



Board of County Commissioners
December 1, 2021 - Joint Meeting of the County Commissioners and
Longboat Key Commissioners

SUBJECT

SUBAQUEOUS FORCE MAIN UPDATE

Category

AGENDA ITEMS

Briefings

None

Contact and/or Presenter Information

Isaac Brownman, Public Works Director, Town of Longboat Key

Action Requested

None

Enabling/Regulating Authority

N/A

Background Discussion

See attached memorandum from Longboat Key

Attorney Review

Not Reviewed (No apparent legal issues)

Instructions to Board Records

None

Cost and Funds Source Account Number and Name

N/A

Amount and Frequency of Recurring Costs

N/A

M E M O R A N D U M

To: Tom Harmer, Town Manager
From: Isaac Brownman, Public Works Director
Report date: November 19, 2021
Meeting date: December 1, 2021
Subject: Subaqueous Force Main Update

Background

The Town of Longboat Key is a bulk customer of Manatee County for both potable water and wastewater treatment. The Town operates and maintains water storage and distribution and also wastewater collection systems for the island. The wastewater collection system consists of 47-lift stations pumping effluent to the Town's primary lift station, Lift Station "D," on Gulf Bay Road. From Lift Station "D", the material is pumped approximately 3.5-miles through the Town's 20" ductile iron force main to the Manatee County Southwest Water Reclamation Facility (SWWRF). The Town's force main was installed in 1973 and was put into service in 1975.

In 2015, the Town had considered a design–build project for installation of a redundant force main. As a result of a 2016/2017 pipeline assessment, a Design–Build project was canceled with plans to implement a redundant/replacement option over time. The assessment of the existing pipe reflected that the pipe should have a remaining service life of 20-25 years and should be re-inspected every 4-5 years. A reassessment was being planned for 2022.

In 2018, the Town engaged Carollo Engineers to perform a feasibility analysis for a redundant subaqueous force main from Lift Station "D" to the SWWRF. In early 2020, the Town further engaged Carollo to perform preliminary design, environmental mitigation planning, and obtain Florida Department of Environmental Protection (FDEP) and U.S. Army Corps of Engineers permits for a redundant force main.

On June 29, 2020, Town and Manatee County staff discovered a leak on the mainland side of pipe route approximately 400-feet inland from Sarasota Bay waters. The Town hired E.T. MacKenzie to perform the force main repair, which was completed on June 30, 2020.

The Town contracted with Environmental Science Associates (ESA) to perform environmental analysis of both the upland and Sarasota Bay. Regarding the Bay, ESA concluded that "...there was no evidence of even a short-term impact of the sewage leak on bacteria levels in Sarasota Bay." The Town and FDEP executed Consent Order No. OGC 20-1261 in February 2021, including upland property restoration provisions.

The Town continues to invest significantly on the wastewater collection system, and specifically towards efforts surrounding the subaqueous force main. The following are examples:

- New meters have been installed by Manatee County and the Town and operational procedures have been updated by both utilities to enhance monitoring of the existing flows between the Island the treatment facility.
- Feasibility and permitting of redundant force main under Sarasota Bay are already underway prior to leak discovery.
- Pipeline assessment of existing force main funded and planned to occur in FY 2022.
- Exploring feasibility and costs of preservation options for existing force main along mainland route. Working on additional State appropriations to support Town funding.
- Continued work on rehab and upgrade to island pipelines, lift stations, wet wells, electrical systems, and additions to the generator and bypass pump inventory.
- Continued work to satisfy agreed to provisions of consent order.

The Town's five (5) year Capital Improvement Program (CIP) includes over \$21 million to address a redundant force main under Sarasota Bay. That number and options to address will continue to be refined as the Town gets closer. Currently, the CIP amount includes cost for pipeline construction and also potential environmental seagrass mitigation.

The Town did receive a State appropriation in the amount of \$1.25 million to advance elements related to the subaqueous project and force main system preservation. The Town is pursuing additional funding opportunities, State appropriations and grants where possible.

This funding is in addition to the Town's commitment to the overall system as demonstrated in the Town's five (5) year CIP and recent Utility Rate revisions.

Town Next Steps

- Feasibility and permitting of redundant force main under Sarasota Bay already underway prior to leak discovery. Currently under US Army Corps and FDEP review
- Pipeline assessment of existing force main funded and planned to occur in FY 2022.
- Exploring feasibility and costs of preservation options for existing Force Main along mainland route. Working on additional State appropriations to support.

- Continued work on rehabilitation and upgrade to island pipelines, lift stations, wet wells, electrical systems, and additions to the generator and bypass pump inventory.
- Continued work to satisfy agreed to provisions of Consent Order.

Attachments

PowerPoint Presentation (Available from Town Clerk's Office)

End of Agenda Item



TOWN OF LONGBOAT KEY

Subaqueous Force Main Update

Town Commission and Manatee County Joint Meeting

December 1, 2021



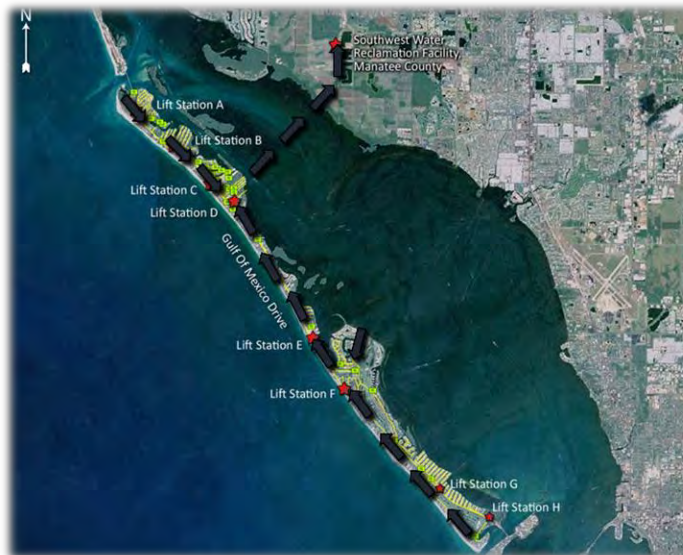
TOWN OF LONGBOAT KEY

Town Wastewater System Overview



Master Lift Station D – Gulf Bay Road

- Town is a Manatee County potable water and wastewater treatment bulk customer
- 47 Lift Stations island-wide to move effluent to Primary Lift Station, which is Lift Station “D” on Gulf Bay Road



- Town effluent pumped from Lift Station D through a 3.5-mile route to County’s Southwest Water Reclamation Facility
 - Approx. 2-miles under Sarasota Bay approx. 1.5-miles under land
- Town’s Force Main is 20-inch ductile iron installed in 1973 and placed into service in 1975



TOWN OF LONGBOAT KEY

Town Wastewater System Overview (Cont.)



Manatee Co. Treatment Plant ★

Existing WW Line Route & Scar



Town Sub-Aqueous Force Main Work

- Town had actively considered a Design – Build force main pipeline project up to 2015.
- As a result of a 2016 / 2017 pipeline assessment, Design – Build project was canceled with plans to implement replacement option over time.
 - Assessment of the existing pipe reflected that the pipe should have a remaining service life of 20-25 years and should be re-inspected every 4-5 years.
- Funded and completed alternatives analysis and permitting feasibility effort for new pipeline in 2018 with Carollo Engineers.
- Funded **permitting** of a new pipeline under Sarasota Bay. Began in January 2020 and currently in progress with Carollo Engineers and ESA.
 - Agencies FDEP and USACOE.



TOWN OF LONGBOAT KEY

Force Main Leak

- On June 29, 2020, Town and Manatee County staff leak discovered on mainland side of pipe route approximately 400-feet inland from Sarasota Bay waters.
- Town hired E.T. MacKenzie to perform force main repair. Repair completed on June 30, 2020.





TOWN OF LONGBOAT KEY

Force Main Leak Repair



ESA

ESA: “...**there was no evidence of even a short-term impact of the sewage leak on bacteria levels in Sarasota Bay.**”

- Constructed a temporary access road and stabilized platform from which to work through Longbar Pointe property.
- Town and FDEP executed Consent Order No. OGC 20-1261 in February 2021, including property restoration provisions.





TOWN OF LONGBOAT KEY

Town of Longboat Key Sub-Aqueous Force Main

Town continues to fund and work on Sub-Aqueous Force Main enhancement and system preservation

- Operational, equipment, and coordination improvements between Manatee County and the Town to enhance flow monitoring
- Feasibility and Permitting of redundant force main under Sarasota Bay already underway prior to leak discovery. Currently under US Army Corps and FDEP review
- Pipeline Assessment of Existing Force Main funded and planned to occur in FY 2022.
- Exploring feasibility and costs of preservation options for existing Force Main along mainland route. Working on additional State appropriations to support
- Continued work on rehab and upgrade to island pipelines, lift stations, wet wells, electrical systems, and additions to the generator and by-pass pump inventory
- Continued work to satisfy agreed to provisions of consent order





Town of Longboat Key Sub-Aqueous Force Main (Cont.)

Fund	Project Title	FY21 Carry over	FY22 New Spending	FY22 Budget including Carryover	FY23	FY24	FY25	FY26	Total
WASTE WATER DIVISION									
404	Lift Station E -New metal Roof	\$ -	\$ -	\$ -	0	0	0	0	0
404	Wetwell & Manhole Repair	145,380	125,000	270,380	125,000	125,000	125,000	125,000	770,380
404	Rehabilitation of Sewer Lines	26,001	200,000	226,001	200,000	200,000	200,000	200,000	1,026,001
404	Master Lift Station D Rehab	46,453	0	46,453	0	0	0	0	46,453
404	Wastewater Collection Subaqueous	13,473	0	13,473	0	1,400,000	20,300,000	0	21,713,473
404	WW Coll Subaqueous Assessment	400,000	0	400,000	0	0	0	0	400,000
404	WW Coll Subaqueous - FDEP Grant	0	1,250,000	1,250,000	0	0	0	0	1,250,000
404	SCADA Upgrade	80,029	100,000	180,029	100,000	100,000	100,000	100,000	580,029
404	Lift Station Rehab (Minor Stations)	0	0	0	0	0	0	0	0
404	Lift Station Rehab (Minor/Interm)	0	140,000	140,000	200,000	200,000	200,000	200,000	940,000
404	Wastewater Collection REHAB	0	0	0	0	0	0	0	0
404	Undergrounding Project Repairs-WW	74,865	50,000	124,865	20,000	0	0	0	144,865
404	Lift Station 9D Rehab	0	0	0	0	0	0	0	0
404	Lift Station 8D Rehab	0	0	0	0	0	0	0	0
404	GMD Gravity Crossing Replacement	0	0	0	0	0	0	0	0
404	Replacement of Sewer Laterals	0	50,000	50,000	50,000	50,000	0	0	150,000
404	Lift station Electrical Upgrades	20,565	30,000	50,565	30,000	30,000	30,000	30,000	170,565
404	Crane Truck Replacement	0	0	0	120,000	0	0	0	120,000
404	Equipment-Drain Cleaner	0	0	0	0	10,000	0	0	10,000
404	Portable Generator Replacement (2)	103,951	0	103,951	0	0	0	0	103,951
404	Lift Station Pumps	29,647	100,000	129,647	40,000	40,000	40,000	40,000	289,647
404	Lift Station PERMANENT By-pass Pump	60,000	62,000	122,000	0	0	0	0	122,000
404	Lift Station PORTABLE By-pass Pump	0	0	0	0	0	0	0	0
		\$ 1,000,364	\$ 2,107,000	\$ 3,107,364	\$ 885,000	\$ 2,155,000	\$ 20,995,000	\$ 695,000	\$ 27,837,364



TOWN OF LONGBOAT KEY

Questions?