protection Act](#). Some are also protected under the Endangered Species Act¹ and the Convention on International Trade in Endangered Species of Wild Fauna and Flora².

The responsibilities for the protection, conservation, and management of marine mammals are shared by the U.S. Fish and Wildlife Service [responsible for otters, walruses, polar bears, manatees, and dugongs] and NOAA Fisheries³ [responsible for seals, sea lions, whales, dolphins, and porpoises]. Marine mammals under the responsibility of NOAA Fisheries are **not** shown on this list; for additional information on those species please visit the [Marine Mammals](#) page of the NOAA Fisheries website.

The Marine Mammal Protection Act prohibits the take of marine mammals and further coordination may be necessary for project evaluation. Please contact the U.S. Fish and Wildlife Service Field Office shown.

-
1. The [Endangered Species Act](#) (ESA) of 1973.
 2. The [Convention on International Trade in Endangered Species of Wild Fauna and Flora](#) (CITES) is a treaty to ensure that international trade in plants and animals does not threaten their survival in the wild.
 3. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

NAME _____

West Indian Manatee *Trichechus manatus*

Species profile: <https://ecos.fws.gov/ecp/species/4469>

WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- R5UBFx

IPAC USER CONTACT INFORMATION

Agency: County of Brevard
Name: Antonin Forestil
Address: 4601 Sheridan St
Address Line 2: Ste 500
City: Hollywood
State: FL
Zip: 33021
Email: aforestil@mjinc.com
Phone: 3057054871

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Florida Department of Environmental Protection

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Appendix 3

Historical Aerial Photos

S Patrick/N Riverside Dr 30 Parallel Force Main

Brevard County

Indian Harbour Beach, FL 32937

Inquiry Number: 8181378.8

November 24, 2025

The EDR Aerial Photo Decade Package



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

11/24/25

Site Name:

S Patrick/N Riverside Dr 30 Pa
Brevard County
Indian Harbour Beach, FL 32909
EDR Inquiry # 8181378.8

Client Name:

McFarland Johnson
4601 Sheridan Street Suite 500
Hollywood, FL 33021
Contact: Antonin Forestil



Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

<u>Year</u>	<u>Scale</u>	<u>Details</u>	<u>Source</u>
2023	1"=1000'	Flight Year: 2023	USDA/NAIP
2019	1"=1000'	Flight Year: 2019	USDA/NAIP
2015	1"=1000'	Flight Year: 2015	USDA/NAIP
2010	1"=1000'	Flight Year: 2010	USDA/NAIP
2007	1"=1000'	Flight Year: 2007	USDA/NAIP
1999	1"=1000'	Flight Year: 1999	USGS/DOQQ
1994	1"=1000'	Flight Year: 1994	USGS/DOQQ
1993	1"=1000'	Flight Date: March 10, 1993	FDOT
1983	1"=1000'	Flight Date: November 16, 1983	FDOT
1980	1"=1000'	Flight Date: February 28, 1980	FDOT
1979	1"=1000'	Flight Date: November 27, 1979	U of FL
1969	1"=1000'	Flight Date: December 01, 1969	U of FL
1958	1"=1000'	Flight Date: April 24, 1958	U of FL
1951	1"=1000'	Flight Date: March 17, 1951	U of FL
1943	1"=1000'	Flight Date: February 14, 1943	U of FL

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

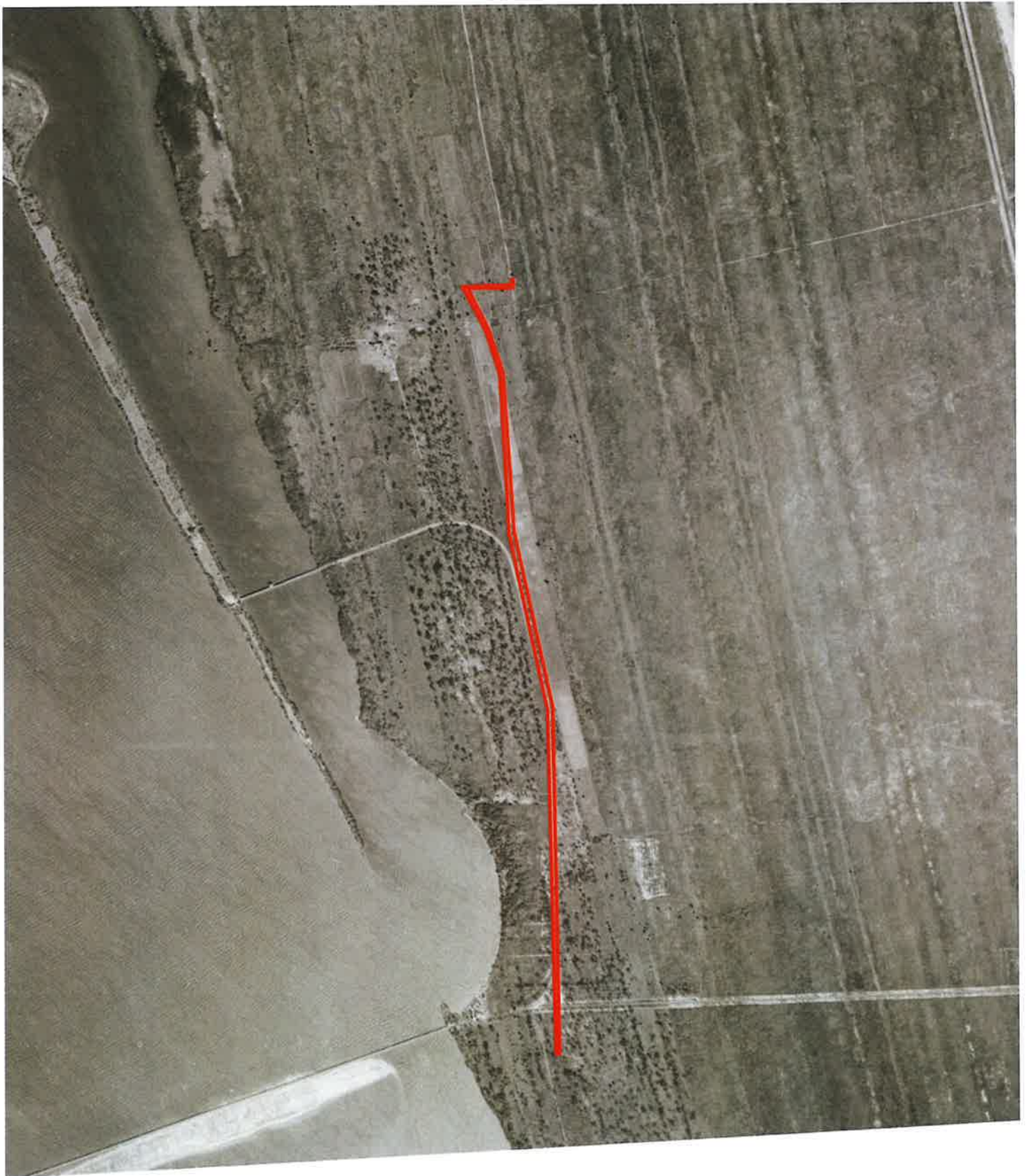
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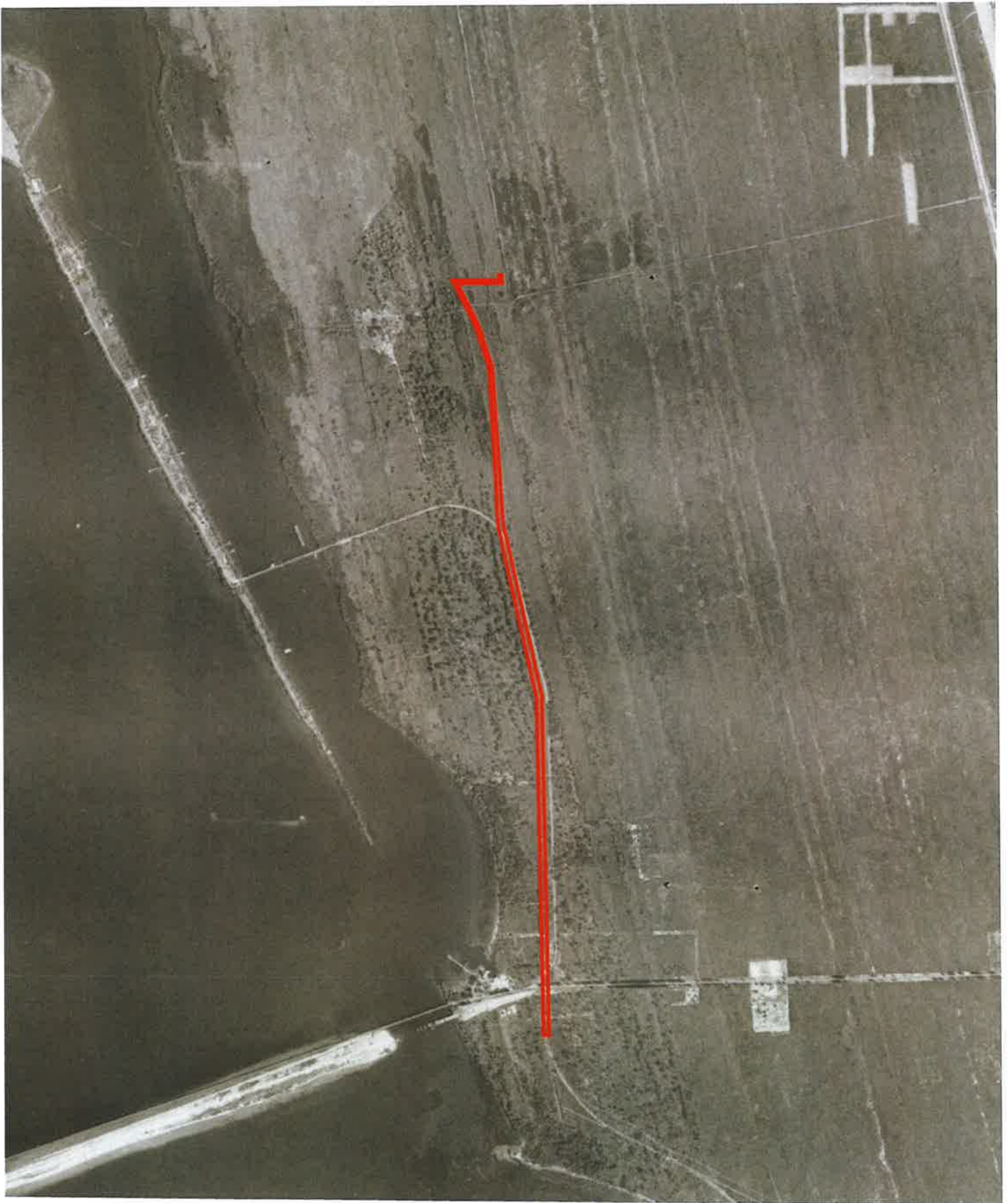


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YEAR: 1943



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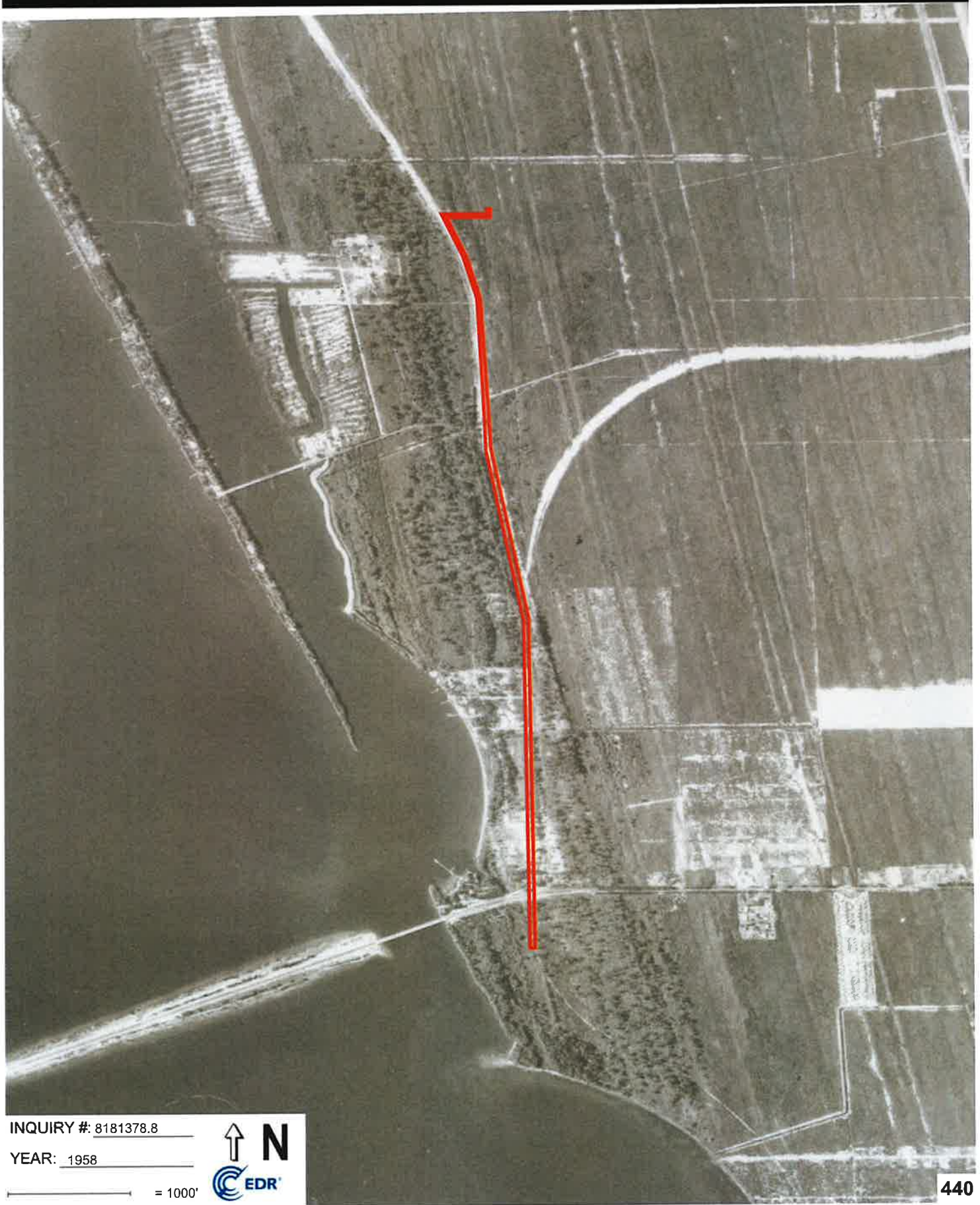


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YEAR: 1951

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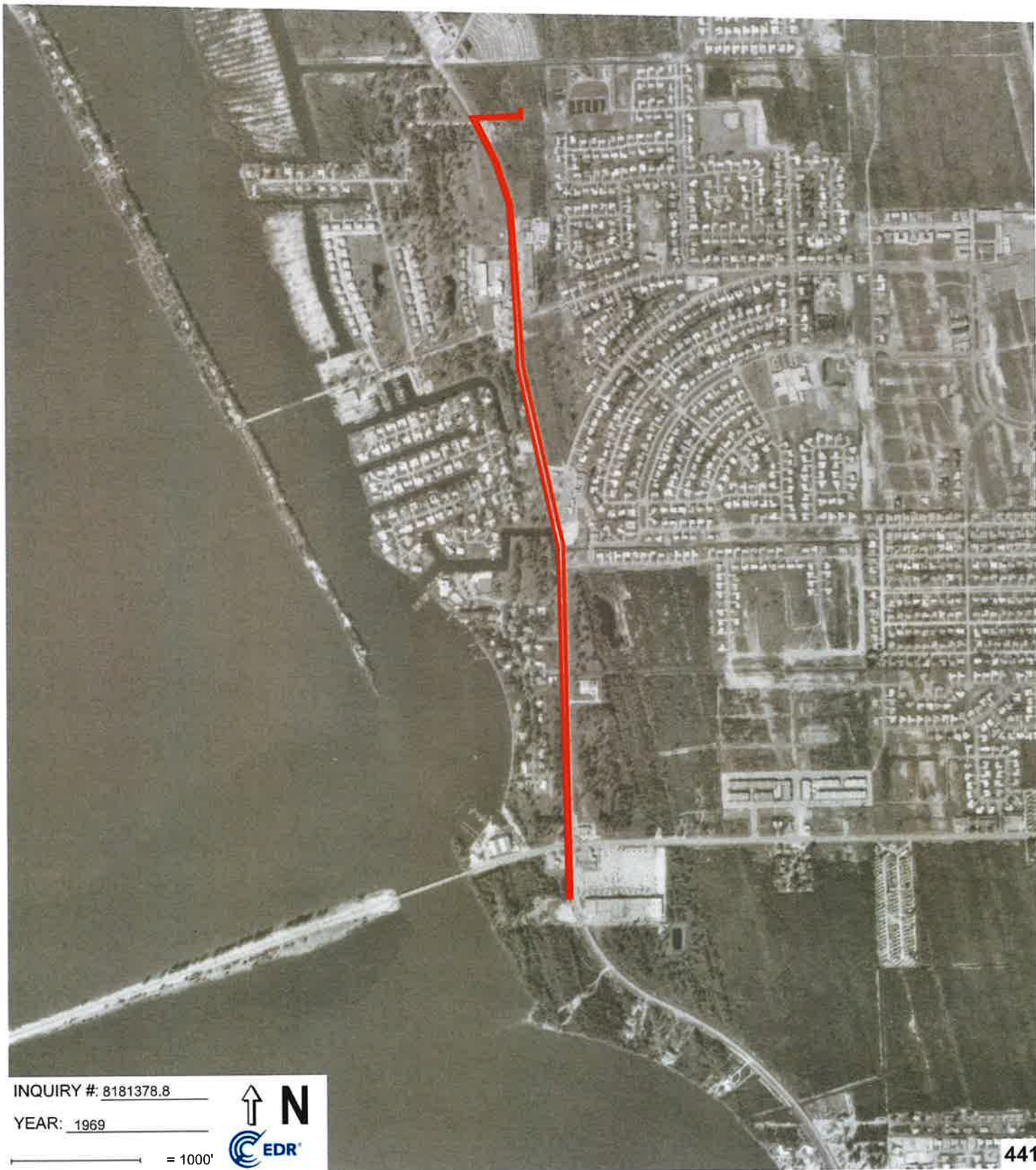


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YEAR: 1958

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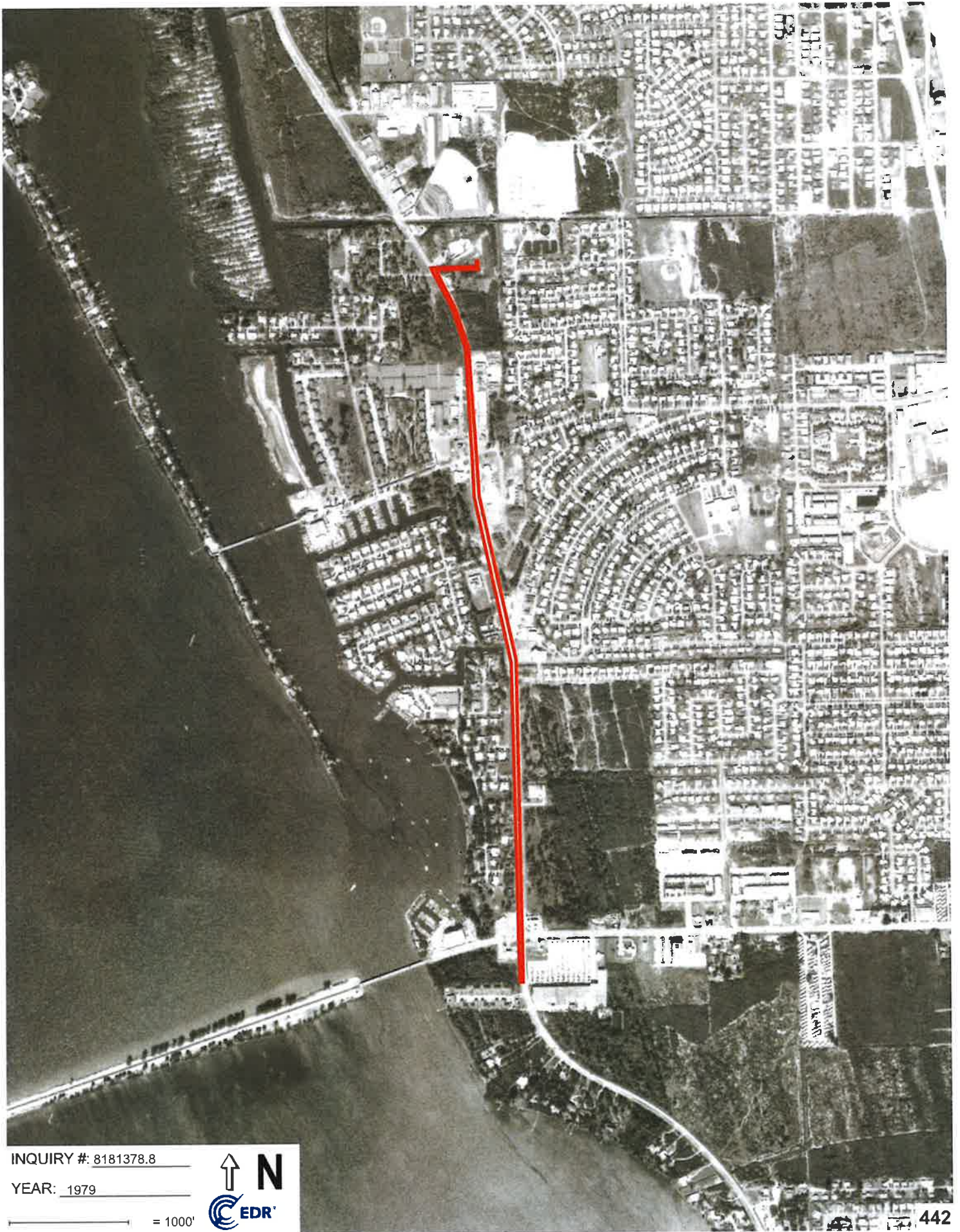


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YEAR: 1969

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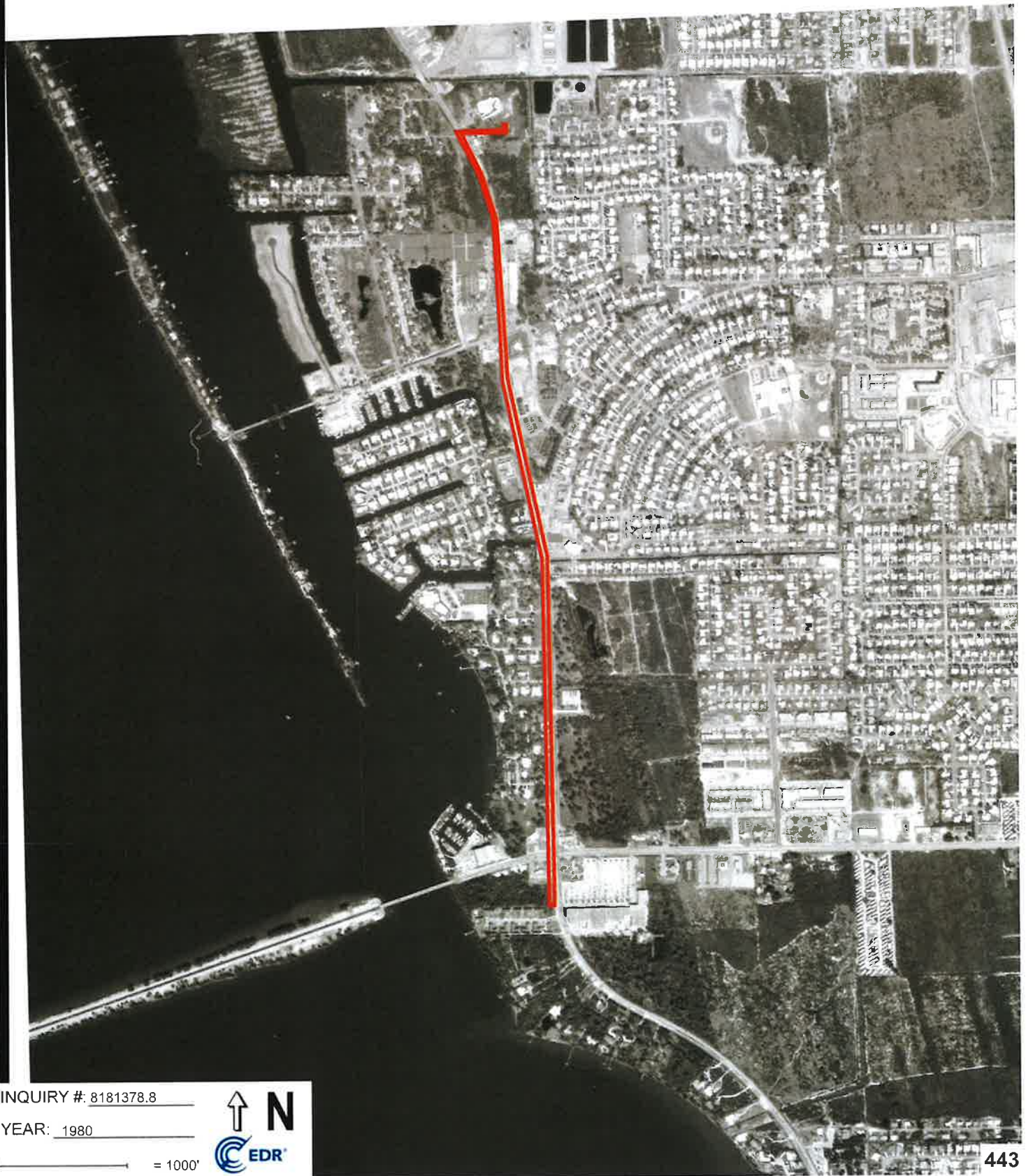


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YEAR: 1979

— = 1000'





INQUIRY #: 8181378.8

YEAR: 1980

— = 1000'



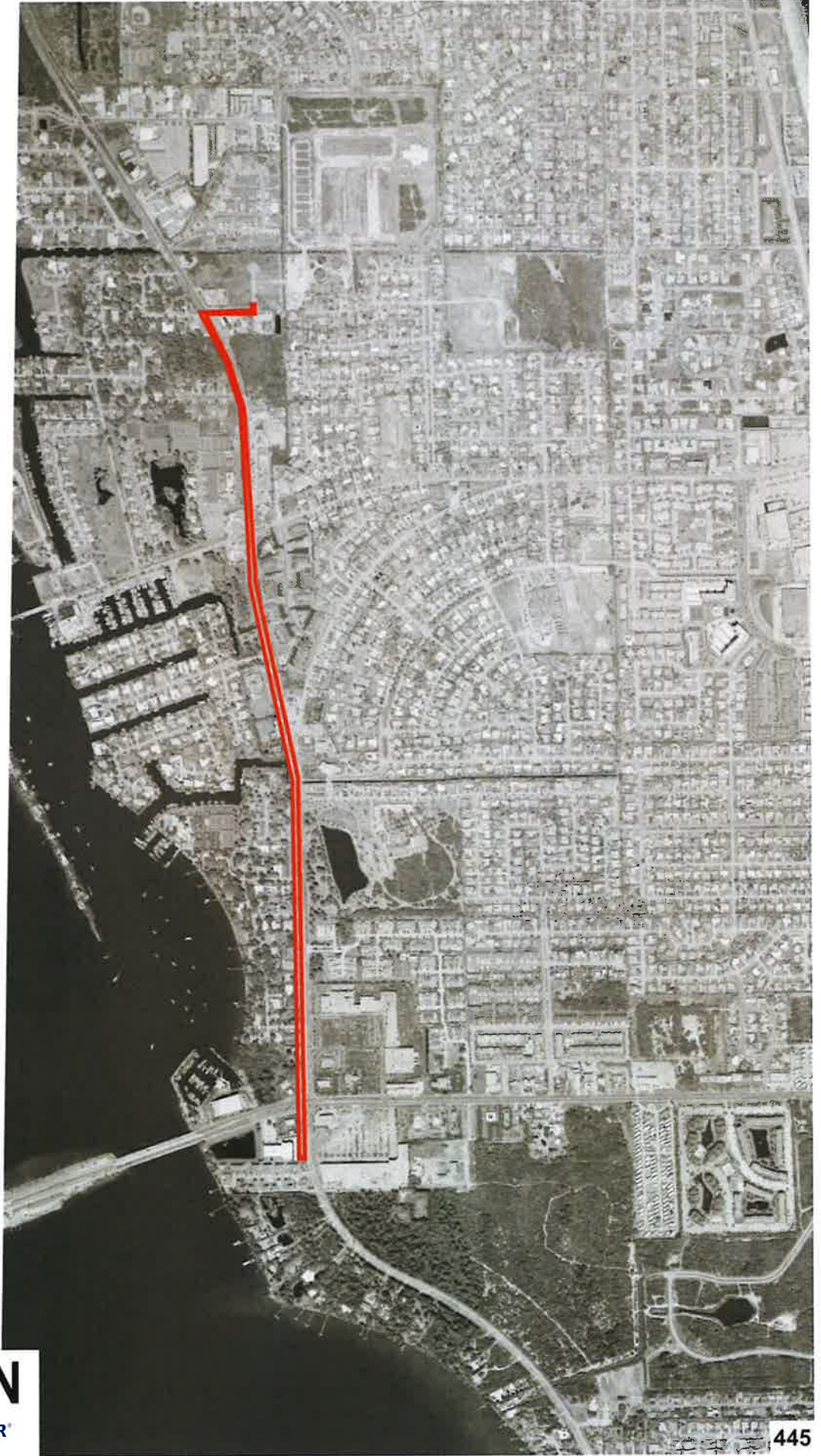


INQUIRY #: 8181378.8

YEAR: 1983

— = 1000'





INQUIRY #: 8181378.8

YEAR: 1993

— = 1000'





INQUIRY #: 8181378.8

YEAR: 1994

— = 1000'



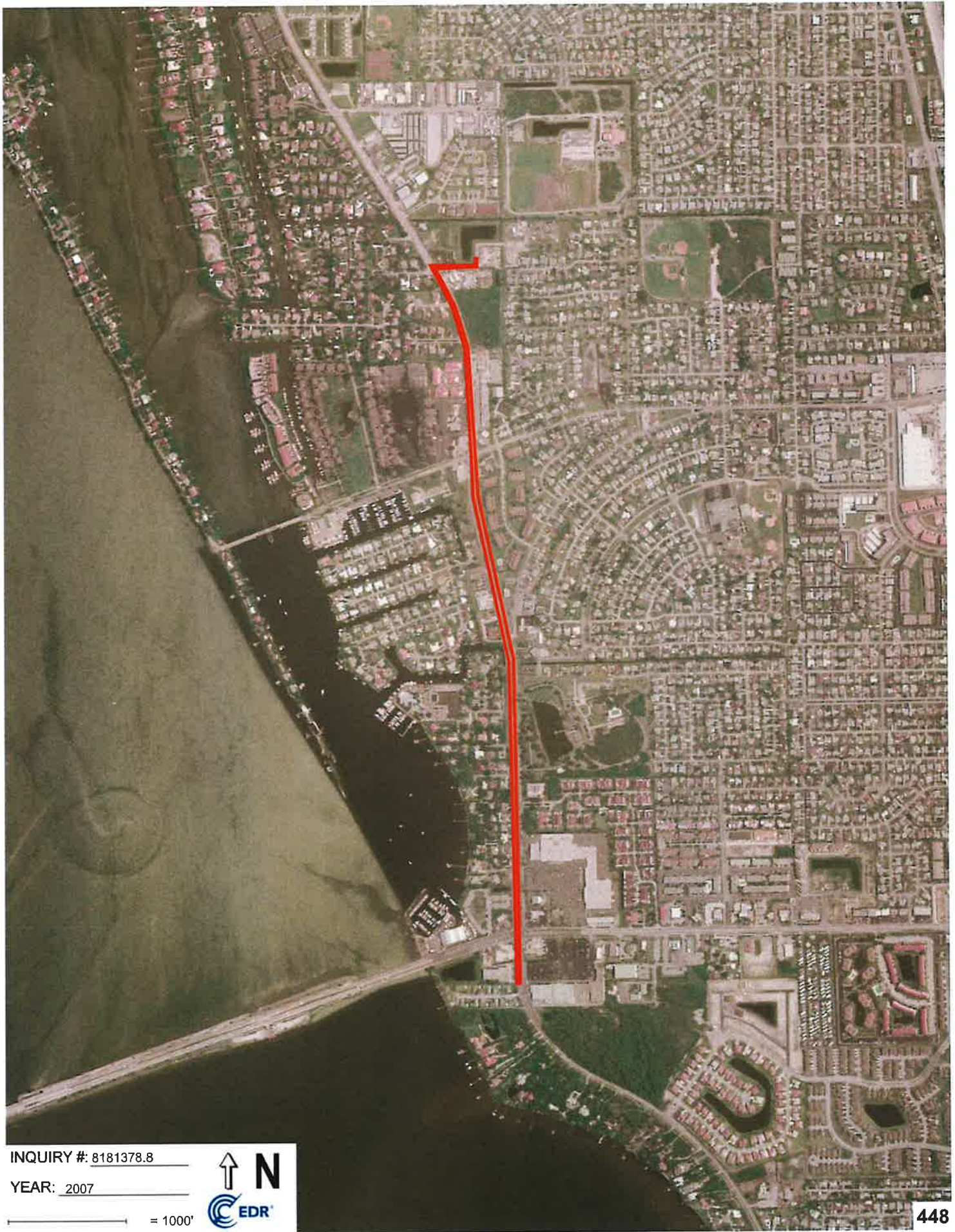


INQUIRY #: 8181378.8

YEAR: 1999

— = 1000'



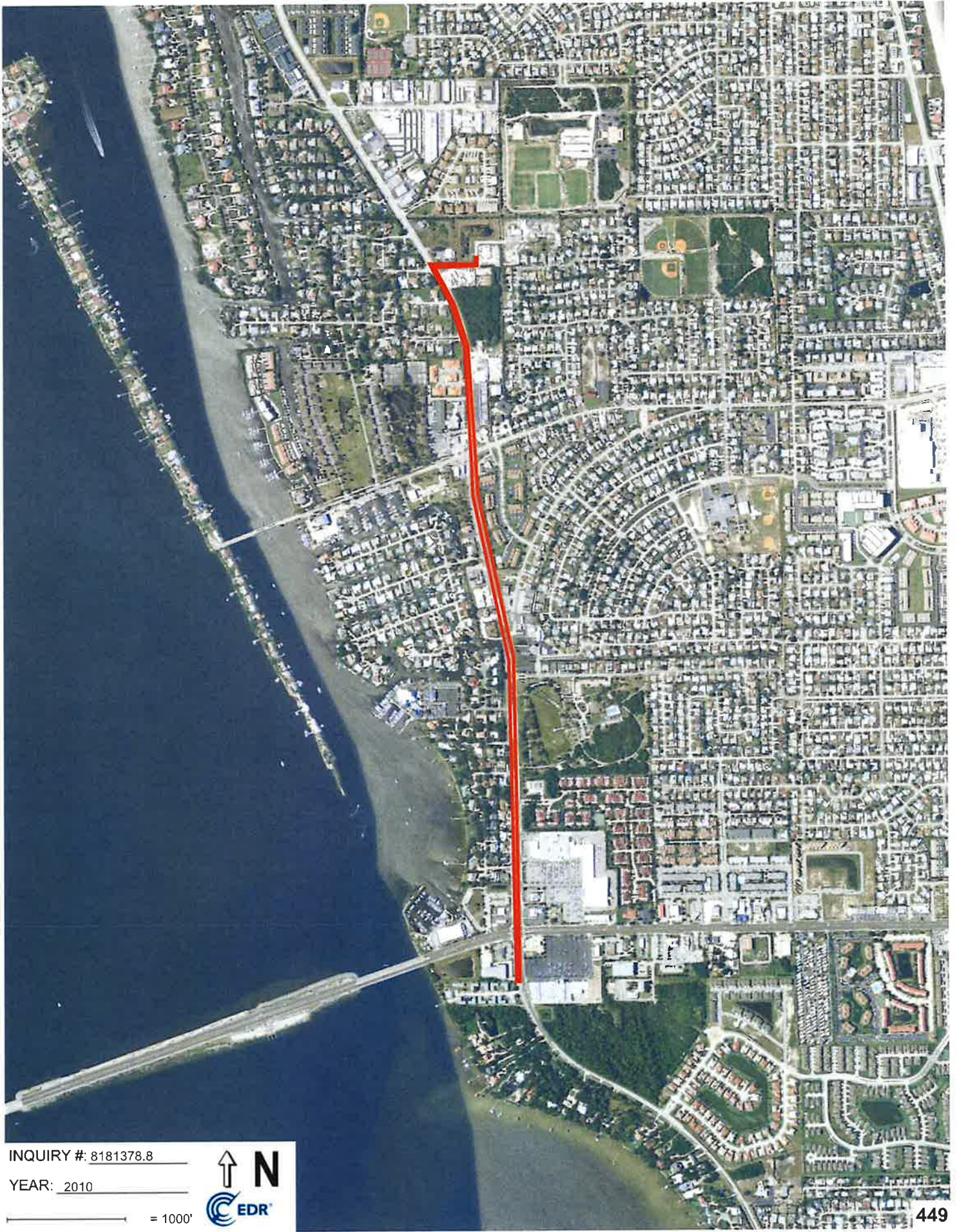


INQUIRY #: 8181378.8

YEAR: 2007

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INQUIRY #: 8181378.8

YEAR: 2010

— = 1000'





INQUIRY #: 8181378.8

YEAR: 2015

— = 1000'





INQUIRY #: 8181378.8

YEAR: 2019

— = 1000'





INQUIRY #: 8181378.8

YEAR: 2023

— = 1000'



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Appendix 4

Historical Topo Maps

S Patrick/N Riverside Dr 30 Parallel Force Main

Brevard County

Indian Harbour Beach, FL 32937

Inquiry Number: 8181378.4

November 21, 2025

EDR Historical Topo Map Report with QuadMatch™



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

11/21/25

Site Name:

S Patrick/N Riverside Dr 30 Pa
Brevard County
Indian Harbour Beach, FL 32935
EDR Inquiry # 8181378.4

Client Name:

McFarland Johnson
4601 Sheridan Street Suite 500
Hollywood, FL 33021
Contact: Antonin Forestil



EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by McFarland Johnson were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDR's Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:**Coordinates:**

P.O.#	NA	Latitude:	28.14983 28° 8' 59" North
Project:	30-inch Parallel Force Main	Longitude:	-80.599637 -80° 35' 59" West
		UTM Zone:	Zone 17 North
		UTM X Meters:	539310.30
		UTM Y Meters:	3113864.78
		Elevation:	2.00' above sea level

Maps Provided:

2021	1949
2018	
2015	
2012	
1988	
1980	
1970	
1951	

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2021 Source Sheets



Tropic
2021
7.5-minute, 24000

2018 Source Sheets



Tropic
2018
7.5-minute, 24000

2015 Source Sheets



Tropic
2015
7.5-minute, 24000

2012 Source Sheets



Tropic
2012
7.5-minute, 24000

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1988 Source Sheets



Tropic
1988
7.5-minute, 24000
Aerial Photo Revised 1984

1980 Source Sheets



Tropic
1980
7.5-minute, 24000
Aerial Photo Revised 1977

1970 Source Sheets



Tropic
1970
7.5-minute, 24000
Aerial Photo Revised 1970

1951 Source Sheets



Tropic
1951
7.5-minute, 24000
Aerial Photo Revised 1947

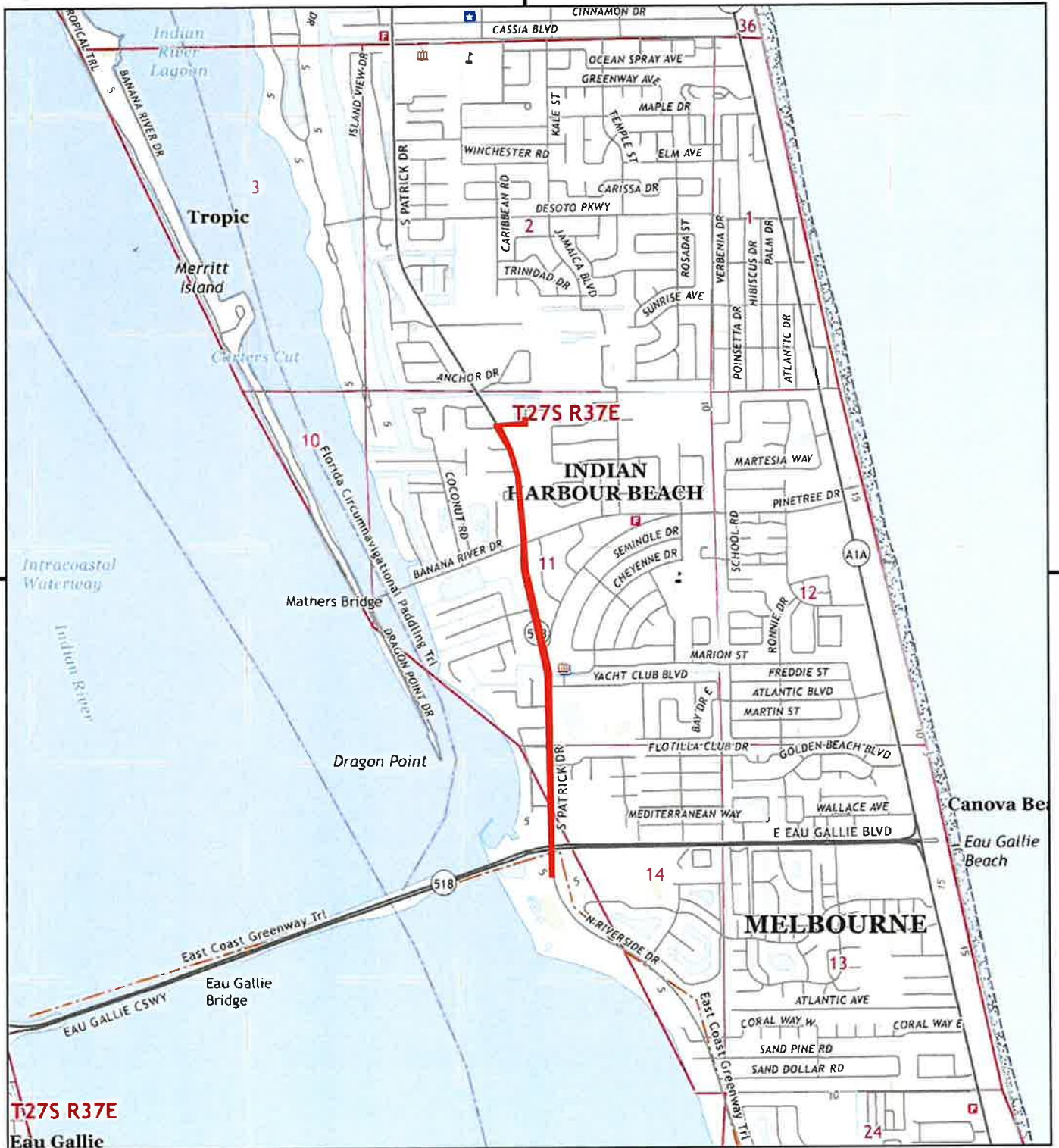
Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

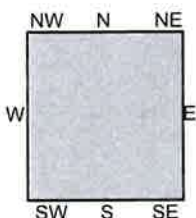
1949 Source Sheets



Tropic
1949
7.5-minute, 24000
Aerial Photo Revised 1947



This report includes information from the following map sheet(s).

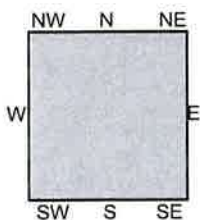


TP, Tropic, 2021, 7.5-minute

SITE NAME: S Patrick/N Riverside Dr 30 Parallel Force
 ADDRESS: Brevard County
 Indian Harbour Beach, FL 32937
 CLIENT: McFarland Johnson



This report includes information from the following map sheet(s).

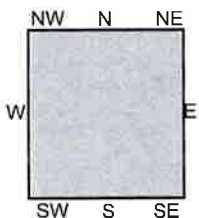
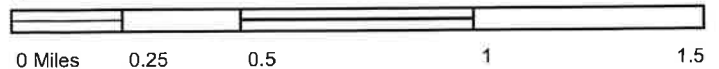


TP, Tropic, 2018, 7.5-minute

SITE NAME: S Patrick/N Riverside Dr 30 Parallel Force
 ADDRESS: Brevard County
 Indian Harbour Beach, FL 32937
 CLIENT: McFarland Johnson

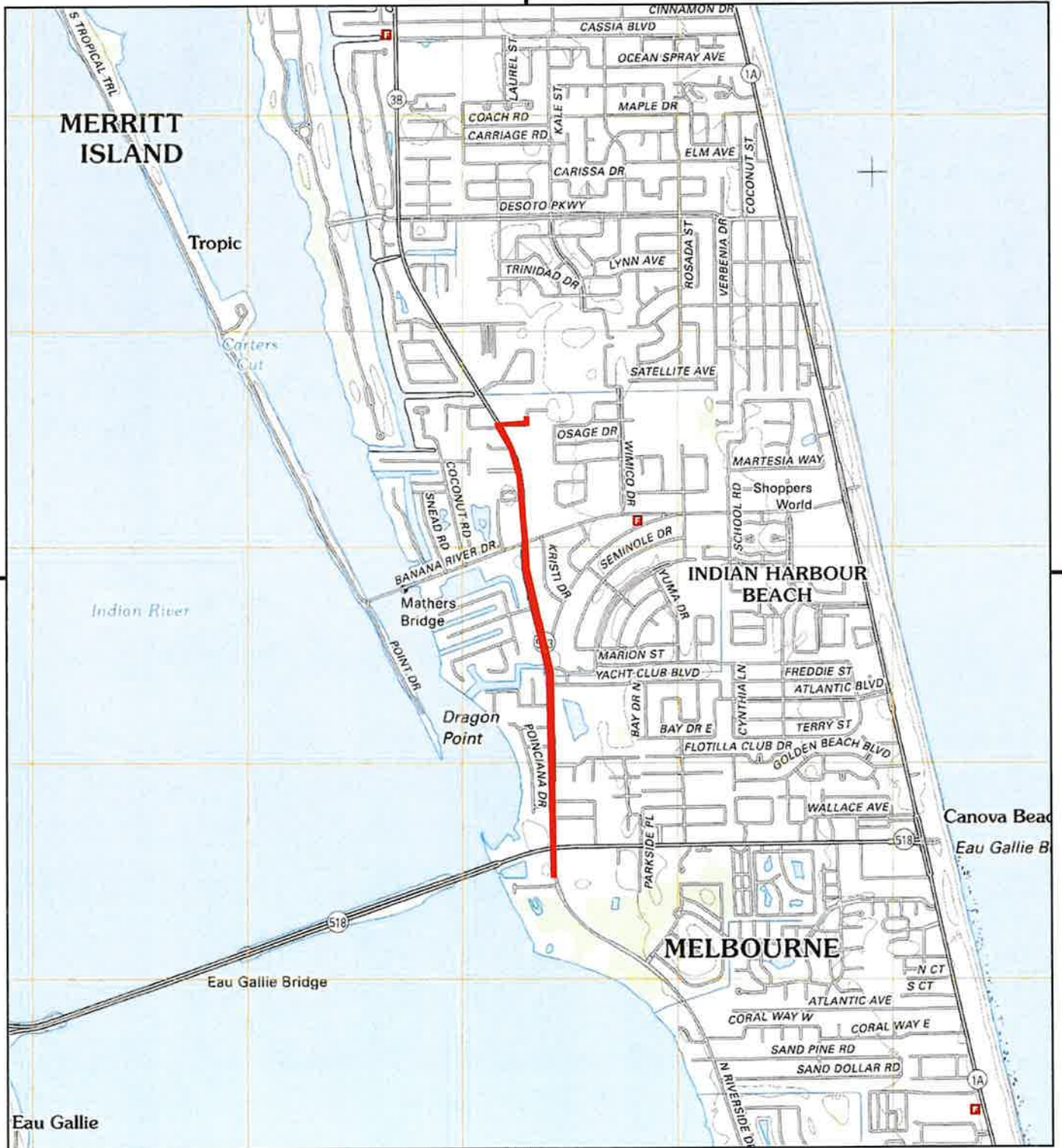


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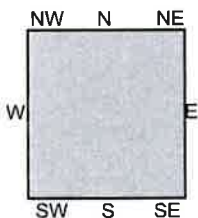


TP, Tropic, 2015, 7.5-minute

SITE NAME: S Patrick/N Riverside Dr 30 Parallel Force
ADDRESS: Brevard County
Indian Harbour Beach, FL 32937
CLIENT: McFarland Johnson

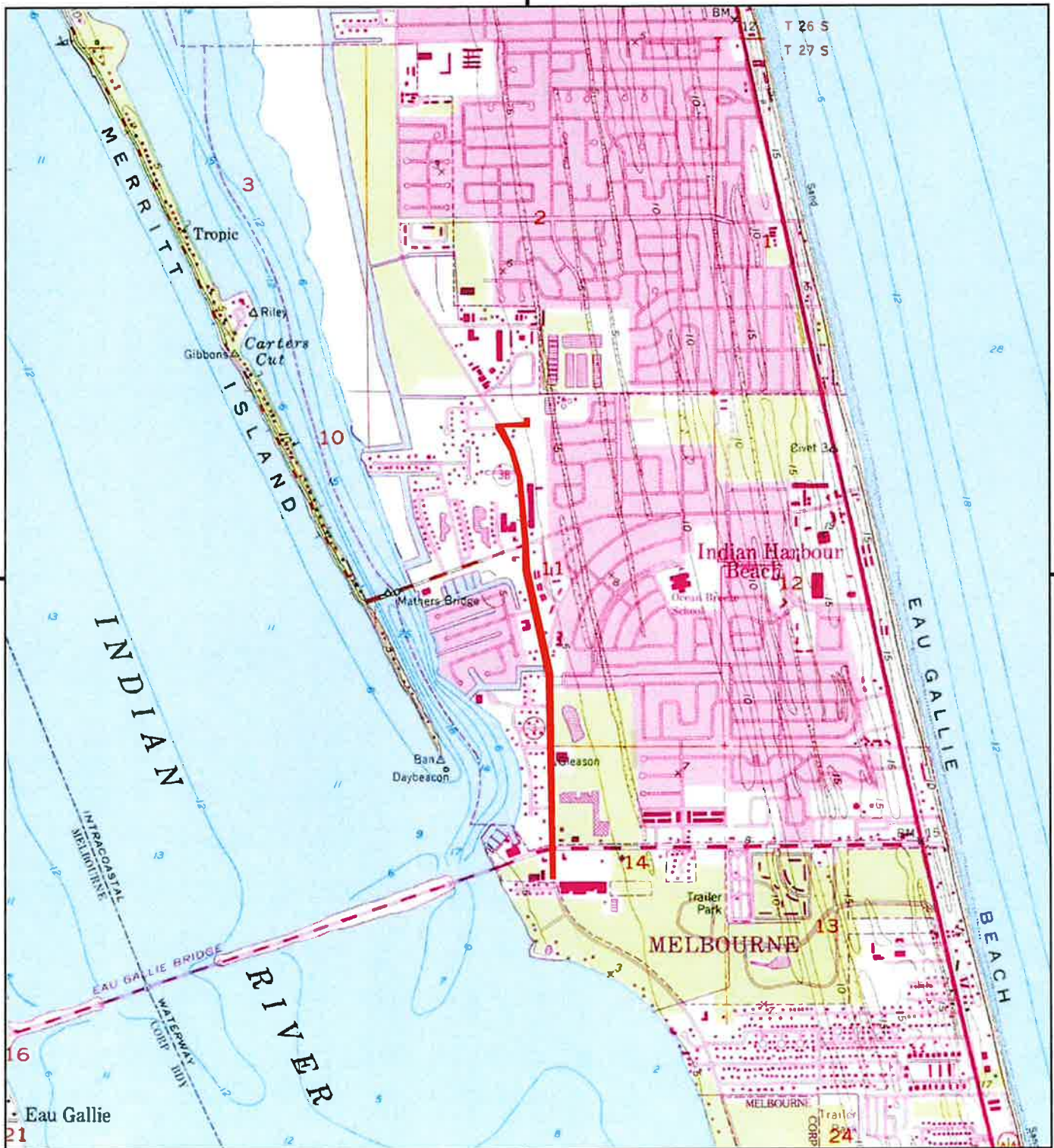


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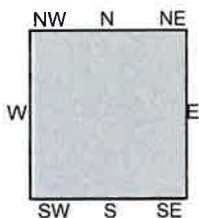


TP, Tropic, 2012, 7.5-minute

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ADDRESS: Brevard County
Indian Harbour Beach, FL 32937
CLIENT: McFarland Johnson

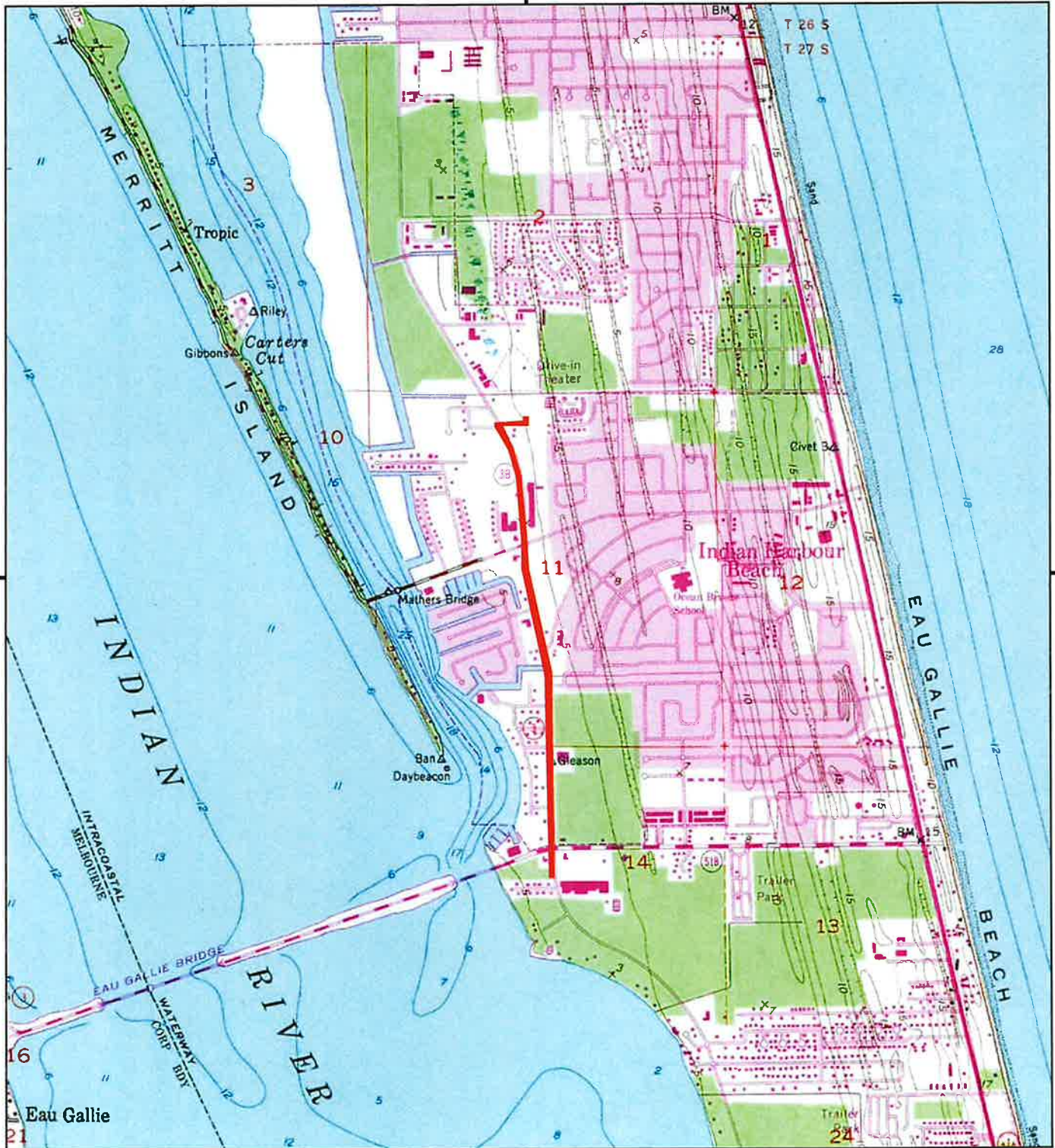


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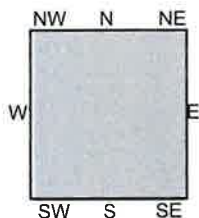


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ADDRESS: Brevard County
Indian Harbour Beach, FL 32937
CLIENT: McFarland Johnson



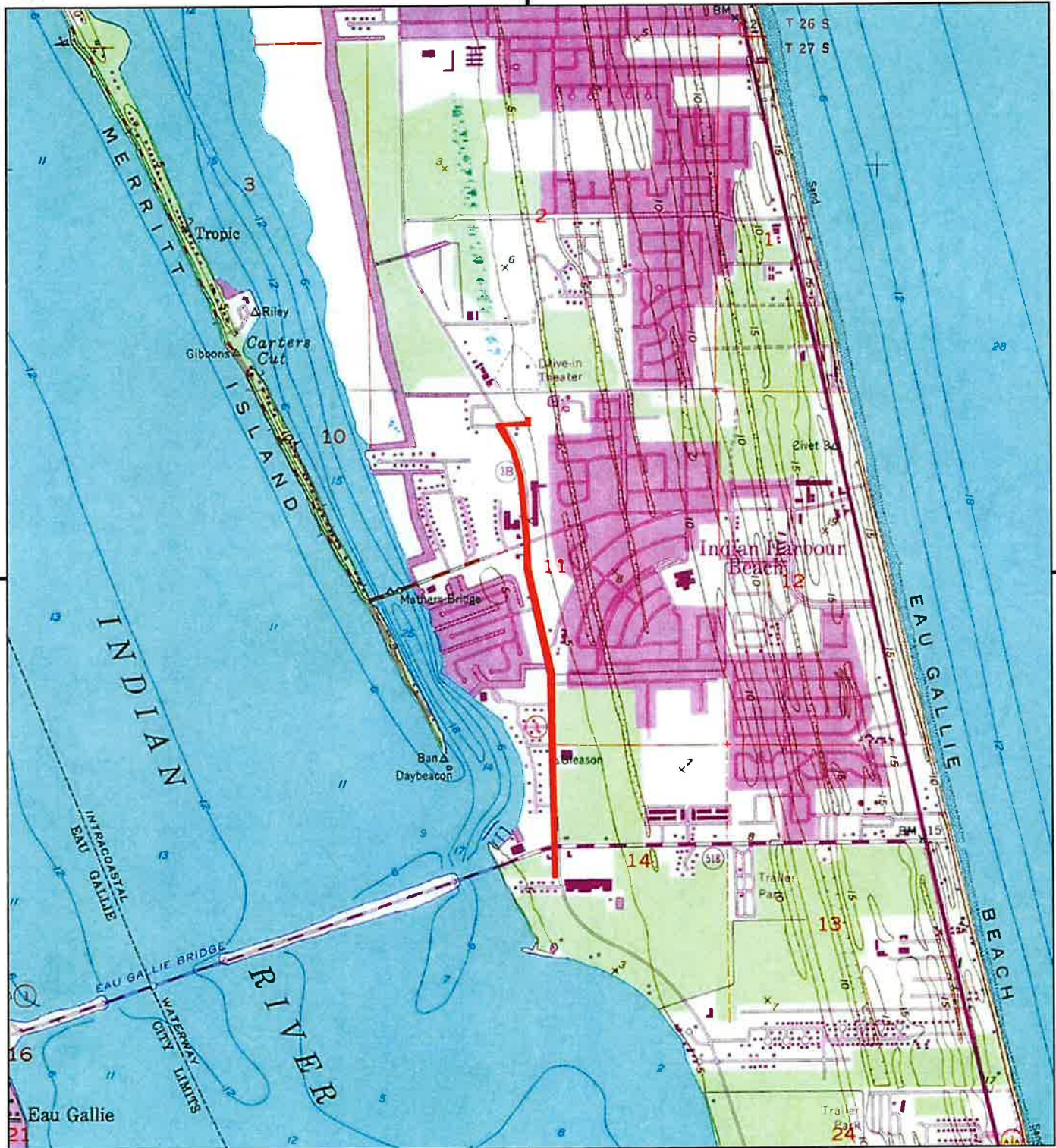
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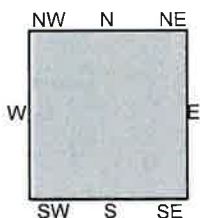
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SITE NAME: S Patrick/N Riverside Dr 30 Parallel Force
ADDRESS: Brevard County
Indian Harbour Beach, FL 32937
CLIENT: McFarland Johnson



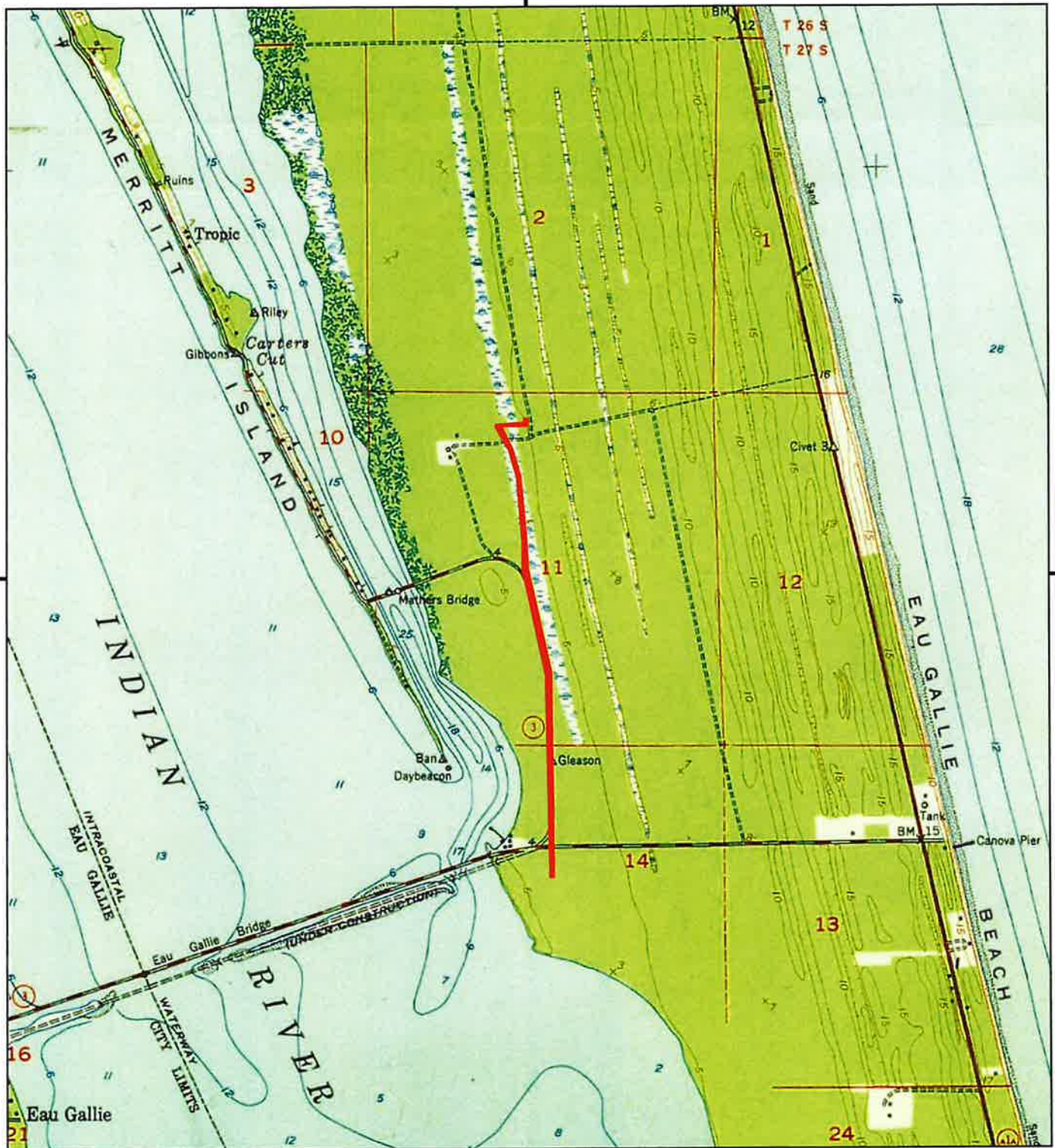


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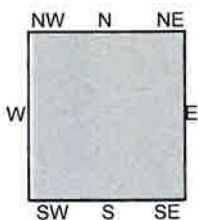


TP, Tropic, 1970, 7.5-minute

SITE NAME: S Patrick/N Riverside Dr 30 Parallel Force
ADDRESS: Brevard County
Indian Harbour Beach, FL 32937
CLIENT: McFarland Johnson

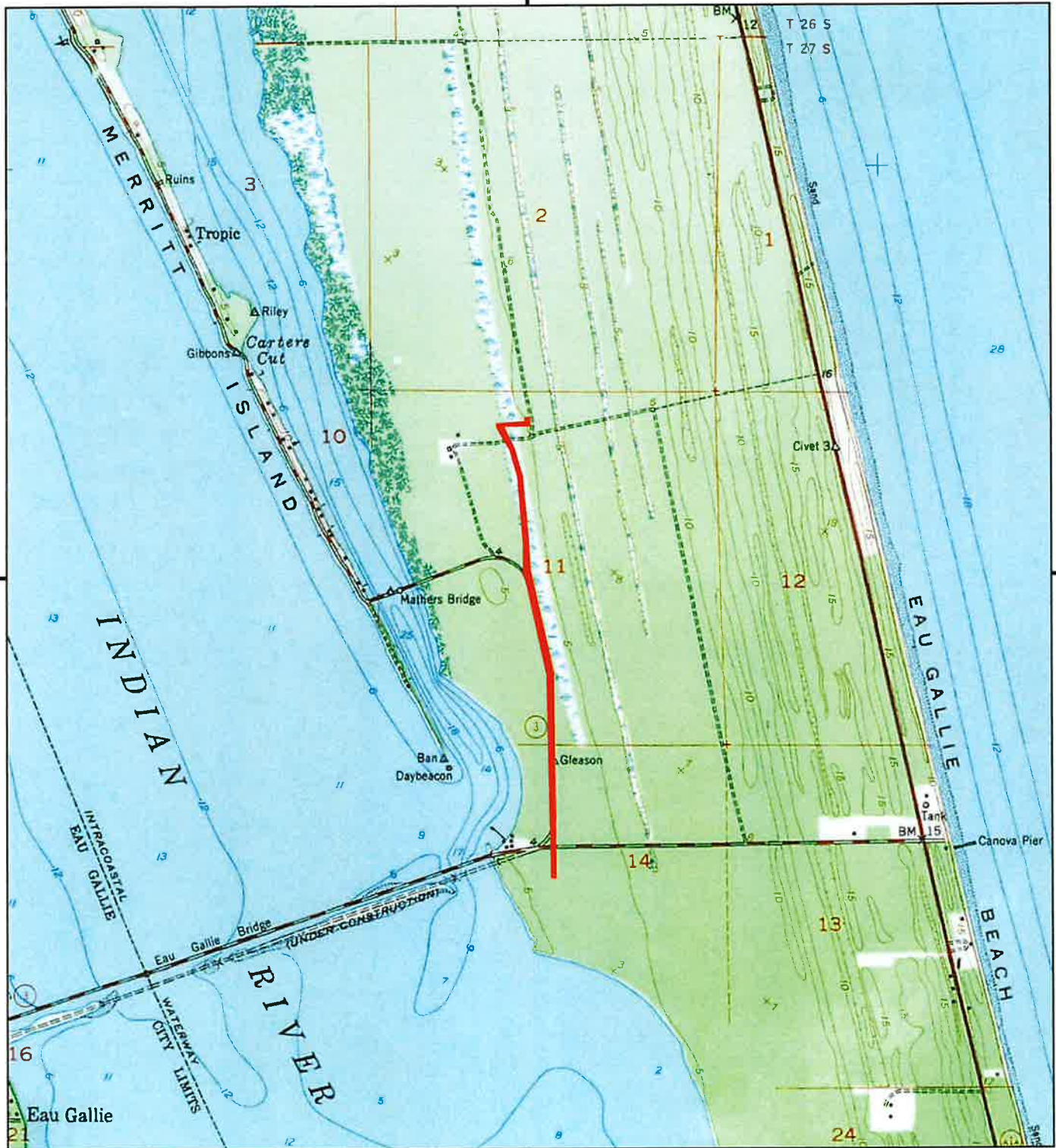


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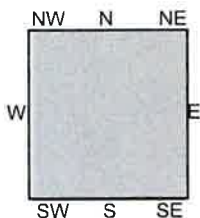


TP, Tropic, 1951, 7.5-minute

SITE NAME: S Patrick/N Riverside Dr 30 Parallel Force
 ADDRESS: Brevard County
 Indian Harbour Beach, FL 32937
 CLIENT: McFarland Johnson



This report includes information from the following map sheet(s).



TP, Tropic, 1949, 7.5-minute

SITE NAME: S Patrick/N Riverside Dr 30 Parallel Force
ADDRESS: Brevard County
Indian Harbour Beach, FL 32937
CLIENT: McFarland Johnson

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Appendix 5

Photographic Documentation



McFarland Johnson

Innovative Solutions / Sustainable Results

4601 Sheridan Street, Suite 500 • Hollywood, FL 33021
Phone: (305) 705-4871
www.mjinc.com

**NATURAL RESOURCES EVALUATION (NRE)
TECHNICAL MEMORANDUM**

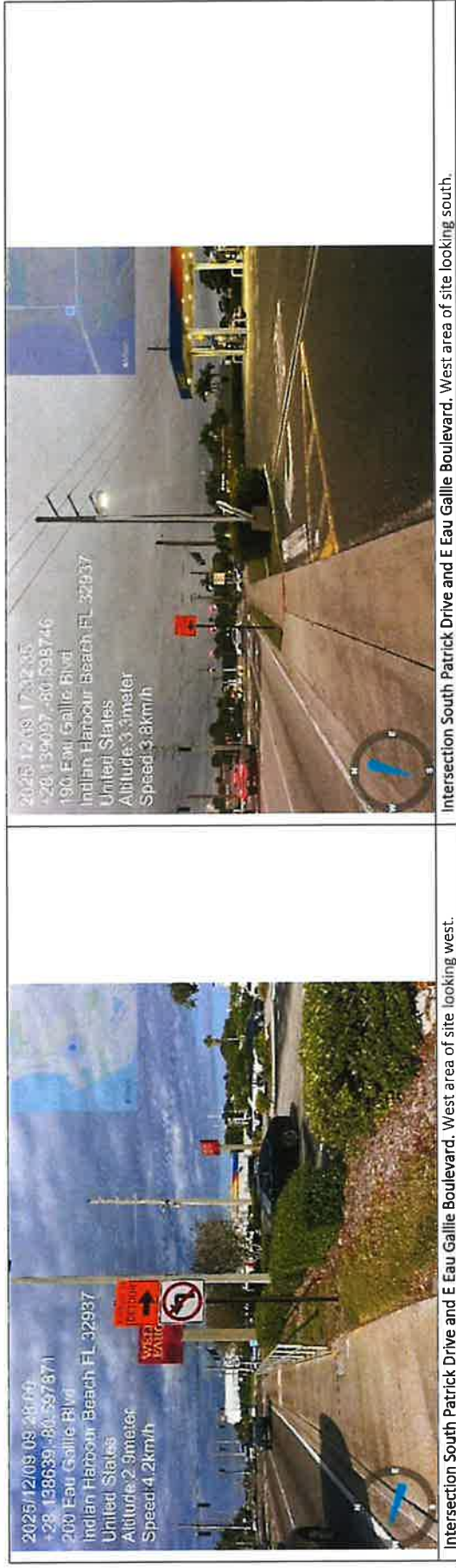
Photographic Documentation

30-Inch Parallel Force Main
South Patrick/North Riverside Drive
Brevard County, FL 32937

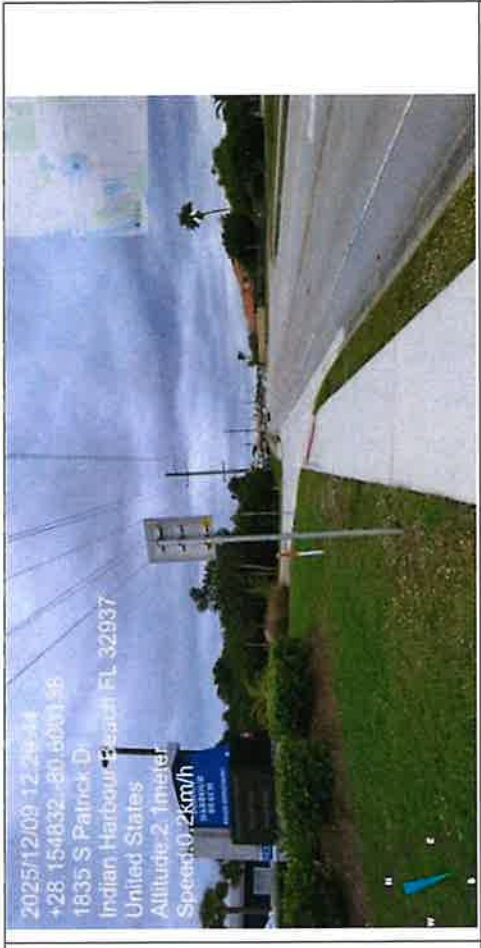
© December 2025

 2025/12/09 13:04:54 +28.155884,-80.600714 501 Inwood Ln Indian Harbour Beach FL 32937 United States Altitude: 6.0meter Speed: 0.0km/h	 2025/12/09 13:05:56 +28.155817,-80.601052 1811 S Patrick Dr Indian Harbour Beach FL 32937 United States Altitude: 2.5meter Speed: 3.3km/h	Intersection South Patrick Drive and Riverside Park Drive. East area of site looking north.	Intersection South Patrick Drive and Riverside Park Drive. West area of site looking south.
 2025/12/09 12:51:22 +28.155613,-80.600519 1825 S Patrick Dr Indian Harbour Beach FL 32937 United States Altitude: 2.9meter Speed: 0.0km/h	 2025/12/09 12:51:30 +28.155617,-80.600589 1825 S Patrick Dr Indian Harbour Beach FL 32937 United States Altitude: 3.3meter Speed: 1.7km/h	South Patrick Drive. West area of site looking north.	South Patrick Drive. East area of site looking south.





Natural Resources Evaluation – Technical Memorandum
Photographic Documentation
30-Inch Parallel Force Main
South Patrick/North Riverside Drive, Brevard County, Florida

		South Patrick Drive. East area of site looking south.
		Intersection South Patrick Drive and Yacht Club Boulevard. East area of site looking south. Non-navigable Man-Made Canal. Crossing South Patrick Drive from west to east.



South Patrick Drive. East area of site looking south.



Pond near Riverside Park Drive. East area of site looking west.



Pond near Riverside Park Drive. West area of site looking east.

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APPENDIX D. DETAILED CLEAN WATER COST ESTIMATES

Engineers Opinion of Probable Cost Model
Brevard County South Patrick
So Patrick/Riverside Dr 30" Parallel FM - HDD
11/20/2025



BASIS FOR ESTIMATE: ☐ CONCEPTUAL ☐ 30% ☐ 75% ☒ 90% ☐ FINAL

Item No	Description	Quantity	Unit	Unit Cost	Extension
	Cost of Work				\$ 14,674,318.20
1	Mobilization/Demobilization (3%)	1	EA	\$ 3,023,318.32	\$ 3,023,318.32
2	Insurance and Bonds	1	LS	\$ 1,007,772.77	\$ 1,007,772.77
3	Preconstruction Video	1	LS	\$ 11,613.00	\$ 11,613.00
4	Survey Layout, Project Documentation, & As-builts	1	LS	\$ 50,000.00	\$ 50,000.00
5	Maintenance of Traffic (5%)	1	LS	\$ 503,886.39	\$ 503,886.39
6	30" Ductile Iron pipe *	1	LS	\$ 1,513,680.00	\$ 1,513,680.00
	30" Ductile Iron pipe	1,082	LF	\$ 1,000.00	\$ 1,082,000.00
	30" Cap/plug	1	EA	\$ 7,000.00	\$ 7,000.00
	30" DIP 90 fitting	2	EA	\$ 20,280.00	\$ 40,560.00
	30" DIP 45 fitting	9	EA	\$ 16,800.00	\$ 151,200.00
	30" DIP 22.5 fitting	1	EA	\$ 16,800.00	\$ 16,800.00
	30" DIP 11.25 fitting	11	EA	\$ 16,920.00	\$ 186,120.00
	30" DIP tee	1	EA	\$ 30,000.00	\$ 30,000.00
7	30" HDPE HDD	1	LS	\$ 7,758,750.00	\$ 7,758,750.00
	30" HDPE HDD	6,203	LF	\$ 1,250.00	\$ 7,753,750.00
	30"x24" HDPE/DIP flange adapter	10	EA	\$ 500.00	\$ 5,000.00
8	30" Valves & box	8	EA	\$ 30,000.00	\$ 240,000.00
9	4" ARV assembly w/vault	5	EA	\$ 12,000.00	\$ 60,000.00
10	Connection to 30" FM - Cut-in Tee	1	EA	\$ 50,000.00	\$ 50,000.00
11	Bypass Pumping/ including Linestop	1	LS	\$ 50,000.00	\$ 50,000.00
	Roadway Restoration	1	LS	\$ 89,250.00	\$ 89,250.00
12	1.5" Milling	435	SY	\$ 25.00	\$ 10,875.00
13	1.5" Asphalt Concrete Friction Course	435	SY	\$ 90.00	\$ 39,150.00
14	Superpave Asphaltic Concrete Structural Course	435	SY	\$ 55.00	\$ 23,925.00
15	4" Concrete Sidewalk	100	SY	\$ 55.00	\$ 5,500.00
16	Concrete Driveways	40	SY	\$ 70.00	\$ 2,800.00
	Permit Fees (FDOT, ROW,FDEP)	1	LS	\$ 7,000.00	\$ 7,000.00
17	Landscape Restoration	1	LS	\$ 55,047.72	\$ 55,047.72
	Sodding/Grassing	5,505	SY	\$ 10.00	\$ 55,047.72
	Easement Acquisitions	1	LS	\$ 261,000.00	\$ 261,000.00
	15' Easement	261	SY	\$ 1,000.00	\$ 261,000.00
	Third Party Testing Allowance	1	LS	\$ 15,000.00	\$ 15,000.00
	Contractor Overhead and Profit				\$ 2,025,055.91
	ESTIMATED CONSTRUCTION COST				\$ 16,720,000.00
	CONTINGENCY			10%	\$ 1,672,000.00
	TECHNICAL SERVICES DURING CONSTRUCTION			5%	\$ 840,000.00
	TOTAL ESTIMATED COST				\$ 19,232,000.00

NOTE - The Estimated Construction Cost and the Technical Services During Construction Totals have been rounded to the nearest \$10,000 to match the submitted RFI document.

Engineers Opinion of Probable Cost Model
Brevard County South Patrick
So Patrick/Riverside Dr 30" Parallel FM - Open Cut
January 2026



BASIS FOR ESTIMATE: ☒ CONCEPTUAL ☐ 30% ☐ 75% ☐ 90% ☐ FINAL

Item No	Description	Quantity	Unit	Unit Cost	Extension
	Cost of Work				\$ 26,441,354.50
1	Mobilization/Demobilization (3%)	1	EA	\$ 5,216,643.00	\$ 5,216,643.00
2	Insurance and Bonds	1	LS	\$ 1,738,881.00	\$ 1,738,881.00
3	Preconstruction Video	1	LS	\$ 35,330.00	\$ 35,330.00
4	Survey Layout, Project Documentation, & As-builts	1	LS	\$ 200,000.00	\$ 200,000.00
5	Maintenance of Traffic (.5%)	1	LS	\$ 871,690.50	\$ 871,690.50
6	30" Ductile Iron pipe *	1	LS	\$ 12,409,000.00	\$ 12,409,000.00
	30" Ductile Iron pipe	7,026	LF	\$ 1,000.00	\$ 7,026,000.00
	30" Cap/plug	1	EA	\$ 7,000.00	\$ 7,000.00
	30" DIP 90 fitting	-	EA	\$ 20,280.00	\$ -
	30" DIP 45 fitting	320	EA	\$ 16,800.00	\$ 5,376,000.00
	30" DIP 22.5 fitting	-	EA	\$ 16,800.00	\$ -
	30" DIP 11.25 fitting	-	EA	\$ 16,920.00	\$ -
	30" DIP tee	-	EA	\$ 30,000.00	\$ -
7	30" JACK AND BORE	1	LS	\$ 800,000.00	\$ 800,000.00
	30" DIP w/ 42" Steel Casing	200	LF	\$ 4,000.00	\$ 800,000.00
		-	EA	\$ 500.00	\$ -
8	30" Valves & box	10	EA	\$ 45,000.00	\$ 450,000.00
9	4" ARV assembly w/vault	10	EA	\$ 60,000.00	\$ 600,000.00
10	Connection to 30" FM - Cut-in Tee	1	EA	\$ 50,000.00	\$ 50,000.00
11	Connection to 30" FM - Tapping Sleeve & Valve	1	EA	\$ 45,000.00	\$ 45,000.00
12	Roadway Restoration	1	LS	\$ 3,828,150.00	\$ 3,828,150.00
	1.5" Milling	19,500	SY	\$ 25.00	\$ 487,500.00
	Base Course and Type B Stabilized subbase	6,222	SY	\$ 75.00	\$ 466,650.00
	1.5" Asphalt Concrete Friction Course	19,500	SY	\$ 85.00	\$ 1,657,500.00
	Superpave Asphaltic Concrete Structural Course	19,500	SY	\$ 50.00	\$ 975,000.00
	pavement markings	1	LS	\$ 200,000.00	\$ 200,000.00
	4" Concrete Sidewalk	500	SY	\$ 55.00	\$ 27,500.00
	Concrete Driveways	100	SY	\$ 70.00	\$ 7,000.00
	Permit Fees (FDOT, ROW, FDEP)	1	LS	\$ 7,000.00	\$ 7,000.00
13	Landscape Restoration	1	LS	\$ 26,660.00	\$ 26,660.00
	Sodding/Grassing	2,666	SY	\$ 10.00	\$ 26,660.00
14	Easement Acquisitions	1	LS	\$ 170,000.00	\$ 170,000.00
	15' Easement	170	SY	\$ 1,000.00	\$ 170,000.00
	Third Party Testing Allowance	1	LS	\$ 150,000.00	\$ 150,000.00
	Contractor Overhead and Profit			12%	\$ 3,172,962.54
	ESTIMATED CONSTRUCTION COST				\$ 29,770,000.00
	CONTINGENCY			10%	\$ 2,977,000.00
	TECHNICAL SERVICES DURING CONSTRUCTION			5%	\$ 1,490,000.00
	TOTAL ESTIMATED COST				\$ 34,237,000.00
NOTE - The Estimated Construction Cost and the Technical Services During Construction Totals have been rounded to the nearest \$10,000.					

APPENDIX E. REQUEST FOR INCLUSION



Florida Department of Environmental Protection

REQUEST FOR INCLUSION ON THE CLEAN WATER PRIORITY LIST

Clean Water State Revolving Fund Program
3900 Commonwealth Blvd., MS 3505, Tallahassee, FL 32399-3000

Process to receive a State Revolving Fund (SRF) Loan. This Request for Inclusion (RFI) form, Form RFI 1 per subsection 62-503.200(33), F.A.C., lets us know that you are interested in obtaining an SRF loan. Each RFI will be assigned a project engineer to assist you throughout the SRF funding process. The information contained in the RFI is used to determine a priority score for your project; and the priority score is used to rank projects on the SRF priority list. Only projects ranked on the fundable portion of the priority list will receive consideration for a loan. Your project engineer will assist you in understanding all program requirements necessary before you are asked to submit a loan application, Form Application 1 or Form Application 2 per paragraph 62-503.430(1)(a), F.A.C. Please note that costs incurred before the adoption of the project on the fundable or waiting portion of the priority list are ineligible for reimbursement.

Type of Loan Requested in this Application. Select only one loan category and project type.

Loan Category: Planning ☐ Design ☐ Inflow/Infiltration Rehabilitation ☐ Construction ☒
Project Type: Design/Bid/Build ☒ Design/Build (D/B) ☐ Construction Manager at Risk (CMR) ☐

Note: Procurement of professional services must meet the requirements of the Consultants' Competitive Negotiation Act, Section 287.055, F.S.

1. Applicant's Name and Address.

Project Sponsor: Brevard County Utility Services Department **Contact Person:** Edward Fontanin, PE **Title:** Utility Services Director
2725 Judge Fran Jamieson Way, Building A, Suite 213 Viera Brevard FL 32940
(street address) (city) (county) (state) (zip code)
321.633.2091 utility.development@brevardfl.gov
(telephone) (ext.) (email address)

Contact Person Address (if different): _____
(street address) (city) (state) (zip code)

2. Name and Address of Applicant's Consultant (if any).

Firm: Wade Trim **Contact Person:** Kyle Scott **Title:** Senior Project Manager
3790 Dixie Highway NE, Suite D Palm Bay Brevard FL 32905
(street address) (city) (county) (state) (zip code)
321-244-7389 kscott@wadetrim.com
(telephone) (ext.) (email address)

3. Certification by Authorized Representative. I certify that this form and attachments have been completed by me or at my direction and that the information presented herein is, to the best of my knowledge, accurate.

edward.fontanin@brevardfl.gov 12/22/25
(email address) (date)
Edward Fontanin, PE Utility Services Director
(name, typed) (title)


(signature)

REQUEST FOR INCLUSION ON THE CLEAN WATER PRIORITY LIST

4. Eligible Projects.

- a. Stormwater management facilities, such as detention/retention facilities, treatment facilities, etc. sponsored by a local government (eligible under Section 212 of the amended Clean Water Act).
- b. Wastewater management facilities, such as sewers, pump stations, treatment plants, reuse facilities, sludge facilities, etc. sponsored by a local government (eligible under Section 212 of the amended Clean Water Act).
- c. Nonpoint source pollution control best management practices for agriculture, silviculture, on-site treatment and disposal, wetlands, mining, marinas, brownfields or groundwater protection sponsored by any entity (eligible under Section 319 or 320 of the amended Clean Water Act).

5. Project Information (Please attach).

- a. Describe the project, its location, the scope, why it's needed and the environmental benefit.
- b. Attach maps showing system boundaries, existing and proposed service area, and project area.

6. Estimated Costs (Clean Water Act Section 212, 319, and 320).

a. Planning and/or SSES including geotechnical studies and surveying	N/A
b. Design	
c. Special Studies including feasibility studies	N/A
d. Eligible Land (necessary land divided by total land times purchase price)	N/A
e. Construction, Equipment, Materials, Demolition and Related Procurement	\$ 16,720,000
f. Construction Contingency (10% of Item e)	\$ 1,672,000
g. Technical Services during Construction	\$ 840,000
h. Sum of Items a. through g.	\$ 19,232,000

7. Project Schedule.

(Month and Year)

a. Submit the planning or SSES documentation	3/2026
b. Submit the design documents, obtain permits, and acquire sites (as necessary)	6/2026
c. Start activity (such as construction or non-structural best management practice)	11/2026
d. Complete activity (such as construction or non-structural best management practice)	11/2027

8. Population

a. Population served by the system	58,260
b. Population to be served by the project	29,610

9. Project Priority

- a. Baseline Priority Categorization.

In the Table below, identify each of the project components for which the project qualifies and provide the component's construction cost. The baseline priority score (BPS) will be determined by prorating each component. The project sponsor must provide documentation that supports the selection of a base priority score of 350 points or greater.

REQUEST FOR INCLUSION ON THE CLEAN WATER PRIORITY LIST

<u>Project Component</u>	<u>Priority Points</u>	<u>Component Construction Cost</u>
1. Eliminate a documented acute or chronic public health hazard. Examples include elimination of failing septic tanks, failing package plants, or elimination of sanitary sewer overflows.	500 points	\$ 19,232,000
2. Implement a project included in, or to be implemented as a direct result of, an adopted Basin Management Action Plan or a Reasonable Assurance Plan approved pursuant to section 403.067, F.S.	450 points	\$ 0
3a. Protect surface or ground water by preventing or reducing a documented source of pollution, pollution reductions necessary to meet regulatory requirements; or		
3b. Projects or activities by local governments or on-site system management entities, under section 319 of the Act, that correct septic tank failures in springsheds of first magnitude springs; or correct septic tank contributions to nutrient impaired spring systems.	400 points	\$ 0
4. Address a compliance problem documented in an enforcement action where the Department has issued a notice of violation or entered a consent order with the project sponsor.	375 points	\$ 0
5. Meet the criteria for a Green Project; correct excessive inflow/infiltration or other issues within the collection and transmission system that cause sanitary sewer overflows; scheduled rehabilitation; replacement; repair described in an approved asset management plan; or reuse that replaces an existing or proposed demand on a water supply.	350 points	\$ 0
6. Planning and design loans; projects for the installation of wastewater transmission facilities to be constructed concurrently with other construction projects occurring within or along a transportation facility right-of-way; or for rehabilitation, replacement or repair not included in an approved asset management plan.	340 points	\$ 0
7. Projects that construct other reclaimed water systems or residuals reuse systems that do not meet the criteria of component 5. above.	300 points	\$ 0
8. Ensure compliance with other enforceable standards or requirements.	200 points	\$ 0
9. Timely submitted projects that otherwise meet the requirements of the Act (including land or wastewater system acquisition projects).	100 points	\$ 0
b. Restoration and Protection of Special Water Bodies.		
In order to qualify for a base score multiplier, identify which of the water bodies listed below that the project will assist in restoring or protecting; and reference the location in existing documentation where substantiating information may be found or attach other such substantiating information. If none are selected, the multiplier equals 1.0. If one or more are selected, the multiplier is 1.2. Supporting documentation must be provided for items selected.		
1. A priority water body identified in an adopted Surface Water Improvement and Management (SWIM) Plan.		☒
2. A water body classified as Outstanding Florida Waters or Wild and Scenic Rivers.		☐
c. Projects that document any of the following shall have bonus points added to the priority score after the adjustment under paragraph (b) above, as indicated. Items 3, 4 and 5 below are only applicable to financially disadvantaged small communities.		
1. Elimination of Ocean Outfalls.	15 points	☐
2. Consistency with an Integrated Water Resource Management (One Water) plan.	15 points	☐
3. Population of 10,000 or less as of most recent decennial census, and affordability index less than or equal to 100.	1000 divided by the affordability Index = _____ points.	
4. Negative population trend as defined in 62-505.300(2)(c)2, F.A.C.	25 points	☐
5. End of useful life as defined in 62-505.300(2)(c)3., F.A.C.	25 points	☐

Return the completed form to the State Revolving Fund Program, 3900 Commonwealth Blvd., MS 3505, Tallahassee, Florida, 32399-3000. The form may be scanned and emailed to SRFRFI@FloridaDEP.gov.

Request for Inclusion Attachment List

The following attachments are provided to support the Request for Inclusion (RFI) on the Clean Water Priority List and to substantiate the project description, priority scoring, and environmental benefit.

Attachment Name and Purpose

Attachment 5a – Project Description, Location, and Scope

Provides a narrative description of the proposed project, including the project location, scope of improvements, and justification for the project need and environmental benefit, as required under Section 5 of the RFI.

Attachment 5b – Project Location and Mapping

Includes maps depicting the South Beaches Wastewater Service Area, the proposed force main alignment, and the relationship of the project to surrounding communities and receiving waters, as required under Section 5 of the RFI.

Attachment 9a – Hydraulic Modeling Technical Memorandum

Documents the hydraulic modeling assessment performed for the South Beaches collection system, including evaluation of existing and future wet-weather conditions and demonstration of the effectiveness of the proposed improvements in reducing surcharge and SSO risk, as required for Section 9 of the RFI.

Attachment 9b – Special Water Body Documentation (Indian River Lagoon)

Provides supporting documentation demonstrating that the project protects the Indian River Lagoon, a priority water body with an adopted SWIM Plan and Basin Management Action Plan (BMAP), supporting eligibility for priority score multipliers, as required for Section 9 of the RFI.

**Florida Department of Environmental Protection
Request for Inclusion on the Clean Water Priority List**

Section 5

Project description, location, scope, and why its needed for the environmental benefit.

Project Description

The project consists of capacity and reliability improvements to the South Beaches Wastewater Collection System, which serves the barrier island communities in Brevard County, Florida, adjacent to the Atlantic Ocean and the Banana River. The service area is geographically constrained, environmentally sensitive and subject to intense wet-weather flow conditions.

The installation of a new 30-inch diameter parallel force main along the barrier island corridor shall increase wastewater conveyance capacity from the South Beaches service area to the South Beaches Water Reclamation Facility. This force main will provide hydraulic relief, redundancy and improve system resiliency to the existing conveyance infrastructure, which currently experiences SSO conditions during peak wet-weather events.

A comprehensive hydraulic modeling assessment of the South Beaches collection system was performed to evaluate existing and future conditions under dry-weather and wet-weather scenarios. The modeling demonstrated that the proposed force main improvement significantly reduce hydraulic exceedances, decrease the probability of sanitary sewer overflows (SSOs), and improve operational reliability within the barrier island system. The project supports the County's long-term wastewater master planning objectives and aligns with ongoing efforts to protect adjacent surface waters and environmentally sensitive coastal resources.

Location

The project is located within the South Beaches Service Area on the barrier island of Brevard County, Florida, serving the communities of Satellite Beach, Indian Harbour Beach, and adjacent unincorporated areas. The improvements are situated within a coastal, environmentally sensitive corridor adjacent to the Indian River Lagoon, which is subject to a Basin Management Action Plan (BMAP) due to nutrient impairment. The project improves wastewater conveyance within this constrained barrier island system and supports protection of downstream surface waters.

Scope

The project consists of constructing a new 30-inch diameter parallel force main along South Patrick Drive to increase wastewater transmission capacity within the South Beaches Service Area. The scope includes:

- Installation of approximately 7,300 linear feet of 30-inch force main.
- Connection of the new force main to the existing upstream lift station and upstream and downstream system.
- Installation of valves, air release assemblies, and appurtenances required for safe and reliable operation.
- Restoration of roadway and affected utilities following construction.
- Pressure testing, disinfection, and commissioning of the new force main.

This project does not include additional planning or design activities under this RFI. The RFI is solely for the construction phase of the new 30-inch parallel transmission main.

**Florida Department of Environmental Protection
Request for Inclusion on the Clean Water Priority List**

Section 5

Project description, location, scope, and why its needed for the environmental benefit.

Why it's needed for the environmental benefit?

The South Beaches wastewater system experiences high pump operating levels, reduced conveyance capacity, and increased risk of SSOs during wet-weather events. Existing force mains and lift stations operate near or at their hydraulic limits, where surcharging and reduced pump capacity are documented during storm events.

The new 30-inch parallel force main and associated system improvements will:

- Reduce the probability of SSOs that could impact surface waters and the Indian River Lagoon, one of Florida's most environmentally sensitive water bodies.
- Support reliable wastewater service for current and future residents within the barrier island communities.
- Improve system resiliency during storm events and emergency operations.
- Reduce surcharging and hydraulic bottlenecks in the transmission system.

This project directly supports the County's environmental goals by protecting water quality, minimizing pollutant loading, and improving wastewater infrastructure within the Indian River Lagoon watershed.

B20

S28

Banana River Dr

S15

Proposed Parallel
30-inch Force Main

S Patrick Dr

E Eau Gallie Blvd



Lift Station



Existing Force Main



Proposed Project



Project Area

Note: Not to Scale



Information provided on this map is accurate to the best of our knowledge and is subject to change on a regular basis and without notice. While Waste Trim sheets every effort to provide useful and accurate information, we do not warrant the information to be authoritative, complete, factual or timely information is provided herein "as is" without any warranties, express or implied.

State of Florida, Microsoft, Vantor



- Existing Service Area
- Proposed Service Area
- Proposed Project
- SBWRF

Note: Not to Scale



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South Beaches Service Area Hydraulic Model Expansion and Improvement Study

DATA REVIEW AND MODEL SCENARIOS TECHNICAL MEMORANDUM

November 7, 2025



EXECUTIVE SUMMARY

The South Beaches Service Area Hydraulic Model Expansion and Improvement Study was completed to identify cost-effective projects that reduce the probability of sanitary sewer overflow occurrences and improve long-term system reliability for Brevard County Utility Services Department (BCUSD). Building on prior regional work, the team expanded the hydraulic network to include all 15 lift stations manifolded to the primary force main, integrated updated GIS, SCADA, pressure monitoring, rainfall, and as-built information, and produced a validated and calibrated SewerGEMS model suitable for planning and design support.

The model was used to evaluate existing and future conditions, including Average Annual Daily Flow (AADF), and a Future (Year 2045) 24-hour, 25-year wet weather flow (WWF) event selected to be consistent with state agency and BCUSD objectives. Results indicate that lift stations in the northern portion of the service area exhibit the greatest sensitivity to surcharge and elevated SSO risk under the 2045 WWF scenario, while stations south of SBWWTF generally retain available capacity. These findings focused the improvement concepts on relieving head, upsizing pumping capacity, and adding targeted storage where it is most effective.

An optimization framework then tested thousands of project combinations, balancing capital cost against performance penalties for SSOs, high/low velocities, and high pressures. A preferred scenario was selected as the optimized solution because it achieves the targeted hydraulic performance and reliability with lower complexity and greater cost efficiency compared to the alternatives.

The selected scenario comprises a coordinated set of projects that address the primary constraints: B06 replacement (capacity and reliability gains), a parallel force main along South Patrick (30-in corridor) to increase conveyance and redundancy, a 24-in interconnect on Riverside Drive to provide a relief pathway and operational flexibility, and major upgrades at B20 to manage both base and peak flows. The B20 work includes a 20-in force main re-route from the northern service area to B20's wet well, a new dry-weather triplex station with 200 HP pumps, a wet-weather duplex station with 330 HP pumps, and a 0.70 MG equalization basin. Collectively, these projects reduce SSO probability, improve operability, and strengthen system resiliency in the areas of greatest need.

A construction sequencing plan prioritizes early conveyance relief and redundancy, completing the Riverside interconnect, South Patrick parallel force main, and B06 replacement in parallel, followed by the B20 dry-weather, wet-weather, and equalization facilities, and then the hydraulic isolation north of B20. The recommended program equips BCUSD with a clear, defensible path to reduce the probability of SSO occurrences under future wet-weather conditions, enhance operational flexibility, and invest capital where it most improves reliability. The study provides a calibrated planning tool, prioritized projects, transparent cost assumptions, and an implementation roadmap to guide near-term decisions and long-term resilience.

9b. Restoration and Protection of Special Water Bodies.

In order to qualify for a base score multiplier, identify which of the water bodies listed below that the project will assist in restoring or protecting; and reference the location in existing documentation where substantiating information may be found or attach other such substantiating information. If none are selected, the multiplier equals 1.0. If one or more are selected, the multiplier is 1.2. Supporting documentation must be provided for items selected.

1. A priority water body identified in an adopted Surface Water Improvement and Management (SWIM) Plan.
2. A water body classified as Outstanding Florida Waters or Wild and Scenic Rivers.

SWIM Plan Documentation

The Indian River Lagoon has a formally adopted **SWIM Plan** through the St. Johns River Water Management District and the South Florida Water Management District. Indian River Lagoon Aquatic Preserves System Management Plan, fully approved December 13, 2017 includes:

- Banana River Aquatic Preserve
- Indian River-Malabar to Vero Beach Aquatic Preserve
- Indian River-Vero Beach to Ft. Pierce Aquatic Preserve
- Jensen Beach to Jupiter Inlet Aquatic Preserve

See attachment and link.

Management Plan Link:

<https://floridadep.gov/rcp/aquatic-preserve/documents/indian-river-lagoon-aquatic-preserves-system-management-plan?utm.com>

Attachment 9b

This publication funded in part through a grant agreement from the Florida Department of Environmental Protection, Florida Coastal Management Program by a grant provided by the Office of Ocean and Coastal Resource Management under the Coastal Zone Management Act of 1972, as amended, National Oceanic and Atmospheric Administration Award No. NA12NOS4190093-CM317 and NA14NOS4190053. The views, statements, finding, conclusions, and recommendations expressed herein are those of the author(s) and do not necessarily reflect the views of the State of Florida, National Oceanic and Atmospheric Administration, or any of its sub-agencies.

November 2016



Indian River Lagoon Aquatic Preserves System Management Plan

Including Banana River, Indian River – Malabar to Vero Beach, Indian River – Vero Beach to Ft. Pierce, and Jensen Beach to Jupiter Inlet Aquatic Preserves



**Florida Department of Environmental Protection
Florida Coastal Office**

3900 Commonwealth Blvd., MS #235, Tallahassee, FL 32399
www.aquaticpreserves.org



Mission Statement

The Florida Coastal Office's mission statement is: Conserving and restoring Florida's coastal and aquatic resources for the benefit of people and the environment.

The four long-term goals of the Florida Coastal Office's Aquatic Preserve Program are to:

1. protect and enhance the ecological integrity of the aquatic preserves;
2. restore areas to their natural condition;
3. encourage sustainable use and foster active stewardship by engaging local communities in the protection of aquatic preserves; and
4. improve management effectiveness through a process based on sound science, consistent evaluation, and continual reassessment.

Cover Photo: www.indianriverbyair.com



Executive Summary

Indian River Lagoon Aquatic Preserves System Management Plan, including Banana River, Indian River – Malabar to Vero Beach, Indian River – Vero Beach to Ft. Pierce, and Jensen to Jupiter Inlet aquatic preserves.	
Lead Agency:	Florida Department of Environmental Protection's (DEP) Florida Coastal Office (FCO)
Common Name of Property:	Banana River, Indian River – Malabar to Vero Beach, Indian River – Vero Beach to Ft. Pierce, and Jensen to Jupiter Inlet Aquatic Preserves
Location:	Brevard, Indian River, St. Lucie, Martin and Palm Beach counties, Florida
Acreage Total:	91,000 Acres
<i>Acreage Breakdown for FCO Management Units According to Florida Natural Areas Inventory (FNAI) Natural Community Types</i>	
<i>FNAI Natural Communities</i>	<i>Acreage according to GIS</i>
Seagrass Bed	35,898 acres
Tidal Marsh	60 acres
Tidal Swamp	1,857 acres
Freshwater Tidal Swamp	59 acres
Consolidated Substrate	Unknown
Unconsolidated Substrate	Unknown
Composite Substrate	Unknown
Algal Bed	Unknown
Management Agency:	DEP's FCO
Unique Features:	In addition to its environmental importance, the Indian River Lagoon is attributed to providing more than \$3.7 billion in benefits annually to citizens and visitors of counties bordering the lagoon.
Archaeological/ Historical Sites:	The Florida Department of State's Division of Historical Resources Master Site File indicates there are scores of historical sites adjacent to the Indian River Lagoon Aquatic Preserves System. Archaeological sites date from 10,000 BC to 1700 AD and include Spanish Fleet Survivors and Salvors Camp, Jungle Trail, and Mount Elizabeth. Historical sites include architectural, military, social, transportation, commerce and conservation sites.
Management Needs	
Ecosystem Science:	There is a very large and committed group of research institutions and agencies that conduct extensive monitoring, research, and modelling in the Indian River Lagoon. The aquatic preserve fosters strong working partnerships with these research institutions and agencies, and assists with equipment and staff as needed to support research and monitoring projects. These programs provide the basis for making sound resource management decisions.
Resource Management:	Continue to focus on protecting natural resources by restoring altered areas that contribute to reduced water quality and implementing management practices that maintain or improve viable habitats and populations within the aquatic preserve.
Education & Outreach:	Continue volunteer island enhancement work days, Eagle scout projects, Adopt-A-Spoil Island Program, volunteer shoreline planting and oyster reef deployment events. Improve signage at boat ramps. Continue participation in the Indian River Lagoon Envirothon for middle and high school classrooms and Adopt-A-Mangrove workshops.
Public Use:	Rapid population growth is expected to return to coastal areas of Florida. Information and data contained within this Plan is intended to assist aquatic preserve managers, working closely with other state entities and local governments, to make decisions that will assure a balance between sustainable resource protection and waterway management.

Public Involvement:

Public support is vital to the success of conservation programs. The goal is to foster understanding of the problems facing these fragile ecosystems and the steps needed to adequately manage this important habitat. Indian River Lagoon Aquatic Preserves System staff held three public meetings (September 22-25, 2014) and an advisory committee meeting (September 26, 2014) at locations near the aquatic preserves to receive input on the draft management plan. An additional public meeting was held in Tallahassee June 17, 2016, when the Acquisition and Restoration Council reviewed the management plan.

Coastal Zone Management Issues

The State of Florida has more than 16 million residents and more than 76 million visitors annually. Florida has the second longest state coastline, and nowhere else in the country are so many people so close to such an extensive and economically valuable coastline. Within these coastal communities, recreational activities such as boating and fishing shape community culture and provide positive economic growth. However, rapid coastal development, increasing public access, and changing land use patterns are complicating regulation and management efforts within valuable aquatic systems. To protect and enhance the unique coastal resources throughout Florida, a variety of issues that affect water quality, quantity, and growth management must be addressed. Challenges facing the Indian River Lagoon Aquatic Preserves System include low water quality that is further degraded by unnatural water management practices, the need for hands-on resource management, rapid conversion of agricultural lands to urban developments deemed to have significant regional impact, little understanding of public use trends, and the impacts of public use on the protected resources.

Goals

The management goals and associated strategies outlined in this document provide an action plan that will be used to address these challenges over the next decade. Because of limited resources and the overlap of jurisdictional boundaries, success will depend on partnerships formed with private, local, regional, state, and federal organizations and agencies. Partnerships will be formed to promote the maintenance or improvement of the quality of water reaching the preserve to meet the needs of the natural resources. Routine assessment of water quality status is required to document change over time. Resource management goals that will improve water quality include hydrologic restoration, muck removal, and creation of oyster reef habitat. Documentation of natural resource location and extent will allow managers to evaluate the success of large-scale watershed restoration projects. Maintenance of a safe environment for fish, wildlife, and user groups, and the promotion of low-impact recreational opportunities are also important goals that will be addressed by preserve staff.

FCO/Trustees Approval**FCO Approval:** 3/29/16**ARC approval date:** 6/17/16**Trustees approval date:** 12/13/17**Comments:**

RESOLUTION NUMBER 2026-028

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF BREVARD COUNTY, FLORIDA, RELATING TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) STATE REVOLVING FUND (SRF), ADOPTION OF THE WASTEWATER FACILITIES PLAN FOR THE IMPLEMENTATION OF THE SOUTH BEACHES: RIVERSIDE DRIVE FORCE MAIN IMPROVEMENTS - 30-INCH PARALLEL FORCE MAIN, AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, Florida Statutes provide for loans to local government agencies to finance the construction of wastewater facilities, and the Florida Administrative Code requires authorization by the Board to formally adopt a Facilities Plan outlining necessary wastewater facility improvements to comply with State of Florida funding requirements;

WHEREAS, formal adoption of the proposed Facilities Plan, including public participation through a public hearing, is required for Brevard County to participate in the State Revolving Loan Fund Program;

WHEREAS, the Board of County Commissioners of Brevard County, Florida agrees with the findings and summary of necessary improvements as outlined in the Facilities Plan for the purpose of wastewater system improvements;

NOW THEREFORE BE IT RESOLVED by the Board of Commissioners of Brevard County, Florida, that:

SECTION 1. FINDINGS

The foregoing recitals are incorporated herein by reference and made a part hereof.

The Board of County Commissioners of Brevard County, Florida, is authorized to approve the proposed Facilities Plan, and hereby formally approves and adopts the South Beaches: Riverside Drive Force Main Improvements - 30-inch Parallel Force Main Facilities Plan as written and presented to the Board on this date, a copy of which is attached hereto and incorporated herein by reference.

The County Manager is hereby designated as the authorized representative to provide the assurances and commitments that will be required by the Facilities Plan.

The County Manager is hereby designated as the authorized representative to execute the Facilities Plan which will become the foundation of all activities related to the wastewater facility improvements. The County Manager is authorized to represent the County in carrying out the County's responsibilities under the Facilities Plan. The County Manager is authorized to delegate responsibility to appropriate County Staff to carry out technical, financial, and administrative activities associated with the Facilities Plan.

The legal authority for adoption of this facilities plan is pursuant to the County Charter, County Code of Ordinances, and the Laws of the State of Florida.

All Resolutions or part of Resolutions in conflict with any of the provisions of this Resolution are hereby repealed.

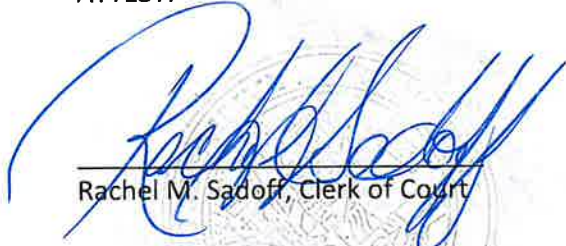
If any section or portion of a section of this Resolution proves to be invalid, unlawful, or unconstitutional, it shall not be held to invalidated or impair the validity, force, or effect or any other section or part of this Resolution.

SECTION 2. EFFECTIVE DATE

This Resolution shall take effect upon its approval and adoption by the Board.

DONE, ORDERED, AND ADOPTED in Regular Session this 7th day of April,
2026.

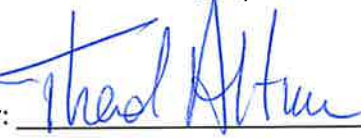
ATTEST:



Rachel M. Sadoff, Clerk of Court

BOARD OF COUNTY COMMISSIONERS
OF BREVARD COUNTY, FLORIDA

By: _____



Thad Altman, Chair

As approved by the Board on:

APR 07 2026