



CITY OF CORAL GABLES

COMPREHENSIVE CITYWIDE SEPTIC TO SEWER MASTER PLAN

City Commission Meeting
May 19, 2026



Introduction



Ardurra Group Inc. (formerly 300 Engineering Group) was contracted by the City of Coral Gables to develop a **Comprehensive Citywide Septic to Sewer Master Plan**

This Master Plan is a planning-level, **data-driven roadmap** (not a design or construction plan) that positions the City to **proactively plan for the future** and pursue funding opportunities as they become available

PROJECT TEAM



Septic to Sewer Program



Today's Objectives

- Present **key findings** of the Septic-to-Sewer Master Plan
- Present an overview of technical analysis and **basin prioritization**
- Discuss environmental, infrastructure, and planning considerations
- Share results of **public outreach and community feedback**
- Receive Commission input for **next steps**



Program Purpose



Current Situation:

- ~50% of City (~7,655 properties) served by septic systems
- Many systems do not meet modern standards

Protect Water Quality

- Reduce nutrient and pathogen loading
- **Protect Biscayne Bay and local waterways**
- Improve groundwater quality



Modernize Infrastructure

- **Address aging and failing septic systems**
- Improve long-term wastewater reliability
- Plan a transition toward centralized sewer service



Plan for the Future

- **Provide a roadmap for phased implementation**
- Position the City for long-term resilience
- Incorporate sea level rise and groundwater considerations



Legislative & Policy Context



Florida Statutes

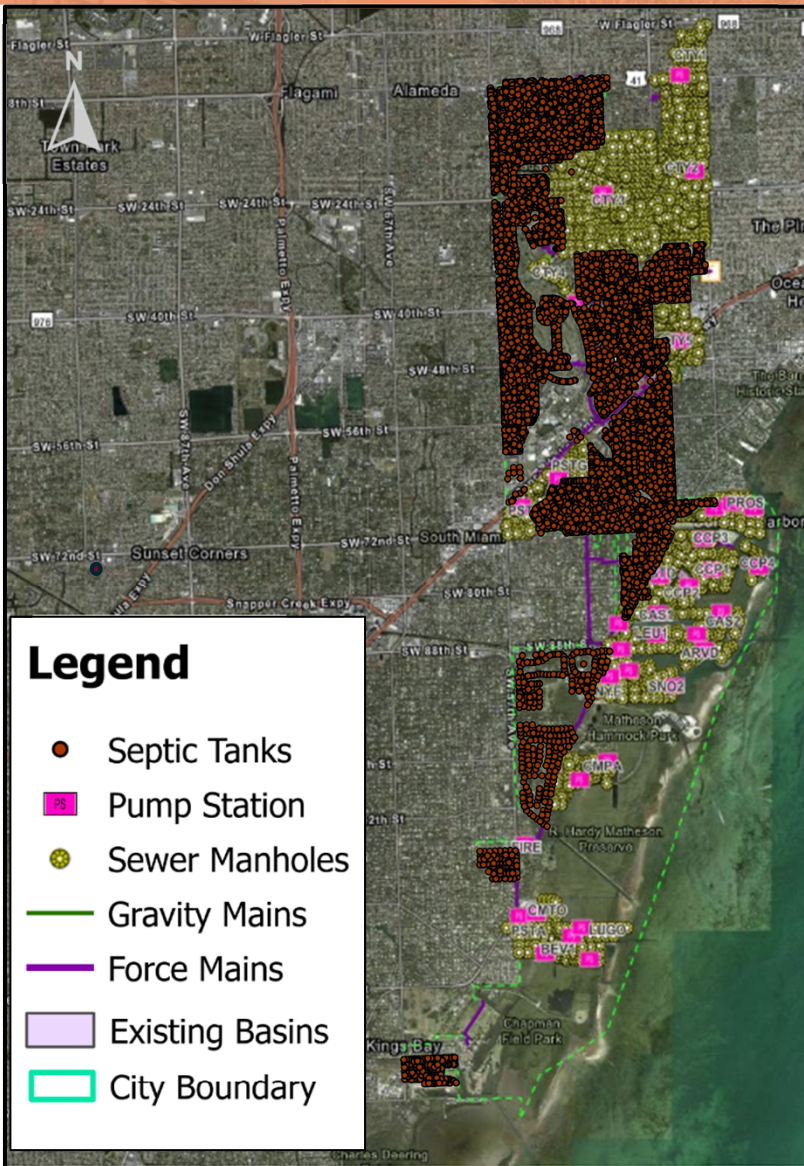
- **HB 1379 (Effective July 1, 2023)**
 - **Requires septic-to-sewer conversion or advanced treatment upgrades in designated areas** (including portions of Brevard, Indian River, St. Lucie, and Volusia counties)
 - Focus on nutrient reduction in vulnerable regions
- **HB 1123 / SB 1784 (Effective July 1, 2025)**
 - **Authorizes municipalities to use existing sewer revenues for system expansion**
 - Supports septic-to-sewer conversion financing
- **Refer to septic to sewer study:**
<https://jonesedmunds.com/wp-content/uploads/2025/02/Septic-to-Sewer-Conversion-Guide-2025-1.pdf>

County Policies

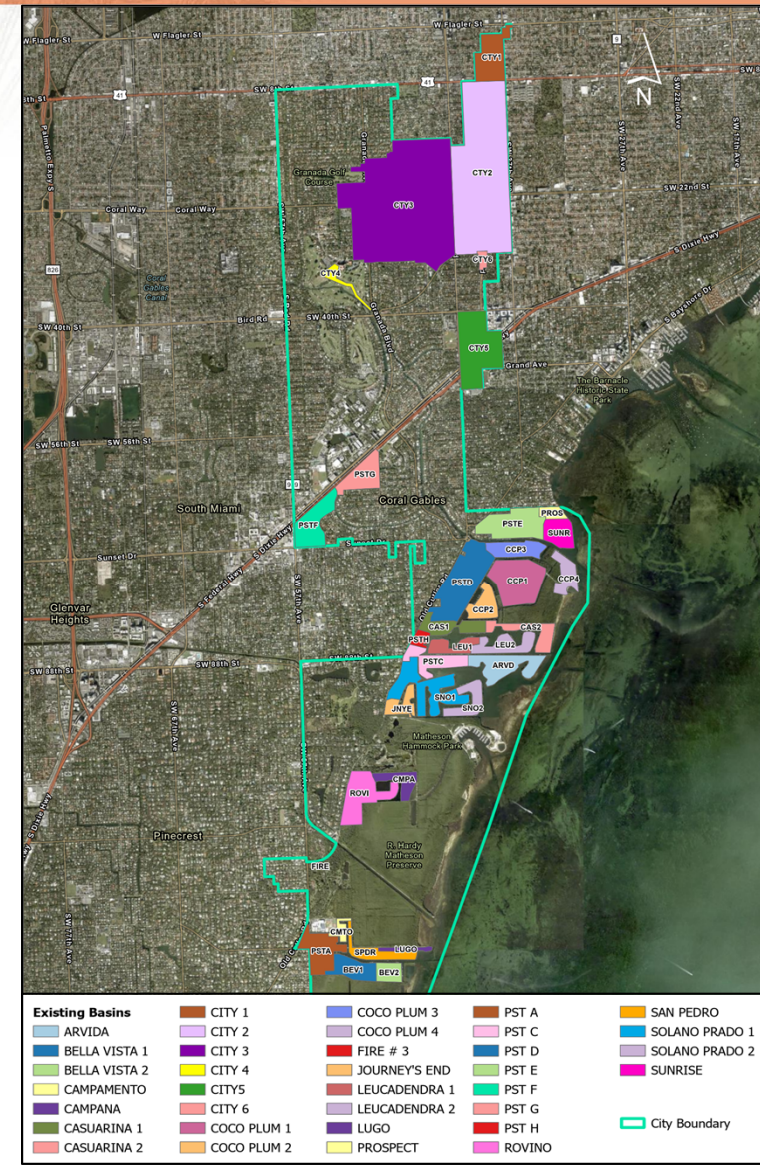
- **Miami-Dade County Ordinance 22-83** restricts new or replacement septic systems where sewer is available
 - On July 7, 2022, the Board of Miami-Dade County Commissioners adopted **Ordinance 22-83, which instituted more rigorous standards for new and replacement OSTDS**
 - **Conventional septic systems (Type 1)** are no longer permitted for new installations or full replacements (most common, passive, onsite wastewater treatment systems, consisting of a buried septic tank and a gravity-fed drainfield)
 - Property owners **cannot** install or replace septic systems in areas where an approved public gravity sanitary sewer or sanitary sewer force main is available
 - **Enhanced Nutrient Removal (ENR) septic systems can cost \$65,000 or more per property**



City of Coral Gables Wastewater Infrastructure



- Existing Wastewater System:
 - 35 sewer basins
 - 35 pump stations
 - 64 miles of gravity mains
 - 14 miles of force mains
 - Approximately 1,400 manholes
- Existing Septic Tank System Inventory (per FDOH records):
 - Approximately **7,655**

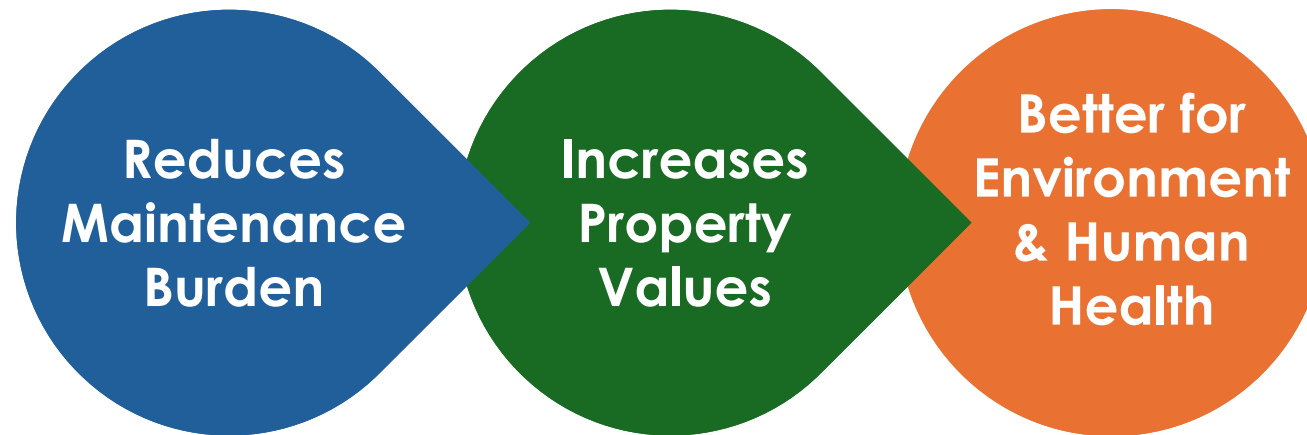


Program Benefits



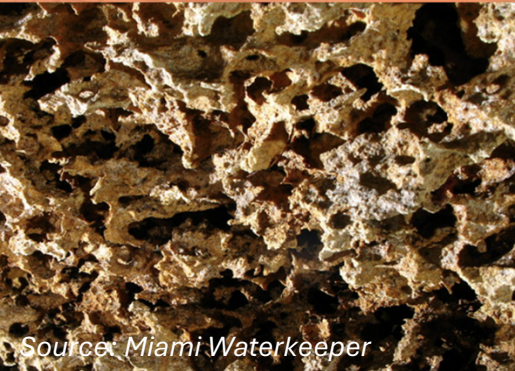
Program Benefits

- **No future maintenance costs for property owners** or costs to repair/replace septic systems. Centralized city-owned sewer system provides increased reliability.
- Enhances property value by removing septic systems.
- Reduces pollution discharge into groundwater and waterways, **better protecting environmental and human health.**





Increased Risk: Florida Septic Systems

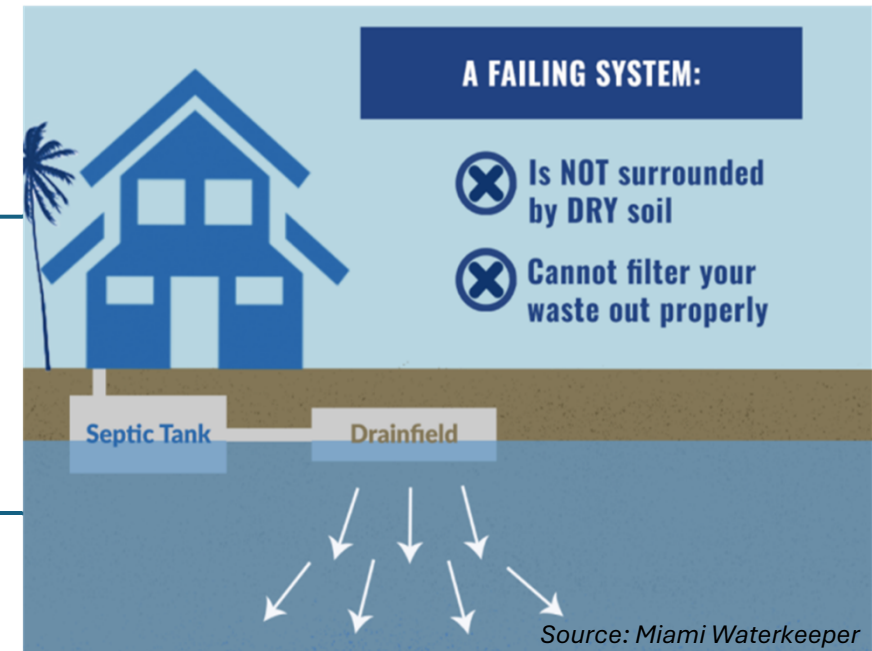


Limestone bedrock is porous and does not facilitate natural attenuation efficiently.

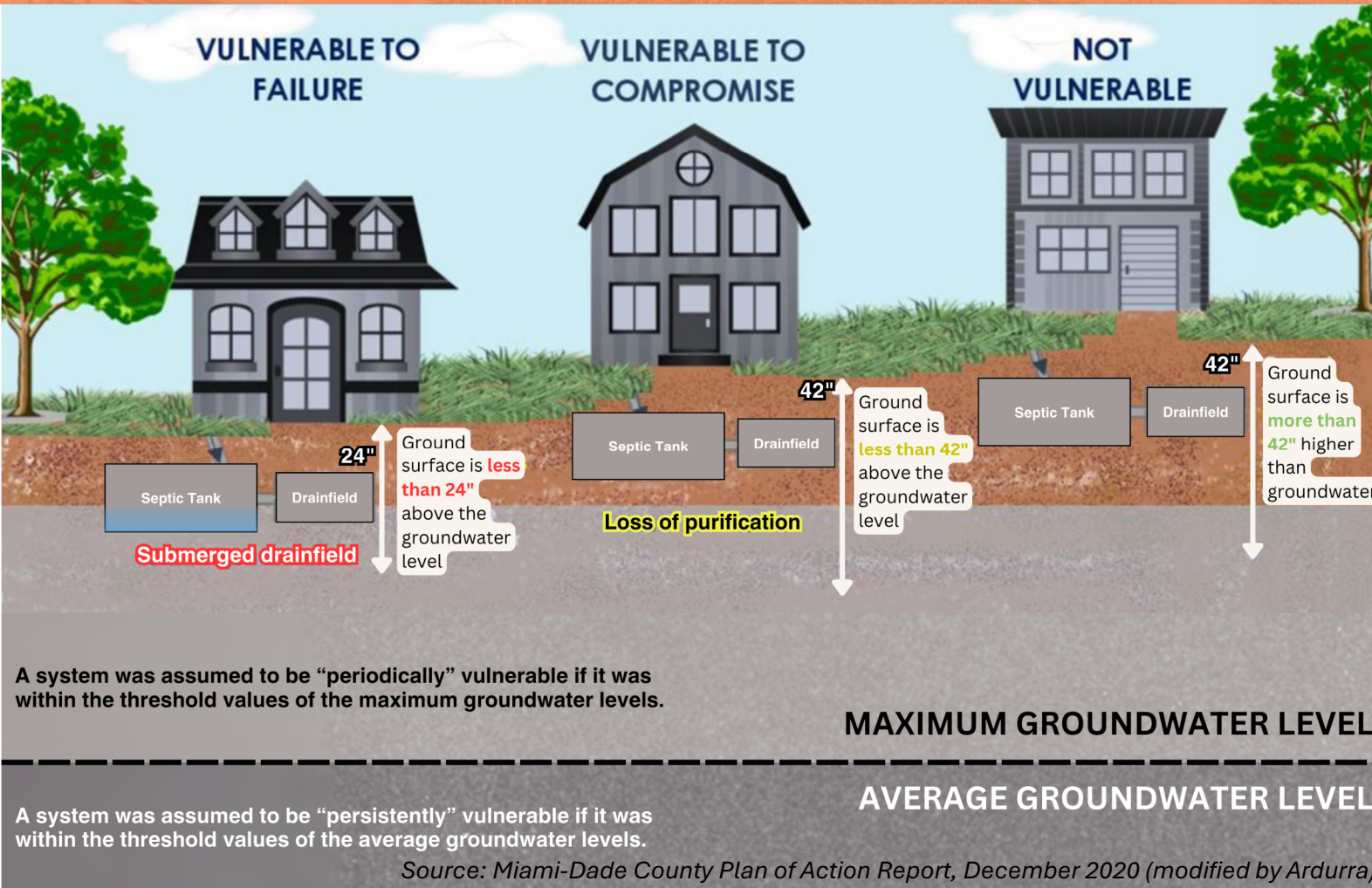
High water table provides less space/time for effluent to be filtered before it reaches the groundwater.



Flooding can cause septic tanks to overflow into nearby storm drains or back into residential pipes.

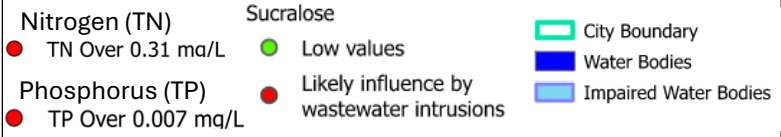
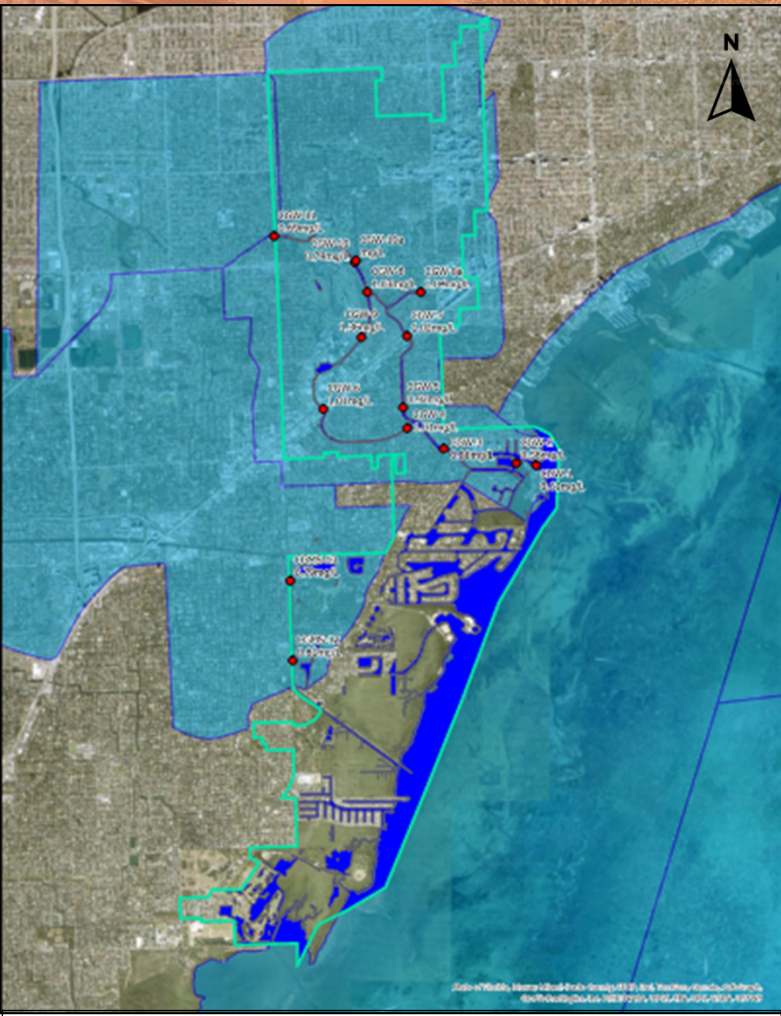
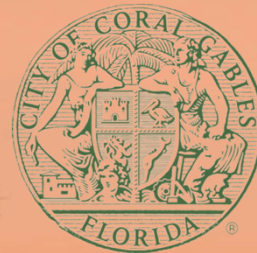


Septic Tank Vulnerability



- Septic Tank systems can release contaminants which can then migrate through groundwater and **impact nearby water bodies**
- Septic system performance depends on separation from groundwater
- **Minimum ~42 inches of separation is needed for effective treatment**
- High groundwater conditions can lead to:
 - System failure (submerged drainfields)
 - Reduced treatment efficiency (loss of purification)
- **Sea level rise** further reduces separation over time, increasing vulnerability

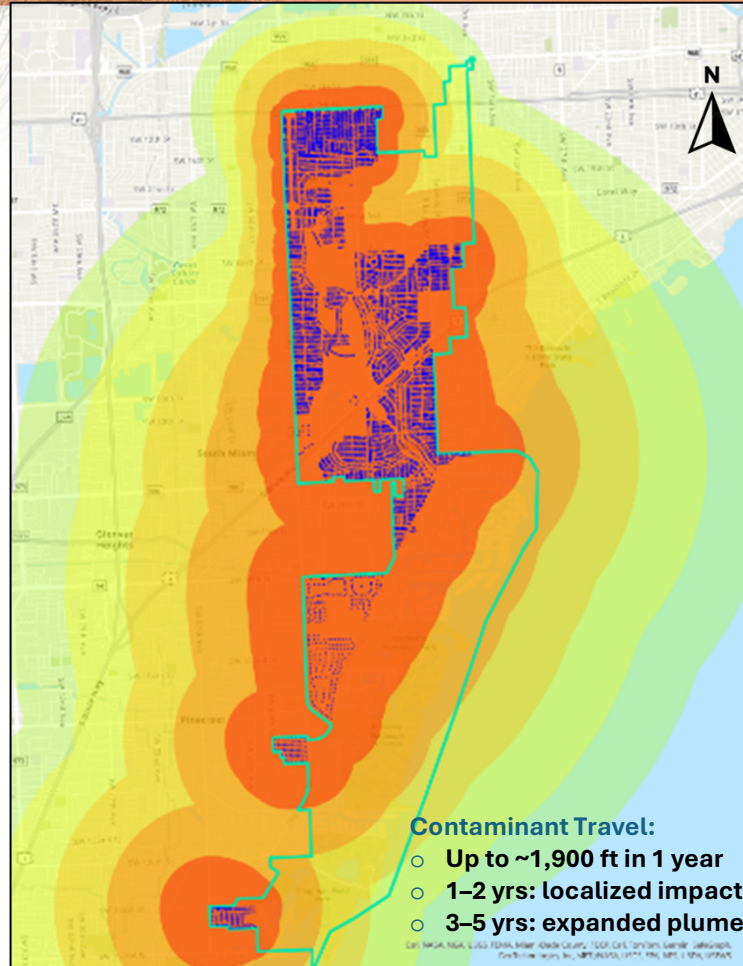
Travel Times & Water Quality Indicators from Septic Systems



Parameter	Parameter Limit (mg/l)	Average (mg/l)	Max (mg/l)
Nitrogen (TN)	0.31	0.9	1.5
Phosphorus (TP)	0.007	0.04	0.07
Sucralose	N/A	453	1135

Water Quality Findings:

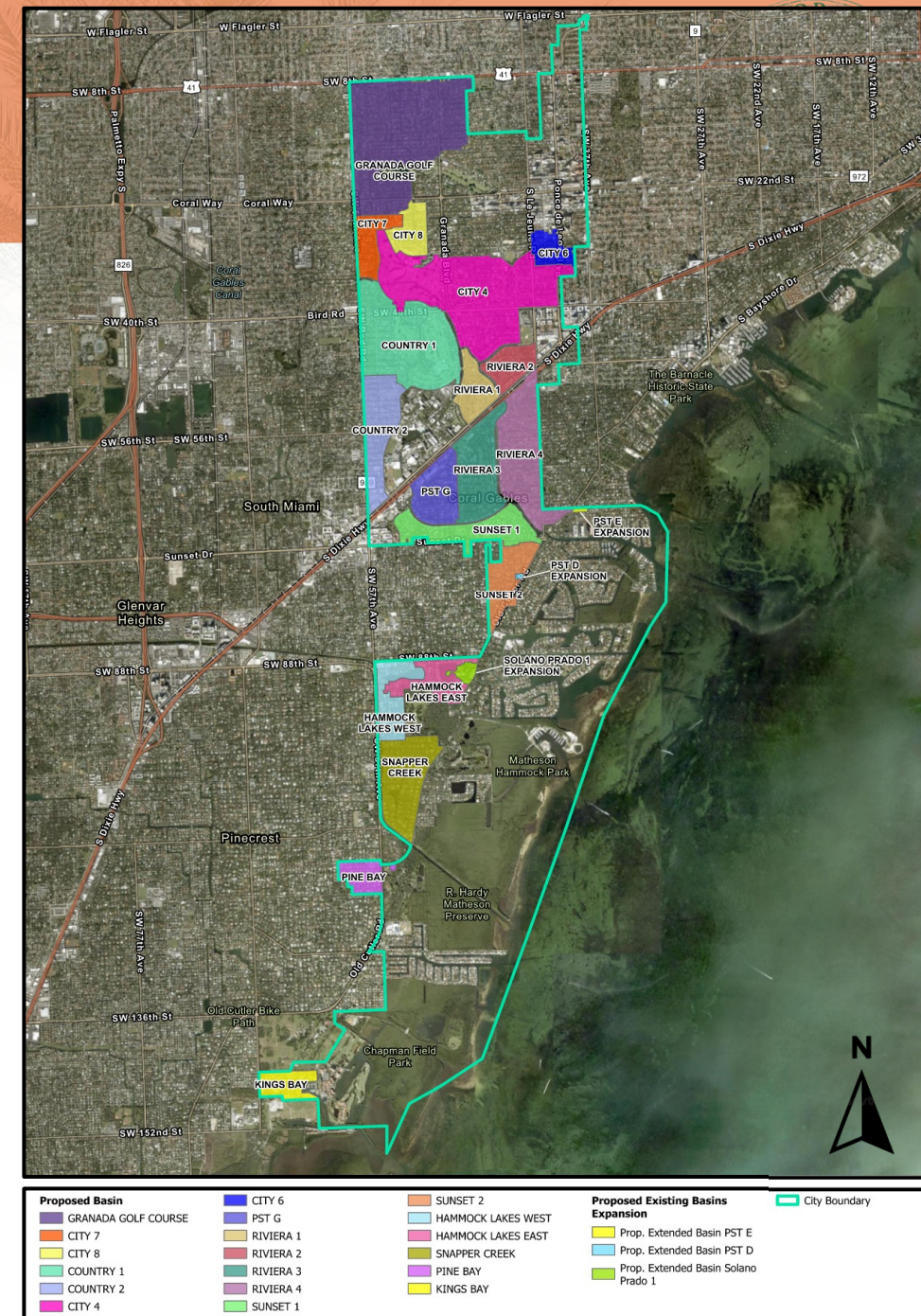
- Nitrogen (TN) and Phosphorus (TP) exceed regulatory limits
- **Sucralose is a wastewater tracer that indicates human effluent presence.**
- Sucralose detected → indicates **wastewater influence**



Proposed Basins

Sewer Basin Areas

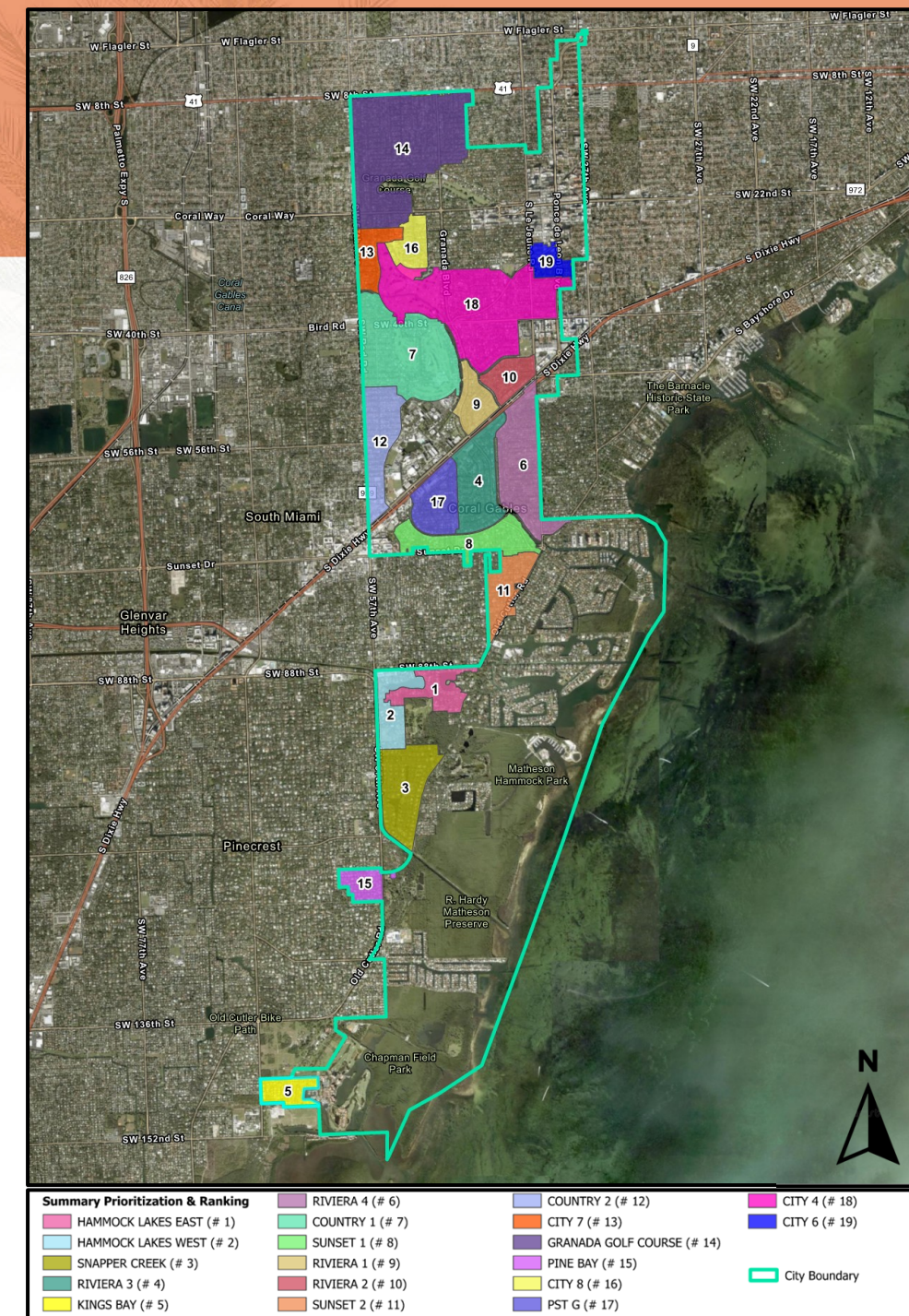
- **Sixteen (16)** new sewer basins are proposed
 - **New Pump Stations (PS) required**
- **Six (6)** expansions of existing basins are being proposed
 - **Upsizing the existing Pump Stations (PS) is required**
- Each basin represents a distinct geographic area within the city, encompassing various neighborhoods and residential zones
- **Basins were ranked and prioritized based on:**
 - Proximity to surface water
 - Vulnerability of septic tanks to failure
 - Flood risk
 - Soil drainage
 - Nutrient loading



Ranking and Prioritization

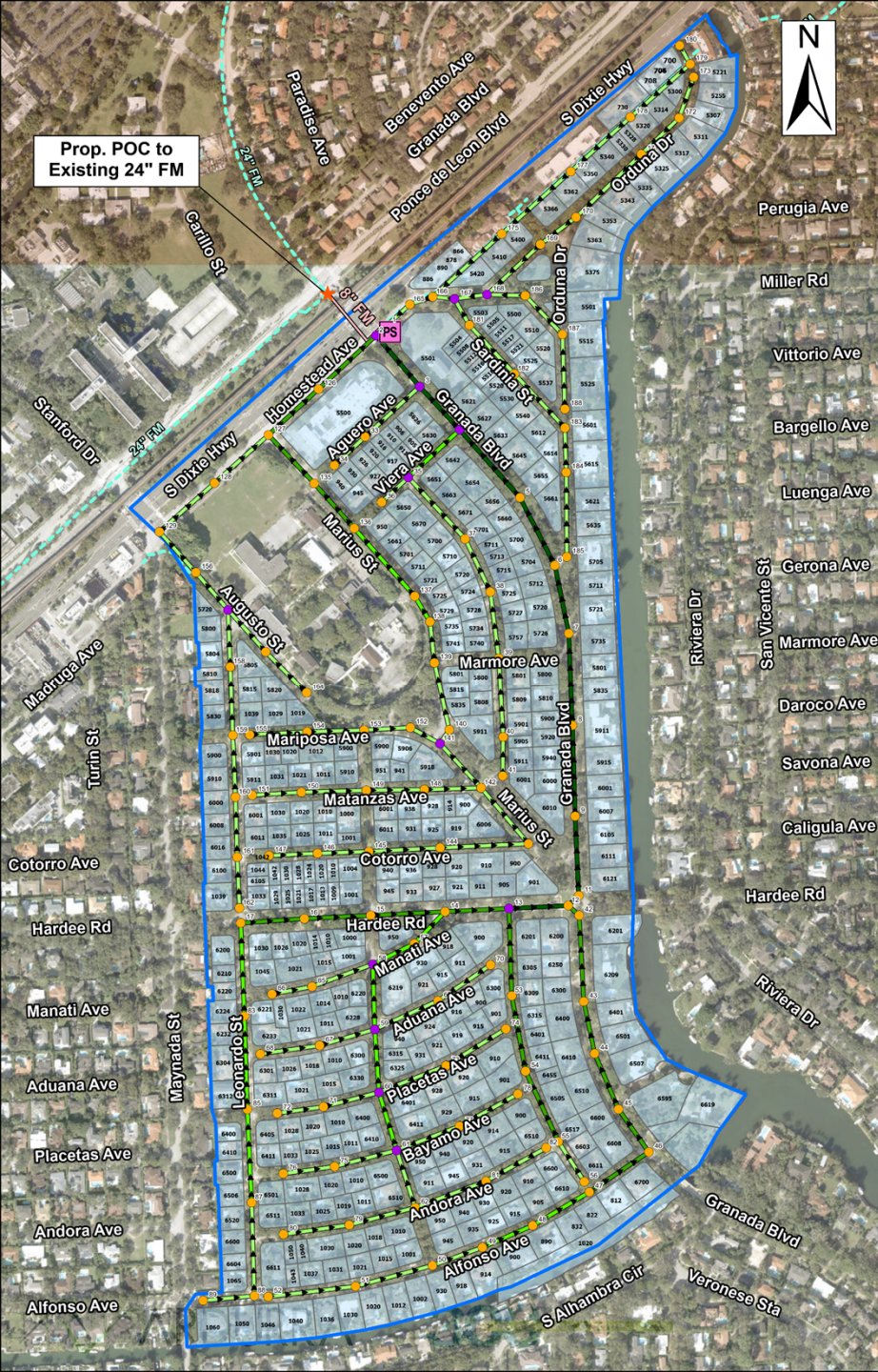
Proposed sewer basins were ranked and prioritized based on specific **environmental vulnerability** criteria

Proposed Basin Name	Proximity to Surface water	Vulnerability to Failure	Flood Risk	Soils Drainage	Nutrient Loading	Ranking
Hammock Lake East	1	2	5	3	3	1
Hammock Lake West	1	1	4	3	4	2
Snapper Creek	1	2	5	3	3	3
Riviera 3	1	5	5	4	1	4
Kings Bay	1	3	4	3	3	5
Riviera 4	1	5	5	4	1	6
Country 1	1	5	5	4	1	7
Sunset 1	1	4	5	4	2	8
Riviera 1	1	4	5	4	2	9
Riviera 2	1	4	5	4	2	10
Sunset 2	2	5	5	4	2	11
Country 2	2	5	5	4	2	12
City 7	2	4	5	4	3	13
Granada Golf Course	5	4	5	4	1	14
Pine Bay	2	4	5	3	4	15
City 8	2	5	5	4	3	16
PS G	1	5	5	4	5	17
City 4	2	5	5	4	5	18
City 6	5	5	5	4	5	19





Example Basin Riviera 3 Conceptual Schematic



- **Planning Level Cost Estimate:**
 - *Estimated Cost for Basin: \$26.5 M*
 - *Number of Parcels: 401*

TYPE	QUANTITY	UNIT
Manholes	134	EA
Gravity Mains	34,493	LF
Force Main	404	LF
Pump Station	1	EA

Legend:

Proposed Improvements

- PS** Prop. Pump Station
- Prop. Manhole
- Prop. Drop Manhole
- ★ Prop. Point of Connection

- ◀ 8-inch Gravity Sewer
- ◀ 10-inch Gravity Sewer
- ◀ 12-inch Gravity Sewer
- ◀ 16-inch Gravity Sewer
- 6-inch Force Main
- 8-inch Force Main
- 10-inch Force Main

- ▭ Planned Service
- ▭ Prop. Basin Riviera 3

Existing Sewer System

- Exist. Force Main (City of Coral Gables)
- ▭ Existing Private PS

Example Basin Expansion PS G Conceptual Schematic



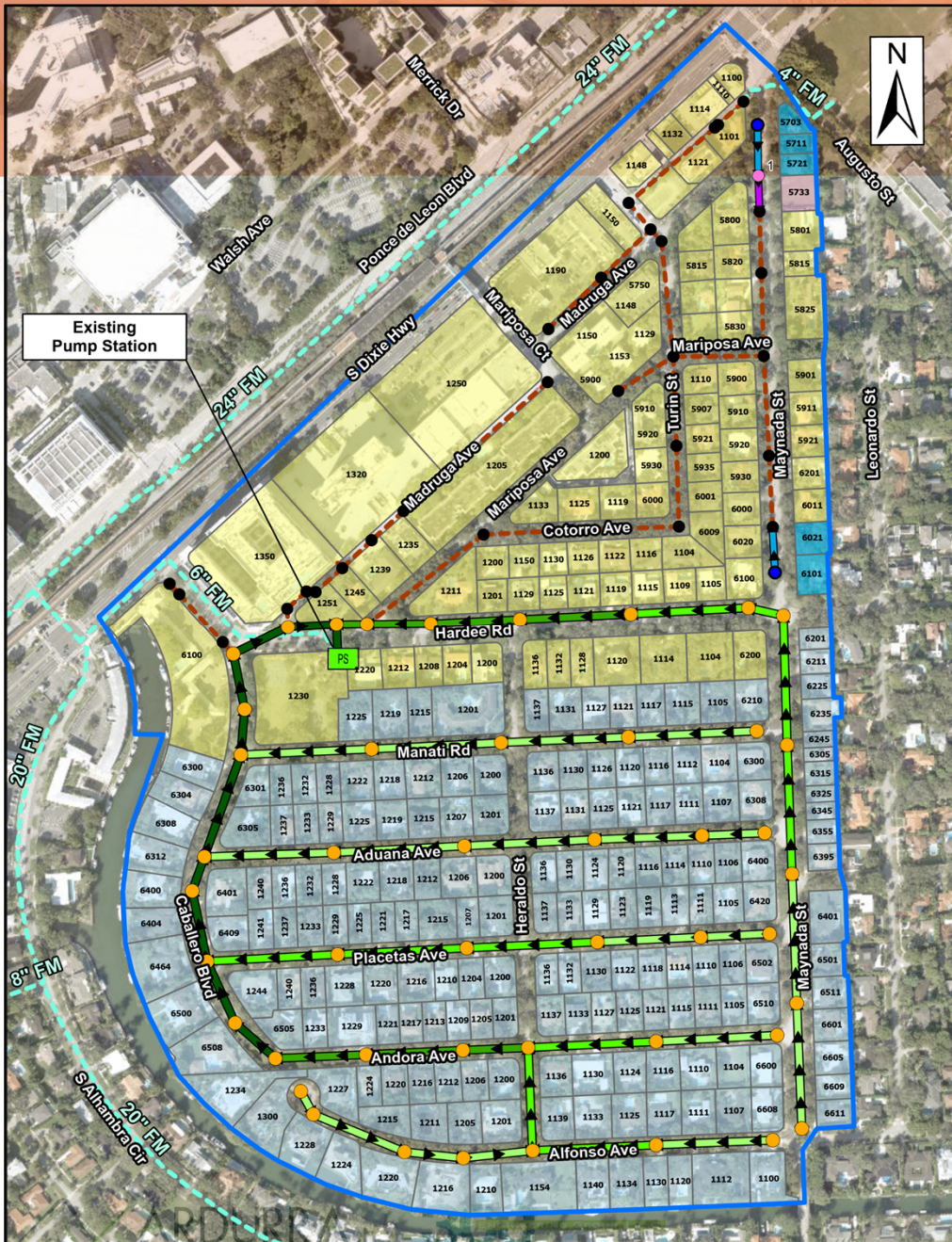
- Planning Level Cost Estimate:
 - Total Cost for Basin: **\$11.2 M**
 - Number of Parcels: **187**

Note: The existing pump station will require capacity upgrades to accommodate additional flow

TYPE	QUANTITY	UNIT
Manholes	48	EA
Gravity Mains	13,491	LF
Force Main	-	LF
Pump Station	-	EA

Legend:

- Proposed 8-inch Gravity Main
- Proposed 10-inch Gravity Main
- Proposed 12-inch Gravity Main
- Proposed 16-inch Gravity Main
- Proposed Manhole
- Planned Service Properties
- Proposed Basin
- 8-inch Gravity Main (Existing Expansion)
- Manhole (Existing Expansion)
- Service Properties (Existing Expansion)
- Proposed 8-inch Gravity Main (By Others)
- Proposed Manhole (By Others)
- Planned Service Properties (By Others)
- Existing Pump Station (City of Coral Gables)
- Existing Manhole (City of Coral Gables)
- Existing Gravity Main (City of Coral Gables)
- Existing Force Main (City of Coral Gables)
- Existing Service Properties



Proposed Improvements

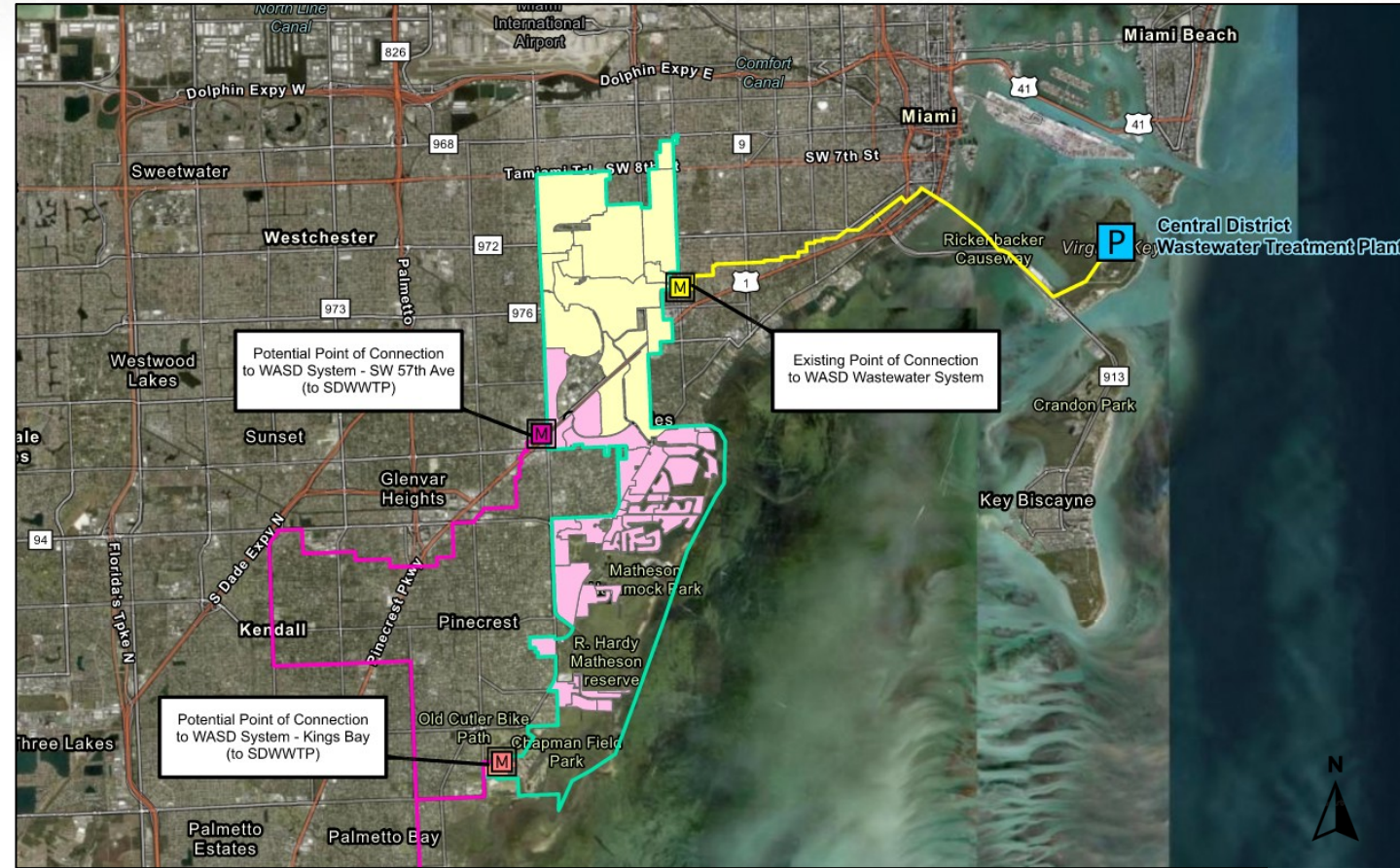
Sample Pump Station (PS) Layout



Redundant Point of Connection



- The City currently relies on a single primary connection point (**Flow Meter #3**) for wastewater transmission to MDWASD
- A redundant connection would provide a **critical backup**, offering flexibility in operation, improving system resilience, and **reducing the risk of service disruptions** during emergency conditions



Estimated Costs and Funding



Estimated Costs within Private Property

- Homeowner Cost Estimate Per Property*:
 - Sewer Capacity Certification: \$200
 - Miami-Dade WASD Impact Fees: \$1,800
 - FDOH Septic Abandonment Fee: \$100
 - Pump and Abandon Tank: \$2,500
 - Private Lateral and Plumbing Re-Route: \$12,000
 - TOTAL: **\$16,600**

* Costs to abandon septic and connect to sewer.

* Assuming septic systems are located at the back of the property and plumbing re-route needed to connect at the front of the property.

* Costs may vary per specific property conditions.





Total Preliminary Estimated Cost

PROPOSED BASIN EXPANSIONS	
BASIN NAME	ESTIMATED TOTAL COST
PS G	\$11,261,461
PS D	\$140,883
PS E	\$645,464
Solano Prado 1	\$729,988
City 4	\$60,998,425
City 6	\$3,229,486
Total Estimated Basin Expansion Cost:	\$77,005,707

PROPOSED NEW BASINS	
BASIN NAME	ESTIMATED TOTAL COST
Granada Golf Course	\$93,020,246
City 7	\$11,168,695
City 8	\$7,578,917
Country 1	\$36,723,168
Country 2	\$19,442,182
Riviera 1	\$10,672,210
Riviera 2	\$13,489,712
Riviera 3	\$26,550,834
Riviera 4	\$36,050,713
Sunset 1	\$20,860,333
Sunset 2	\$17,897,347
Hammock Lake West	\$7,027,549
Hammock Lake East	\$5,379,871
Snapper Creek	\$11,779,978
Pine Bay	\$6,472,330
Kings Bay	\$8,581,238
Total Estimated Cost:	\$332,695,323

- **Planning-level estimate used for evaluation**
- Total Preliminary Present-Day Cost (All Basins) = **\$409,701,030**
- Potential for any required land acquisition is not included in this estimate
- Assumes no grant funding
- Future costs associated with a secondary connection to County system are not included
- Estimated costs are based on historical hard and soft costs as of 2025



Estimated Costs and Funding

City Possible Repayment Options (Example: **Low-end**)

(Assumes no grant funding is available)

- **Pay upfront** – No financing or interest charges – Approximately **\$29,000**
- **Pay off at any time** – Incur financing cost but only incur interest charges up to the time of pay off
- **Pay over life of loan** – Incur financing and interest costs each year (estimate):
 - **5 year - 4.00% Int.** \$ 6,515 per year - \$ 32,575 total
 - **7 year - 4.25% Int.** \$ 4,875 per year - \$ 34,125 total
 - **10 year - 4.50% Int.** \$ 3,665 per year - \$ 36,650 total
 - **15 year - 4.75% Int.** \$ 2,750 per year - \$ 41,250 total
 - **20 year - 5.00% Int.** \$ 2,330 per year - \$ 46,000 total
 - **25 year - 5.25% Int.** \$ 2,110 per year - \$ 52,750 total

Note: These interest rates listed above are for illustrative purposes subject to change based on market conditions at the time the loan/bonds are issued.

Cost estimates are based on 2025 historical costs and are intended for planning-level evaluation only



Estimated Costs and Funding

City Possible Repayment Options (Example: High-end)

(Assumes no grant funding is available)

- **Pay upfront** – No financing or interest charges – Approximately **\$106,900**
- **Pay off at any time** – Incur financing cost but only incur interest charges up to the time of pay off
- **Pay over life of loan** – Incur financing and interest costs each year (estimate):
 - **5 year - 4.00% Int.** \$ 24,015 per year - \$ 120,075 total
 - **7 year - 4.25% Int.** \$ 17,975 per year - \$ 125,825 total
 - **10 year - 4.50% Int.** \$ 13,510 per year - \$ 135,100 total
 - **15 year - 4.75% Int.** \$ 10,125 per year - \$ 151,875 total
 - **20 year - 5.00% Int.** \$ 8,580 per year - \$ 171,600 total
 - **25 year - 5.25% Int.** \$ 7,775 per year - \$ 194,375 total

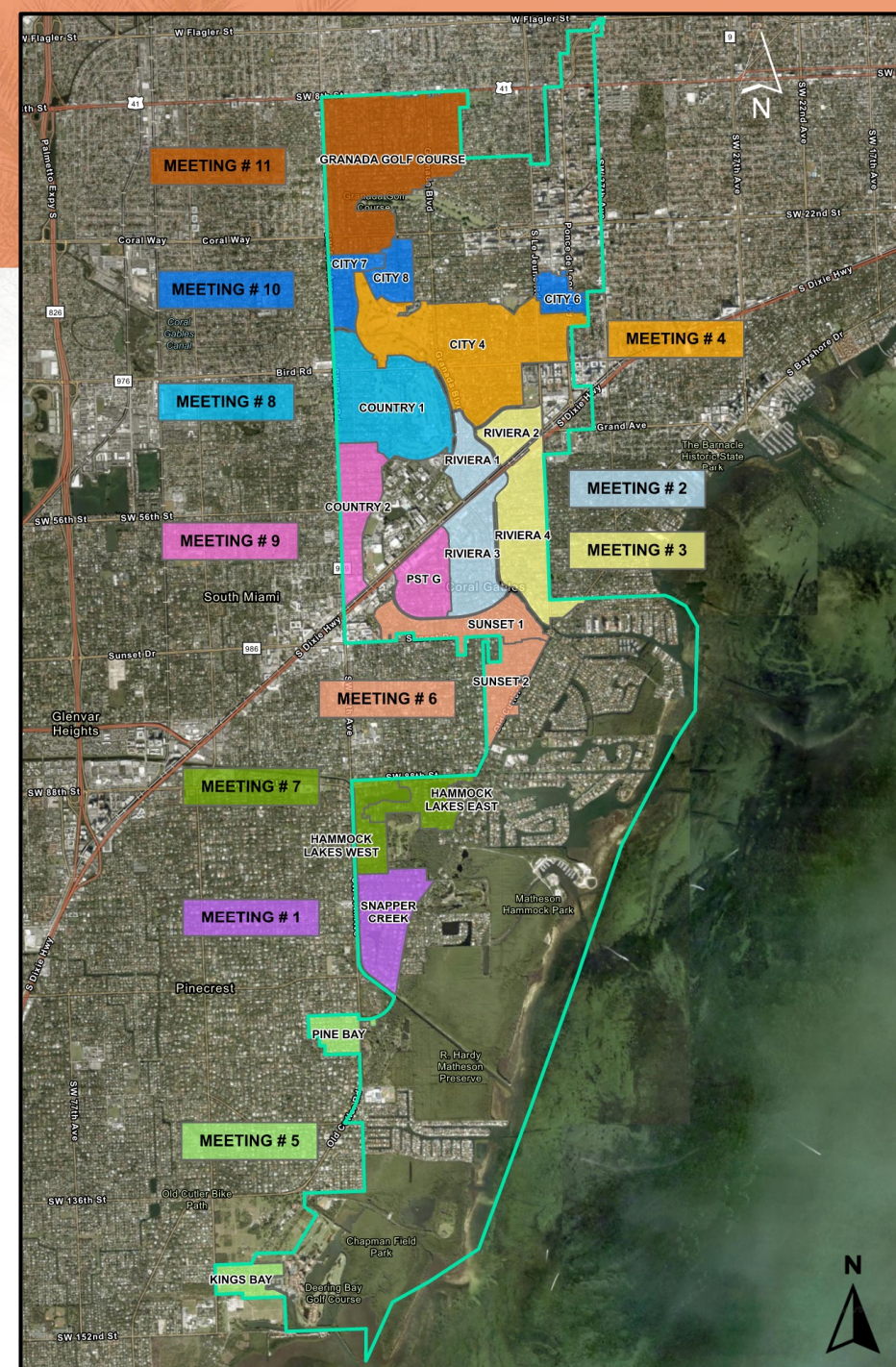
Note: These interest rates listed above are for illustrative purposes subject to change based on market conditions at the time the loan/bonds are issued.

Cost estimates are based on 2025 historical costs and are intended for planning-level evaluation only

Public Meetings

Public meetings were conducted in accordance with grant requirements to ensure community engagement and transparency

Prospective Areas	Meeting # (Per Location)	Location	Date and Time
Snapper Creek Basin Area	Meeting #1	Fairchild Tropical Garden, 10901 Old Cutler Road	Thursday, Oct. 30, 2023
Riviera 1 and Riviera 3 Basin Areas	Meeting #2	Police & Fire Headquarters Community Meeting Room, 2151 Salzedo St.	Thursday, Feb. 27, 2025
Riviera 2 and Riviera 4 Basin Areas	Meeting #3	Police & Fire Headquarters Community Meeting Room, 2151 Salzedo St.	Tuesday, May 6, 2025.
City 4 Basin Area	Meeting #4	Police & Fire Headquarters Community Meeting Room, 2151 Salzedo St.	Thursday, May 15, 2025.
Pine Bay and Kings Bay Basin Areas	Meeting #5	Fairchild Tropical Garden, 10901 Old Cutler Road	Tuesday, Sept. 9, 2025
Sunset 1 and Sunset 2 Basin Areas	Meeting #6	Fairchild Tropical Garden, 10901 Old Cutler Road	Wednesday, Sept. 17, 2025
Hammock Lakes West and Hammock Lakes East Basin Areas	Meeting #7	Fairchild Tropical Garden, 10901 Old Cutler Road	Wednesday, Sept. 24, 2025
Country 1 Basin Area	Meeting #8	Police & Fire Headquarters Community Meeting Room, 2151 Salzedo St.	Wednesday, Oct. 22, 2025
Country 2 and PST G Basin Areas	Meeting #9	Police & Fire Headquarters Community Meeting Room, 2151 Salzedo St.	Wednesday, Oct. 29, 2025
City 6, City 7 and City 8 Basin Areas	Meeting #10	Police & Fire Headquarters Community Meeting Room, 2151 Salzedo St.	Tuesday, Nov. 4, 2025
Granada Basin Area	Meeting #11	Police & Fire Headquarters Community Meeting Room, 2151 Salzedo St.	Wednesday, Nov. 12, 2025



Public Meetings – Strategy



WORKING TO IMPROVE YOUR NEIGHBORHOOD

Informational meeting regarding the City of Coral Gables Citywide Septic to Sewer Conversion Assessment Plan as it relates to your neighborhood.

When?
May 15, 2025 at 6:00 PM

Where?
Police and Fire Headquarters Community Meeting Room (CMR), 2151 Salzedo St.

Why?

- **Environmental Protection:** To address the negative impacts of aging septic systems which can release pollutants into soils, groundwater and surface waters.
- **Public Health Concerns:** To improve wastewater management and reduce risks to public health caused by failing or outdated septic systems.
- **Infrastructure Improvements:** To outline the benefits of transitioning to a modern sewer system and the long-term cost savings for residents.
- **Resident Input:** To gather community feedback on the proposed plans to ensure transparency and resident involvement.

LINK TO ZOOM MEETING: www.zoom.us/j/3054466800

WEBSITE LINK: <https://www.coralgables.com/septic-sewer-conversion-program>

FOR QUESTIONS, PLEASE CONTACT:

☎ 305-460-5000 @ septicsewer@coralgables.com

CORAL GABLES
THE CITY BEAUTIFUL

Introduction

The City of Coral Gables is currently working with its consultant, 300 Engineering Group, LLC (300EG), to develop a comprehensive citywide septic to sewer conversion program (S2S Program). The City is committed to protecting public health, improving water quality and ensuring sustainable infrastructure. This initiative addresses the feasibility, costs and benefits of transitioning from septic systems to a centralized sewer system.

Program Overview

The City's S2S Program is part of a broader effort by both Miami-Dade County and the State of Florida to modernize wastewater infrastructure and ensure compliance with existing environmental regulations. The S2S Program aligns with the [Miami-Dade County General 20-year vision](#), which aims to transition properties from septic to sewer in order to reduce pollution, protect groundwater and improve water quality. Many existing septic systems were installed decades ago and are now failing due to age, soil conditions, rising groundwater levels and increased population density.

As a result of this planning effort, 10 new sewer basins have been proposed. These basins were located and prioritized based on key factors, including:

- Proximity to surface water
- Vulnerability of septic tanks to failure
- Flood risk
- Soil drainage
- Nearest loading

Additionally, this program aims to evaluate the most efficient and cost-effective methods to transition to a centralized sewer system while considering environmental impacts, regulatory compliance and community needs. This initiative is a key step in improving water quality and protecting the environment. [View Basin Map](#)

Community Meetings

We value community input. Attend public meetings, participate in surveys and provide feedback on the proposed plan. Below are past informational meetings the city hosted regarding different areas and neighborhoods within the city.

WHY WERE MEETINGS HELD?

They were designed to offer residents accurate information and the opportunity to learn more about potential options down the road.

To clarify:

- No mandate exists regarding neighborhoods to convert from septic to sewer.
- The city is not launching a septic-to-sewer conversion program.
- Residents are only required to connect to the sewer by State and County law if – and only if – a sanitary sewer system is installed on their street.
- A mandate would only occur if required by the State of Florida, not the city.
- If a septic tank fails, Miami-Dade County now requires replacement with a more advanced and more expensive system under county law.

The city conducted a basin study and presentations to ensure residents had the information they needed to make informed decisions about Federal or State grants become available in the future. At the time, neighborhoods would have the option to consider whether they want to pursue such opportunities. These meetings were held to educate, inform, and listen but not to impose any requirements. Coral Gables remains committed to transparency, responsible planning, and supporting residents with accurate information as state and federal funding programs evolve.

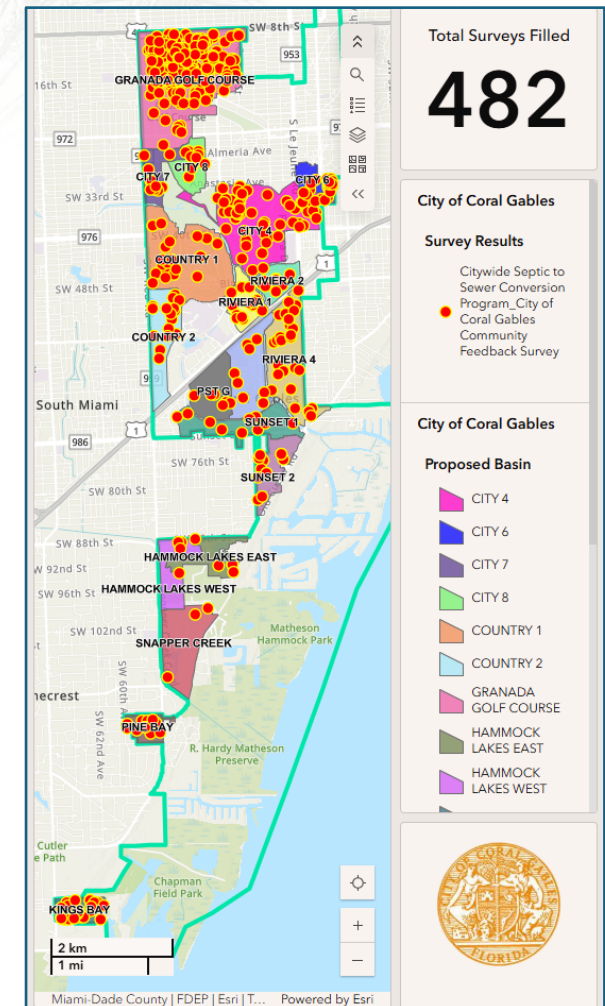
PAST MEETINGS

Interested in joining an upcoming online meeting? [Online Zoom Community Meetings](#)

SEPTIC TO SEWER CONVERSION SCHEDULE OF MEETINGS				
Date and Time	Location	Prospective Areas	Meeting Recordings	Presentation
Thursday, Dec. 30, 2020, at 6 p.m.	Fairchild Tropical Gardens, 10001 SW 60th Ave	Shannon Creek Basin Area	Shannon Creek Recording	
Thursday, Feb. 27, 2020, at 6 p.m.	Police & Fire Headquarters Community Meeting Room, 2151 Salzedo St.	Rivera 1 and Rivera 2 Basin Areas	Rivera 1 and Rivera 2 Recording	Septic to Sewer Presentation: Rivera 1 and Rivera 2
Tuesday, May 6, 2020, at 6 p.m.	Police & Fire Headquarters Community Meeting Room, 2151 Salzedo St.	Rivera 3 and Rivera 4 Basin Areas	Rivera 3 and Rivera 4 Recording	Septic to Sewer Presentation: Rivera 3 and Rivera 4
Thursday, May 15, 2020, at 6 p.m.	Police & Fire Headquarters Community Meeting Room, 2151 Salzedo St.	City 1 Basin Area	City 1 Basin Recording	Septic to Sewer Presentation: City 1
Tuesday, Dec. 8, 2020, at 6 p.m.	Fairchild Tropical Gardens, 10001 SW 60th Ave	Five Bay and Kings Bay Basin Areas	Five Bay and Kings Bay Recording	Septic to Sewer Presentation: Five Bay and Kings Bay
Wednesday, Sept. 17, 2020, at 6 p.m.	Fairchild Tropical Gardens, 10001 SW 60th Ave	Golden 1 and Golden 2 Basin Areas	Golden 1 and Golden 2 Recording	Septic to Sewer Presentation: Golden 1 and Golden 2
Wednesday, Sept. 24, 2020, at 6 p.m.	Fairchild Tropical Gardens, 10001 SW 60th Ave	Hammock Lakes West and Hammock Lakes East Basin Areas	Hammock Lakes West and Hammock Lakes East Recording	Septic to Sewer Presentation: Hammock Lakes West and Hammock Lakes East
Wednesday, Oct. 21, 2020, at 6 p.m.	Police & Fire Headquarters Community Meeting Room, 2151 Salzedo St.	Country 1 Basin Area	Country 1 Basin Area Recording	Septic to Sewer Presentation: Country 1 Basin Area
Wednesday, Oct. 21, 2020, at 6 p.m.	Police & Fire Headquarters Community Meeting Room, 2151 Salzedo St.	Country 2 and PST & Basin Areas	Country 2 and PST & Basin Area Recording	Septic to Sewer Presentation: Country 2 and PST & Basin Area
Tuesday, Nov. 4, 2020, at 6 p.m.	Police & Fire Headquarters Community Meeting Room, 2151 Salzedo St.	City 6, City 7 and City 8 Basin Areas	City 6, City 7 and City 8 Basin Area Recording	Septic to Sewer Presentation: City 6, City 7 and City 8 Basin Area
Wednesday, Nov. 11, 2020, at 6 p.m.	Police & Fire Headquarters Community Meeting Room, 2151 Salzedo St.	Granada Basin Area	Granada Basin Area Recording	Septic to Sewer Presentation: Granada Basin Area

+ Community Outreach Meeting Map and Proposed Basin Area Map

+ Parking Information for Public Involvement Meetings



Total Surveys Filled

482

City of Coral Gables

Survey Results

Citywide Septic to Sewer Conversion Program_City of Coral Gables Community Feedback Survey

City of Coral Gables

Proposed Basin

- CITY 4
- CITY 6
- CITY 7
- CITY 8
- COUNTRY 1
- COUNTRY 2
- GRANADA GOLF COURSE
- HAMMOCK LAKES EAST
- HAMMOCK LAKES WEST



Resident Notification Flyer

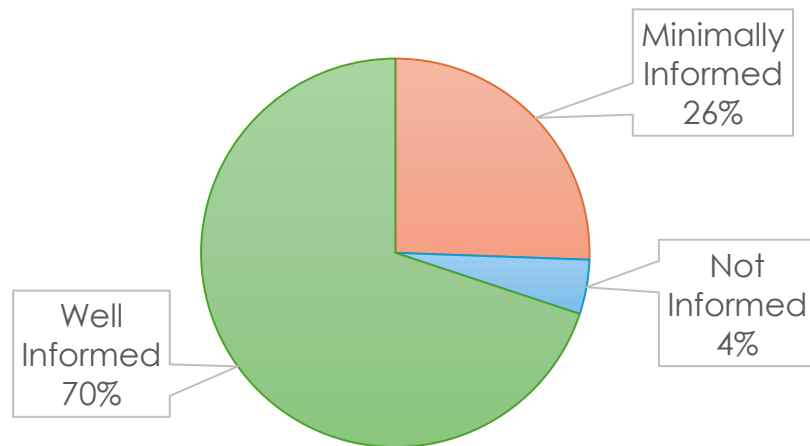
S2S Website

Resident Feedback Survey

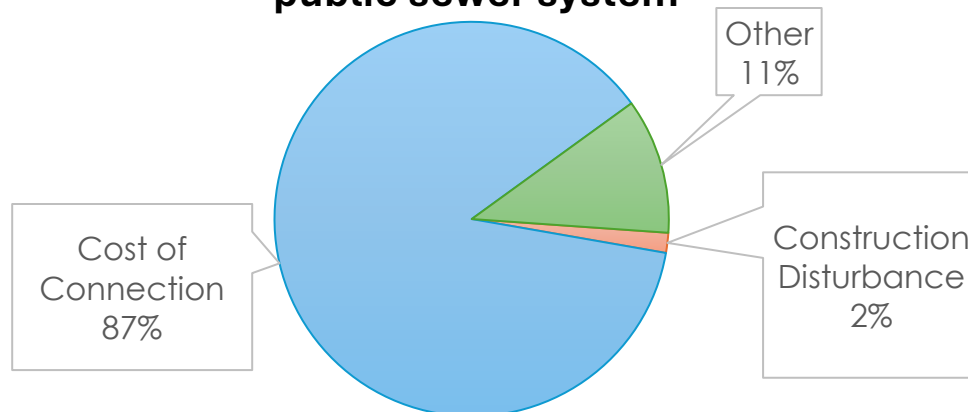
Resident Feedback Survey - Summary



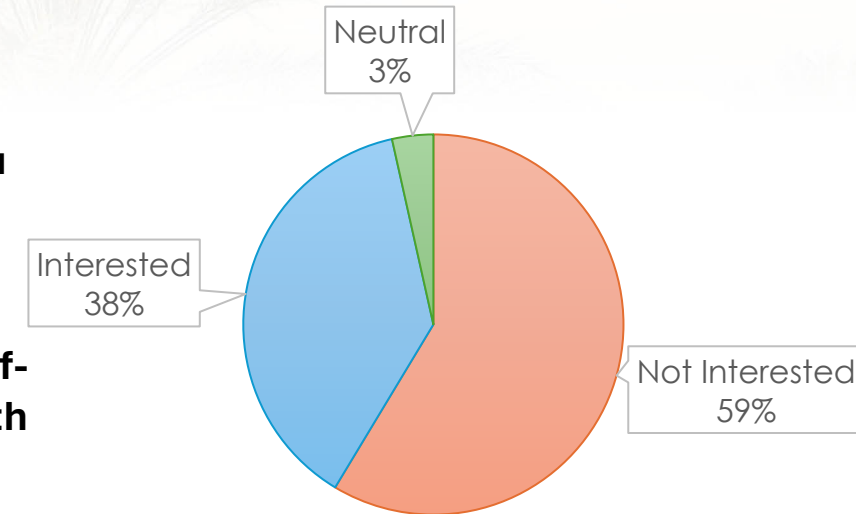
How familiar are you with the advantages and disadvantages of a sewer system?



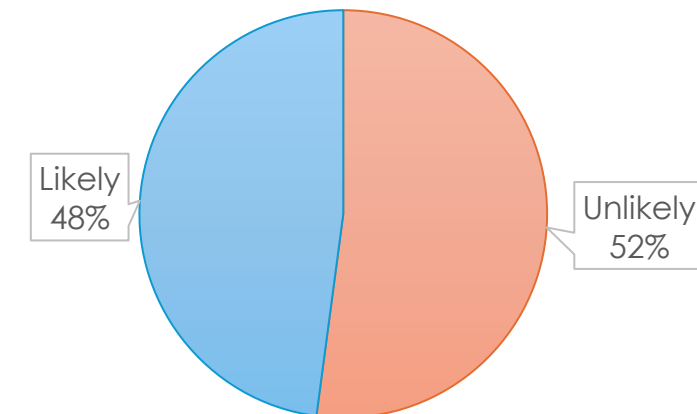
No. 1 concern about converting to a public sewer system



How interested would you be in converting from a septic system to a municipal sewer system given that there is an out-of-pocket cost associated with the transition?



If upfront costs of converting from a septic system to a sewer system were dispersed over time would you be more in favor of converting?



Strategic Value of Master Plan



Strategic Planning

- Establishes a long-term roadmap for septic-to-sewer transition
- Identifies and prioritizes new sewer basins & basin expansions based on vulnerability and criticality
- Supports data-driven decision-making

Risk Awareness & Preparedness

- Recognizes environmental and infrastructure risks
- Incorporates groundwater conditions and sea level rise projections
- Positions the City ahead of regulatory trends.

Funding Readiness

- Enables pursuit of grants and financing opportunities
- Provides technical justification required for funding applications
- Supports phased implementation strategies

Adopting the master plan is not a commitment to implementation, it is a **commitment to preparedness, responsible planning, and maintaining local control over future decisions** (avoids reactive decisions driven by emergencies or mandates)



CITY OF CORAL GABLES

COMPREHENSIVE CITYWIDE SEPTIC TO SEWER MASTER PLAN

Thank You