



Memorandum

Memorandum No: 22-112

Date: October 14, 2022

To: Honorable Mayor, Vice Mayor, and Commissioners

From: Greg Chavarria, City Manager

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

Attached is a copy of the City Commission Top Priority Infrastructure and Resilience Update for the month of September. 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, at jsnifeld@fortlauderdale.gov.

Attachments:

- City Commission Top Priority Infrastructure and Resilience – September 2022

c: Anthony G. Fajardo, Assistant City Manager
Susan Grant, Assistant City Manager
Alain E. Boileau, City Attorney
David R. Soloman, City Clerk
Patrick Reilly, Interim 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 seven (7) major categories: Water Treatment and Distribution; Wastewater Collection and Treatment; Roadway, Sidewalk, and Bridge Maintenance and Replacement; Asset Management; Beach Resilience; Stormwater Management; and Sea Level Rise Adaptation.

STRATEGIC PLAN ALIGNMENT

Focus Area: Infrastructure

Goal 1: Build a sustainable and resilient community

Focus Area: Internal Support

Goal 8: Build a leading government organization that manages all resources wisely and sustainably

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.

Water Consent Order Distribution System Mapping (\$8.93M): The City negotiations committee reached agreement with the vendor on the final fee for the project, resulting in a \$8.94 Million price reduction from the original bid, while at the same time preserving the scope of services of the Request for Qualifications (RFQ). Even with the reduced price, the

project is over budget by an estimated \$3 Million. City staff are preparing a Budget Amendment and Commission Agenda Memo (CAM) for City Commission approval during the November 1, 2022 Commission Meeting.

P12716 Advanced Metering Infrastructure (AMI) (\$30M): Finance, Procurement, Budget, Utilities Billing, Utilities Operations, and Information Technology staff are reviewing the AMI specifications final draft. Staff anticipates advertising the Request for Proposal (RFP) by October 31, 2022.

Prospect Lake Clean Water Center: On March 1, 2022, the City Commission approved Resolution 22-57 providing notice of the decision to proceed with the unsolicited proposal submitted by RIDGEWOOD and IDE with Kiewit Water Facilities Florida Co. (KIEWIT) as design-build partner. The Commission approved the Interim Agreement at the May 3, 2022 meeting, with the Comprehensive Agreement tentatively scheduled for completion in October 2022. Staff has been meeting weekly with KIEWIT and Hazen and Sawyer to review deliverables of the P3 agreement. Upon resolution of all key deliverables with IDE, RIDGEWOOD, and KIEWIT, the P3 Comprehensive Agreement will be brought to the Commission for consideration.

P10814 Central New River Water Main River Crossings (\$5M): The evaluation committee has shortlisted three (3) contractors to complete the second phase of this project to extend the new water main from Las Olas Boulevard to Broward Boulevard, including connections to the existing water main. Presentations from the three (3) shortlisted contractors are being scheduled by Procurement.

P12485 Fiveash Water Treatment Plant Filters Rehabilitation (\$5.7M): Submittals have been received from the contractor and are being reviewed by City staff. The site and staging area are now clear for construction. Construction is expected to begin in mid-October 2022.

P11589 Fiveash Water Treatment Disinfection Improvements (\$17.4M): Contractor recently completed approximately \$800,000 in roof repairs and staff is working with the Florida Department of Environmental Protection (FDEP) for permits to install a new carbon dioxide system.

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.

P12415 Pump Station A-7 (\$2.6M): Milling and paving of the roadway and remaining punch list items were scheduled to be completed the last week of September, but were rescheduled due to the impacts of Hurricane Ian and are now expected to be completed in October 2022.

P12605 Pump Station A-24 (\$3.6M): The contract for Design-Build Services was awarded during the September 6, 2022 Commission Meeting. Staff anticipates contract execution and purchase order issuance will be complete by December 2022, with Notice to Proceed (NTP) issued immediately thereafter. 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 90% complete. The contractors have completed all punch list items on existing task orders and staff is working with the contractors to process the closeout documents. Estimated completion date for remaining work is December 2022.

P11781 GTL WWTP Cryogenic Plant Upgrades (\$19.3M): Construction is approximately 58% complete. The contractor recently completed the buildings columns and top beams. Contractor is currently constructing the building's roof, installing concrete blocks for the walls, and constructing electrical duct banks and above ground conduits. Estimated completion date is November 2023.

P12529 Effluent Pumps Standby Generator & Admin Building Improvements (\$28.3M): The task order has been signed by the consultant and City Project Manager and is currently awaiting approval from Procurement. A kick-off meeting to start the development of a Design Criteria Package was held on September 19, 2022. Estimated completion date is February 2024.

Wastewater Consent Order: As of October 1, 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 Florida Department

of Environmental Protection (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; 18 activities have been completed to date and an additional 18 have been initiated. The remaining 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): As a result of the consultant requesting additional time, staff is now expecting to receive an updated Load Rating Analysis the first week of October 2022, following the completion of the emergency repairs. Staff is continuing review of the revised Task Order Proposal and is negotiating fees for design of the bridge replacement.

P12299 West Lake Drive Bridge Restoration (\$1.5M): Emergency repairs of the West Lake Drive Bridge started on April 4, 2022. Contractor has completed installing nine (9) of the 14 reinforced concrete plugs to strengthen the bridges substructure and is currently working on repairing beams on the south side of the bridge. The emergency repairs are expected to be completed in October 2022.

P12087 South Ocean Drive Bridge Replacement (\$3.2M): The bid opening was held on July 7, 2022 and two (2) bids were received. However, the lowest bid submitted is more than \$1 Million over the original engineering estimate. Staff is currently working to identify a method to move the project forward.

Utility Undergrounding: Since construction began on the Las Olas Undergrounding of Overhead Utilities, crews have completed underground directional drilling for the installation of FP&L primary conduits on all isles within the Las Olas Isles Neighborhood. In addition, crews have completed underground directional drilling for the installation of AT&T and

Comcast primary conduit on Lido Drive and have begun drilling on San Marco Drive. Upcoming activities include completing the FP&L secondary conduit work on Isle of Capri Drive and beginning on Bontona Avenue, as well as simultaneously completing the directional bore for AT&T and Comcast secondary conduits on Isle of Capri Drive and Bontona Avenue. Underground directional drilling of individual FP&L, AT&T, and Comcast service conduit has not begun but is scheduled to begin soon.

FP&L handholes, concrete transformer pads, couplings, elbows, pad mounted transformers and other material have been delivered to the contractor. Comcast vaults and concrete pads have also been delivered to the contractor. Contractor is currently coordinating with AT&T for pick-up of handholes and additional primary conduit.

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

Sidewalk Repairs: In August 2022, the City replaced 10,854 square feet of damaged sidewalk, one (1) ADA ramp, and six (6) new water meter boxes.

Roadway Repairs: In August 2022, the City replaced 15 street signs, installed four (4) speed cushions, repaired 32 potholes, and addressed 42 utilities patches, using 129 tons of asphalt.

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 Operations Section continues to expand their user adoption of, and proficiency with, the Cityworks application, with notable increases in use/adaptability from the mechanics team. 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 use 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 performance & 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 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 of 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.

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 6,200 feet of reinforced concrete storm drainage pipe and 79 drainage related structures installed. Phase IV of the project continues with over 19,000 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 18th Street, SW 17th Street, SW 18th Court, SW 19th Street, SW 20th Street and SW 15th Avenue. This project is on time and on 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 200 structures and more than 17,000 linear feet of drainage pipe have been installed as a part of Phase I, Phase II, Phase III, and Phase V. 20 of the structures and 2,000 linear feet of the drainage pipe were completed over the last month. Phases III and V are on-going. Final restoration will take place at the end

of the project. This project is expected to be completed ahead of schedule by September of 2024.

P12719 Melrose Manors Neighborhood Stormwater Improvements (\$3M): The contract to design stormwater improvements for the Melrose Manors

Neighborhood was awarded during the July 5, 2022 City Commission meeting. The contract has been executed and staff has finalized the first task order for data collection and modeling and will begin routing for approval in early October 2022.

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 is working to enter into a funding agreement between the City and State for the vulnerability assessment grant. 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 is working to finalize the grant agreement with the State and bring the final agreement before Commission for approval within the next two (2) months.

P12330 Seawall Replacement Program: The City plans to replace seawalls at the following locations in Fiscal Year 2022: four (4) Las Olas seawalls, two (2) Hendricks Isle seawalls, and the SE 10th Street seawall. The contract for the Las Olas seawalls and SE 10th Street seawall was awarded during the August 16, 2022 Commission Meeting. 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 the sheet-pile installation on the first seawall on September 26, 2022. Over the next two (2) weeks the contractor will begin framing and pouring the new concrete cap along the first seawall and installing 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 the minimum elevation for new seawalls at five (5) feet NAVD88. The City has 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. However, the Planning and Zoning Board rejected the ordinance stating not enough public feedback was sought. Staff will be presenting the ordinance to the Civic Association during their meeting in October to receive additional feedback.

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. 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 9th 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 9th Street to N Birch Road. Completed November 8, 2021.

P12348 GTL Effluent Pumps Replacement (\$2,812,868) Replaced the George T. Lohmeyer (GTL) Treatment Plant's 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 36th to 40th Street (\$449,210) Lined the 12-inch Gravity Sewer and leaking lateral connections on Bayview Drive from 36th to 40th Street and repaired leaking manholes. Completed July 28, 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.

STORMWATER INFRASTRUCTURE

P12524 South Gordon Road Stormwater Improvements (\$266,638) Replaced existing and installed new stormwater infrastructure at 32-101 S Gordon Road. Completed October 21, 2021.

P11419 River Oaks Stormwater Park (\$7,631,234) Constructed a 9.1-acre stormwater park with new berm, water control basins, and underground conveyance system. Completed October 12, 2021.

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

P12616 NE 16TH Street Stormwater Improvements (\$212,593) Installed stormwater infrastructure to

alleviate flooding on NE 16th Street between NE 4th & 5th Avenues adjacent to Fort Lauderdale High School. Completed January 18, 2022.

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

P12617 1801 NE 45th Street Stormwater Improvements (\$130,887) Installed stormwater infrastructure, including tidal valves, to address tidal flooding issues and increase resiliency to sea level rise, and pedestrian and vehicle safety. Completed September 30, 2022.