



## Memorandum

**Memorandum No: 22-149**

**Date:** December 29, 2022

**To:** Honorable Mayor, Vice Mayor, and Commissioners

**From:** Greg Chavarria, City Manager

**Re:** City Commission Top Priority Infrastructure and Resilience Update –  
December 2022

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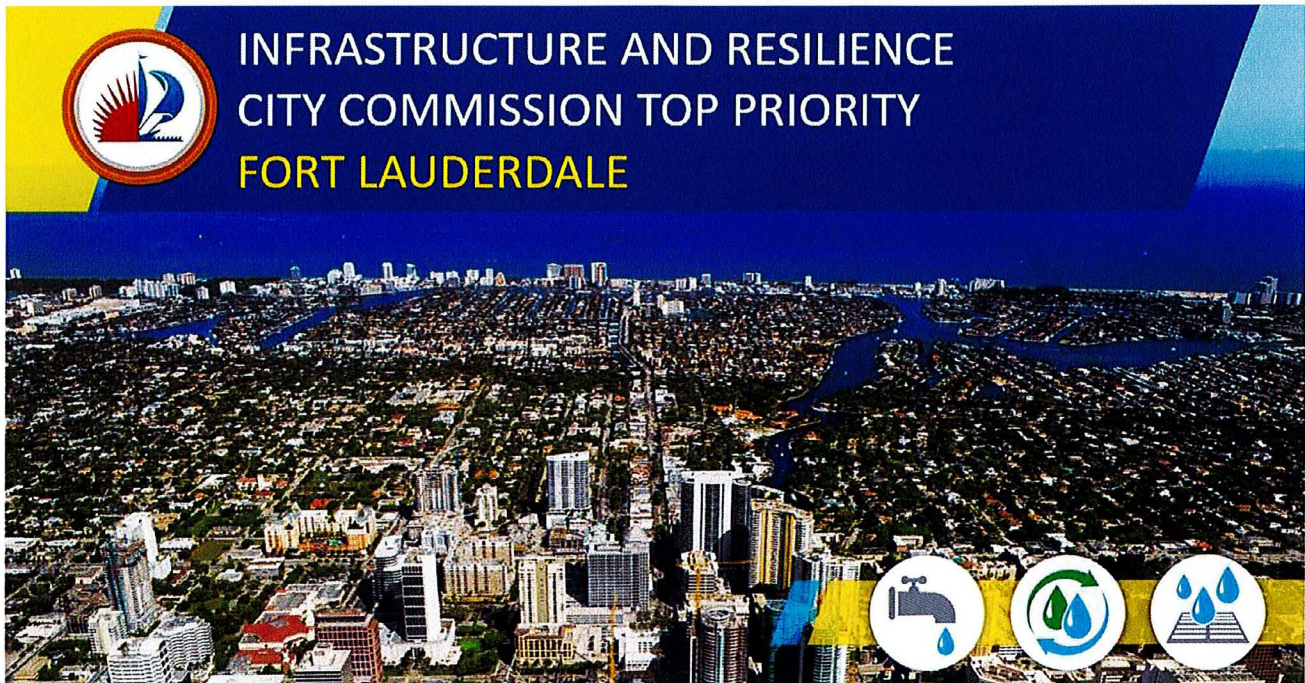
Attached is a copy of the City Commission Top Priority Infrastructure and Resilience Update for the month of December. This document provides insight into the current status and progress of critical and high-profile infrastructure and resilience projects being managed by the Public Works Department.

For further information, please contact Jason Snifeld, Senior Assistant to the Director of Public Works at [jsnifeld@fortlauderdale.gov](mailto:jsnifeld@fortlauderdale.gov).

Attachment:

City Commission Top Priority Infrastructure and Resilience – December 2022

c: Anthony G. Fajardo, Assistant City Manager  
Susan Grant, Assistant City Manager  
D'Wayne M. Spence, Interim City Attorney  
David R. Soloman, City Clerk  
Patrick Reilly, City Auditor  
Department Directors  
CMO Managers



## OVERVIEW

The City Commission identified Infrastructure and Resilience as top priorities in 2021 and 2022, recognizing the need to identify and implement improvements that will address infrastructure needs relating to water, wastewater, stormwater, and Public Right of Way (RoW) in addition to resilience needs relating to extreme weather events, greenhouse gas reduction, and sea level rise. To address the Commission priority on Infrastructure and Resilience, the following improvements were taken to address infrastructure in eight (8) major categories: Water Treatment and Distribution; Wastewater Collection and Treatment; Roadway, Sidewalk, and Bridges; Asset Management; Waterways and Beaches; Stormwater Management; Sea Level Rise Adaptation; and Climate Change Mitigation.

## WATER TREATMENT AND DISTRIBUTION INFRASTRUCTURE

The City provides treatment and distribution of potable water to approximately 186,076 Neighbors, 300,000 visitors, and six (6) neighboring municipalities. Treatment facilities consist of the Fiveash Regional Water Treatment Plant [design capacity of 70 million gallons per day (MGD)] and the Peele Dixie Water Treatment Plant (design capacity of 12 MGD). The distribution system consists of approximately 784 miles of watermains, 37 raw water wells, 6,897 fire hydrants, 64,558 water meters, and 12,197 water valves.

**Prospect Lake Water Treatment Plant:** On March 1, 2022, the City Commission approved Resolution 22-57, proceeding with the unsolicited proposal submitted by RIDGEWOOD and IDE. On May 3, 2022 the Commission approved an Interim Agreement, allowing for investigation and testing of the Prospect Wellfields site. Staff has been working with the Project Company the City's Owner-Representative, Hazen and Sawyer, and external counsel to develop the Comprehensive Agreement and Labor Services Agreement to cover the initial construction and operations during the following 30-year period. On January 10, 2023, the City Commission will hold a

joint workshop with the Infrastructure Task Force (ITF) Advisory Committee to get a better understanding of the legal agreement, financial terms, and associated considerations. The Comprehensive Agreement is tentatively scheduled for consideration at the February 7, 2023 City Commission meeting.

**Water Consent Order Distribution System Mapping (\$8.3M):** The contract has been fully executed and the City has issued both the Purchase Order (PO) and Notice to Proceed (NTP). Water mapping activities began the week of December 5, 2022.

**P12716 Advanced Metering Infrastructure (AMI) (\$30M):** The bidding period for the Request for Proposal (RFP) closed on December 16, 2022 with eight proposals received. Proposals are currently under review with presentations scheduled starting January 11, 2023.

**P10814 Central New River Water Main River Crossings (\$5M):** The contractor has been selected to complete the project's second phase to extend the new water main from Las Olas Boulevard to Broward Boulevard, including connections to the existing water main. The solicitation closed on August 31, 2022 with the evaluation committee making a final recommendation on October 12, 2022. The contract

is expected to be presented for award during the January 10, 2023 Commission Meeting.

**P12485 Fiveash Water Treatment Plant Filters Rehabilitation (\$5.7M):** The contractor has begun rehabilitation of filters 21 and 22, as well as the associated butterfly valves.

**P11589 Fiveash Water Treatment Disinfection Improvements (\$17.4M):** Staff is reviewing the draft bid package for the installation of a new carbon dioxide system and is addressing permit review comments provided by the Florida Department of Environmental Protection (FDEP). Staff is also preparing a bid package for replacement of the existing sluice gates.

### WASTEWATER COLLECTION AND TREATMENT INFRASTRUCTURE

The City is responsible for collecting and treating an average of 38.5 MGD of wastewater at the George T. Lohmeyer (GTL) Regional Wastewater Treatment facility. Through Large User Agreements, the City provides treatment services for Fort Lauderdale, Oakland Park, Wilton Manors, Port Everglades, and parts of Davie and Tamarac.

**P12605 Pump Station A-24 (\$3.6M):** The NTP was issued on December 1, 2022. Staff has reviewed and issued comments on the 90% design and once the consultant incorporates the comments, the permitting process will begin. Construction is expected to begin in summer 2023.

**P11566 Rio Vista Sewer Basin Rehab (I&I) and Pump Station D43 (\$7.8M):** I&I work within Basin D43 is complete and staff is working on final payments and project closeout.

**P11781 GTL WWTP Cryogenic Plant Upgrades (\$19.3M):** The contractor is prepping the roof areas for concrete topping and installing conduits, cable boxes, and panels. Estimated completion date is November 2023.

**P12529 Effluent Pumps Standby Generator & Admin Building Improvements (\$28.3M):** The NTP was issued to the consultant on October 10, 2022 to initiate development of the Design Criteria Package (DCP). Estimated completion date of the DCP is February 2023.

**P12412 Pump Station A-16 Relocation (\$5.3M):** The NTP for design and procurement of the pumps and control equipment was issued to the Contractor on December 1, 2022. Staff is currently awaiting

resolution of the Federal Courthouse project including the exchange agreement, which is under review by the City Attorney's Office before issuing the NTP for construction.

**P12387 Effluent Pipe 54" Force Main Replacement (\$40M):** The draft Interlocal Agreement (ILA) between Broward County and the City was received on December 20, 2022 and is under review by the City Attorney's Office. The ILA requires the City to complete the Consent Order project NLT May 16, 2025. The design-build consultant is currently performing soil borings and survey work to prepare for development of the DCP.

**Wastewater Consent Order:** As of November 28, 2022, 59 of the 78 Amended Consent Order milestones have been achieved. To date, all requirements of the Amended Wastewater Consent Order have been completed and submitted to the FDEP on time or ahead of imposed deadlines. The Asset Management, Capacity Management, Operations and Maintenance (AM\_CMOM) Program, consisting of an additional 45 milestones, is proceeding as scheduled; 19 activities have been completed to date and an additional 17 have been initiated. The remaining nine (9) are in the planning phase.

## ROADWAY, SIDEWALK, AND BRIDGE INFRASTRUCTURE

The City is responsible for maintaining, repairing, and replacing the City's roadways, sidewalks, and bridge infrastructure. This infrastructure consists of 53 bridges, of which one (1) is a pedestrian only bridge, 536 miles of roadways, and 465 miles of sidewalks.

**P12641 Castle Harbor Isle Bridge Design and Replacement (\$2M):** Due to a delay in completing fee negotiation with the consultant, staff now expects to bring the Task Order for the bridge design to Commission for approval on January 24, 2023.

**P12087 South Ocean Drive Bridge Replacement (\$3.2M):** The bid opening was held on July 7, 2022 with two (2) bids received. The lowest bid submitted is more than \$1 million over the original engineering estimate. While staff was working to identify a method to move the project forward, the lowest bidder informed the City it would not be honoring their pricing. Staff will prepare CAM to reject all bids and will work with Procurement to re-issue the solicitation.

**Sidewalk Repairs:** In October 2022, the City replaced 15,686 square feet of damaged sidewalk, eight (8) square feet of brick pavers, five (5) ADA ramps, and four (4) water meter boxes.

**Roadway Repairs:** In October 2022, the City installed 15 speed cushions, replaced three (3) traffic signs, refurbished four (4) speed humps and the striping at four (4) intersections. Additionally, they repaired 20

potholes, two (2) alleyways, one (1) road shoulder, and addressed 24 utilities patches using 84 tons of asphalt and two (2) tons of cold patch.

**Utility Undergrounding:** Since construction began on the Las Olas Undergrounding of Overhead Utilities, crews have completed installation of FP&L, AT&T, and Comcast primary conduits on all isles within the Las Olas Isles Neighborhood. Additionally, secondary conduits have been installed along Isle of Capri Drive, Bontona Avenue, Coconut Isle Drive, Lido Drive, San Marco Drive, Mola Avenue, and Coral Way. The contractor is currently working to install secondary conduit along Royal Plaza Drive and is connecting residential services.

Other communities have expressed interest in participating in the undergrounding program and on May 11, 2022, staff met with the Seven Isles Community Association and on December 1, 2022, staff met with the Riviera Isles Improvement Association to discuss the utility undergrounding process. In addition, recent inquiries have come from both Sunrise Key and Harbor Beach.

## ASSET MANAGEMENT

The City is heavily reliant on utility assets to function effectively as a community. Managing assets so they can provide the expected level of service now and into the future is a core part of the discipline known as asset management. This includes understanding what the City owns, their locations and physical characteristics (composition, length, diameter, age), condition, and level of service to achieve during their life cycle to get the best of the assets for the benefit of the community.

**CITYWORKS:** The Public Works Wastewater and Stormwater Operations Sections continue to expand their user adoption of and proficiency with the Cityworks application. The Cityworks Administration and IT teams are continuing to work on improving system performance and data integrity issues so the system will be capable of handling increased network traffic caused by additional users coming online and using the Cityworks system. The Cityworks Administration team continues to provide direct assistance during this critical transition and adoption

phase to all teams. Additional user workflows and user cases continue to be identified and additional processes are constantly being developed to increase use of the Cityworks software as the City's primary system for managing all assets. Ongoing staff transitions and continued system performance and data integrity issues leaves the go-live for the Public Works Water Utility Operations Section in a hold state until the system performance issues are resolved, and new staff can be hired and deployed to support the go-live efforts.

## BEACH RESILIENCE

The City of Fort Lauderdale has more than seven (7) miles of beaches that offer residents and visitors premier opportunities for recreation, relaxation, and enjoyment. The beach is a critical tourist attraction and economic driver. In addition, our sandy shores are designated by the Clean Beaches Council as Blue Wave Beaches, meeting 22 specific criteria, including passing a monthly water quality test, having emergency care nearby, and environment preservation. The beach itself acts as a protective barrier to tropical storm impacts from storm surge and wave action. Beach nourishment and dune management are two (2) activities which provide for greater resiliency of our beaches.

## STORMWATER INFRASTRUCTURE

In January 2018, the City finalized the Stormwater Master Plan to install drainage improvements in seven (7) flood vulnerable neighborhoods. \$70 million has already been allocated to initiate comprehensive drainage improvements in two (2) of these neighborhoods: the Edgewood, and River Oaks neighborhoods. In 2019, the City added the Melrose Manors neighborhood for prioritization of stormwater infrastructure within the Stormwater Master Plan.

**Stormwater Bond:** To support the City's stormwater management program, on May 3, 2022, the City Commission adopted a resolution declaring the official intent of the City of Fort Lauderdale to reimburse itself from bond proceeds not to exceed \$200 million for funds advanced by the City for certain capital expenditures for stormwater improvement expenses incurred with respect to the acquisition, construction, development, extension, enlargement, improvement, renovation, equipping, and furnishing of stormwater improvements. On November 30, 2022 a bond validation hearing was held and at this time the City is in a 30-day appeal period. If no appeals are filed within the 30-day period, the methodology for financing the bonds will be validated and City Staff can begin working with bond counsel to issue the sale bonds

**P11868 River Oaks Neighborhood Stormwater Improvements (\$34.5M):** The River Oaks Neighborhood Stormwater Improvements project began construction at the start of January 2022. Phase I and Phase II of the project continue with over 9,000 feet of reinforced concrete storm drainage pipe and 114 drainage related structures installed. Phase IV of the project continues with over 21,000 square yards of swale reconstructed and over 25,000 square yards of pavement milled and resurfaced. The

contractor is continuing work within River Oaks Preserve near Interstate 95, SW 18<sup>th</sup> Terrace, SW 19<sup>th</sup> Street, SW 22<sup>nd</sup> Street, SW 23<sup>rd</sup> Court, and SW 24<sup>th</sup> Street. This project is on time and budget, with a completion date projected for January 2025.

**P11842 Edgewood Neighborhood Stormwater Improvements (\$18.8M):** Construction activities for the stormwater improvements project commenced on January 3, 2022. The project is progressing well and is currently ahead of schedule. To date, over 260 structures and more than 24,000 linear feet of drainage pipe have been installed as a part of Phase I, Phase II, Phase III, and Phase V. 40 of the structures and 4,000 linear feet of the drainage pipe were completed over the last month. Phases IV is on-going and final restoration will take place at the end of the project. This project is ahead of schedule and expected to be completed by September of 2024.

**P12719 Melrose Manors Neighborhood Stormwater Improvements (\$3M):** Staff has finalized the scope and fee for the first design task order for data collection and modeling and our currently negotiating subconsultant wages and service rates. Once negotiations are finalized, the first task order will be routed for approval.

## SEA LEVEL RISE ADAPTATION

In May 2020, the City Commission adopted Southeast Regional Climate Change Compact 2019 unified sea level rise projection for the region. From the 2000 baseline, 10-17 inches of sea level rise is possible by the year 2040 and 21-64 inches are possible by 2070, the 50-year planning horizon for most infrastructure installed today. Adaptation measures to address the impact of rising seas and related climate impacts are ongoing. We are planning to update the City's vulnerability study to better understand the impacts of sea level rise on our community. Seawall improvements identified in the City's Seawall Master Plan are discussed here and will reduce the impacts of tidal flooding on adjacent City roadways. The City is also exploring the issue of road elevation to understand which street segments are vulnerable to future flooding and policy implications of City investments in this adaptation strategy.

**Vulnerability Study:** In early May, the Governor announced the City of Fort Lauderdale would be the recipient of a \$135,000 grant as part of the Resilient Florida Program. The City plans to use this grant to perform a vulnerability assessment related to sea level rise. This assessment will look at sea level rise scenarios and identify critical assets impacted. Staff has finalized the grant agreement with the State and will bring the final agreement before Commission for approval in January 2023.

**P12330 Seawall Replacement Program:** Contingent upon funding, the City plans to replace seawalls at the following locations in Fiscal Year 2023: four (4) Las Olas seawalls, two (2) Hendricks Isle seawalls, and the SE 10<sup>th</sup> Street seawall. The contract for the Las Olas seawalls and SE 10<sup>th</sup> Street seawall has been executed and staff is awaiting issuance of the Purchase Orders. Construction activities for the seawalls not yet under construction are expected to begin in January 2023.

**P12695 Hendricks Isle Seawalls Replacement Project (\$2M):** The contractor completed installation of the new concrete cap along the first seawall and the associated catch basin. Contractor has also completed one (1) of the two (2) catch basins and has installed sheet-piles for the second seawall. Construction activities began on August 15, 2022 and are expected to be completed in February 2023.

**Adopting a Tidal Barrier Ordinance:** Fort Lauderdale was among the first municipalities to adopt a minimum elevation for seawalls. Broward County built upon that ordinance in the creation of a template Tidal Barrier Ordinance which sets regionally-consistent minimum elevation for new seawalls at five (5) feet NAVD88, mandating all tidally-influenced cities adopt a compliant ordinance. The City drafted an ordinance which has been reviewed by Broward County and found to be substantially in

compliance with the County model ordinance. The Marine Advisory Board was briefed on the changes on September 1, 2022 and offered their support. The presentation was provided to the Planning and Zoning Board (PZB) on September 21, 2022 for their concurrence that the ordinance was consistent with the Comprehensive Plan. PZB rejected the ordinance stating not enough public feedback was sought and they needed feedback from experts on sea level rise. Staff presented the draft ordinance to the Council of Fort Lauderdale Civic Associations on October 11, 2022 and received support for the ordinance modification from the Sustainability Advisory Board (Board charged with advising Commission on sea level rise) on October 24, 2022. Lauderdale Isles Civic Association received a presentation on the proposed ordinance on November 17, 2022. The PZB reconsidered the item on November 16, 2022 and without discussion, voted against finding it consistent with the Comprehensive Plan. The board of the Council of Fort Lauderdale Civic Associations received a second presentation on November 28, 2022 and voted to support a motion to move the ordinance forward. Staff intends to bring the ordinance before Commission for consideration in January 2023.

**Road Elevation Policy:** As sea level rises and seasonal tidal flooding increases, low lying roads are becoming inundated at an increasing frequency. Some property owners are looking to the City to elevate the roadways to alleviate tidal flooding and improve access to their homes. During the May 3, 2022 Commission Conference Meeting, staff presented options to the City Commission for roadway elevation policies that would provide criteria for prioritizing roadways to be elevated, determining the appropriate final elevation of the road surface, assigning responsibilities for harmonizing the roadway with private property, and exploring financial responsibility and cost. The Commission

requested staff bring them solutions. Additional information on roads at risk of flooding will be generated as part of the vulnerability study.

## RECENTLY COMPLETED PROJECTS

### WATER TREATMENT AND DISTRIBUTION INFRASTRUCTURE

**P11080 Port Condo Large Watermain Improvements** (\$1,116,358) Replaced 1,300 linear feet of existing 6" small watermains with new 12" large watermains. Completed July 14, 2022.

**P10850 Victoria Park A – North Small Watermain Improvements** (\$6,012,774) Replaced 26,500 linear feet of existing undersized and deteriorated small watermains with new 6" and 8" polyvinyl chloride pipe watermains with improved fire hydrant coverage. Completed April 1, 2022.

**P11901 Victoria Park B – South Small Watermain Improvements** (\$7,988,537) Replaced 29,000 linear feet of existing undersized and deteriorated small watermains with new 6" and 8" polyvinyl chloride

pipe watermains with improved fire hydrant coverage. Completed April 1, 2022.

**P12463 Coral Shores Small Watermain Improvements** (\$1,471,051) Replaced 6,200 linear feet of existing undersized and deteriorated small watermains with new 6" watermains. Completed February 4, 2022.

**P12527 Conversion of Back Wash Pump** (\$240,855) Converted the existing Back Wash Pump #2 at the Fiveash Water Treatment Plant from 4160V to 480 to improve facility safety and reliability. Completed June 1, 2022.

### WASTEWATER COLLECTION AND TREATMENT INFRASTRUCTURE

**P12567 Pump Station B-4 (South Redundant Sewer Force Main)** (\$2,628,197) Replaced Pump Station B-4 and associated pipe as part of the South Redundant Sewer Force Main Project. Completed June 3, 2022.

**P12572 Rio Vista Tarpon River Subaqueous Redundant Force Main** (\$4,933,768) Installed 2,400 linear feet of 48" sewer force main with required 48", 36", and 6" interconnections. Completed November 16, 2021.

**P12389 18 Inch Force Main Replacement Across the New River from NE 9<sup>th</sup> St to Birch Road** (\$2,232,074) Replaced 1,000 linear feet of deteriorated 18" diameter sewer force main that crosses the North New River from NE 9<sup>th</sup> Street to N Birch Road. Completed November 8, 2021.

**P12348 GTL Effluent Pumps Replacement** (\$2,812,868) Replaced the GTL effluent pumps. Completed April 1, 2022.

**P11882 Pump Station B-22 Replacement** (\$680,000) Replaced the existing lift station with a new duplex submersible station. Completed May 13, 2022.

**P12731 12-Inch Gravity Sewer Repairs on Bayview Drive from 36<sup>th</sup> to 40<sup>th</sup> Street** (\$449,210) Lined the 12" Gravity Sewer and leaking lateral connections on Bayview Drive from 36<sup>th</sup> to 40<sup>th</sup> Street and repaired leaking manholes. Completed July 28, 2022.

**P12415 Pump Station A-7** (\$2,582,888) Rehabilitated and replaced the existing station piping, valves, appurtenances, and wet well with higher capacity models. Completed October 21, 2022.

### ROADWAY, SIDEWALK, AND BRIDGE INFRASTRUCTURE

**P12089 Bridge Replacement at Coconut Isle** (\$2,211,295) Demolished the existing Coconut Isle

Bridge and constructed a new bridge. Completed November 8, 2021.

**P12299 West Lake Drive Bridge Restoration:**  
(\$1,197,584) Rehabilitated the nearly 29 ft. long West

Lake Drive Bridge which was originally built in 1964.  
Completed November 18, 2022.

**STORMWATER INFRASTRUCTURE**

**P12523 1716 SE 7<sup>th</sup> Street Stormwater Improvements** (\$142,318) Installed stormwater infrastructure to alleviate stormwater flooding at 1716 SE 7<sup>th</sup> Street. Completed January 7, 2022.

and 5<sup>th</sup> Avenues adjacent to Fort Lauderdale High School. Completed January 18, 2022.

**P12616 NE 16<sup>th</sup> Street Stormwater Improvements** (\$212,593) Installed stormwater infrastructure to alleviate flooding on NE 16<sup>th</sup> Street between NE 4<sup>th</sup>

**P12613 Downtown Tidal Valves - #1-10** (\$322,184) Installed 10 tidal valves and other stormwater infrastructure to alleviate tidal flooding between SW 12<sup>th</sup> Avenue and SW 7<sup>th</sup> Avenue in downtown Fort Lauderdale. Completed November 16, 2021.