

Floodplain Management Plan Annual Progress Report

2020

Annual report on evaluating progress toward implementing the Floodplain Management Plan's objectives and/or the recommendations for the City of St. Augustine. The evaluation report must be submitted to the governing body, released to the media, made available to the public and included as part of the community's annual Community Rating System (CRS) recertification.



City of St. Augustine
P.O. Box 210 | St. Augustine, FL | 32085 | (904) 825-1040

Prepared By
Jessica L. Beach, P.E. | Chief Resilience Officer

Approved By
Reuben C. Franklin, Jr., P.E. | Public Works Director

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Appendix A: St. Johns County LMS Inventory of Ranked Projects

Introduction

The St. Johns County Local Mitigation Strategy (LMS) serves as the City's Floodplain Management Plan under the Community Rating System (CRS) of the National Flood Insurance Program (NFIP).

Under CRS Activity 510, the City is required to complete a Floodplain Management Plan Annual Progress Report that includes:

1. A description of how the evaluation report was prepared and how it is submitted to the governing body, released to the media and made available to the public.
2. How the reader can obtain a copy of the original plan or area analysis report.
3. A review of each recommendation or action item in the action plan or area analysis report, including a statement on how much was accomplished during the previous year.
4. A discussion of why any objectives were not reached or why implementation is behind schedule.
5. Recommendations for new projects or revised recommendations.

This document serves as that report. The report was prepared by City staff and will be placed on the May 24, 2021 City Commission Meeting Agenda for review and approval. A hardcopy of the report is available to the public at the Public Works Department and a PDF of the report is available for viewing and/or downloading at the City's website.

Adoption of the LMS

The St. Johns County LMS was adopted by *Resolution No. 2005-14* by the City Commission on July 11, 2005. The LMS is required to be updated every five years. The most recently revised LMS was adopted by *Resolution 2020-17* by the City Commission on May 11, 2020. The updated LMS plan for the next five-year cycle was approved by FEMA on June 8, 2020. The current five-year cycle ends June 1, 2025. A copy of the LMS document is made available at the Northeast Florida Regional Council offices and the St. Johns County Emergency Management office and website.

Purpose and Goals of the LMS

The purpose of the LMS is to provide guidance to the County and municipal governments in building a safer and more resilient community by identifying and dealing with hazards and hazard management problems, including flooding, in the St. Johns County area. The following goals are provided in ranked order, where the first goal is paramount:

1. Protect the lives of the residents of St. Johns County and its Municipalities.
2. Protect property to ensure that its intrinsic value is preserved.
3. Protect infrastructure so that it is available during and after a disaster.
4. Protect business activities so that they continue to provide economic strength to the community.
5. Protect the environment to ensure that quality of life and economic wellbeing are preserved.

These goals are used as part of the project prioritization methodology. Projects recommended by this Strategy must first meet one of the goals to be considered, then will receive points based on which goals they will routinely further.

LMS Task Force

A task force has been established to review and make recommendations concerning the LMS. The task force consists of representatives of the City of St. Augustine's Public Works, Planning & Building and Fire Departments, other local municipalities, local organizations and County departments, and is coordinated by staff of the St. Johns County Emergency Management Division. The task force meets on a quarterly basis and is responsible for developing and implementing new mitigation initiatives. The task force also looks for possible federal and/or state funding (i.e. Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance (FMA), etc.) to implement the mitigation initiatives.

St. Johns County LMS Inventory of Ranked Projects

The LMS task force has established a list of ranked projects or mitigation initiatives that are given priority based on the goals stated above. The list contains projects that are eligible for HMGP, FMA and other federal and state funding. The majority of the projects focus on the mitigation of known or potential flood hazards. Specifically, the City of St. Augustine is involved with the following mitigation initiatives:

- 1) Adapting to Sea Level Rise: Planning Process Development
 - a) Project Status – Completed. Two reports were released in 2017, (1) Florida Community Resiliency Initiative Pilot Project: Adaptation Plan for St. Augustine, and (2) Coastal Vulnerability Assessment: City of St. Augustine. Another will be completed in 2021, "Vulnerability Assessment of Onsite Treatment and Disposal Systems (OSTDS or septic systems) to Sea Level Rise and Storm Surge to Develop Adaptation Plans in St. Augustine"

- 2) Flood Mitigation on King Street
 - a) Project Status (FDOT) – Started. Phase 2 design from Malaga Street to Avenida Menendez is at 60%. The Florida Department of Transportation (FDOT) is reconstructing King Street to improve drainage. The project is currently in the design phase and intends to fund the project for construction in 2022-2023.
- 3) Drainage Improvements at Oyster Creek Basin Project Status – Started. This includes 2 pilot projects in the Stormwater Master Plan (Sidney Street Drainage Improvements and South Dixie Highway Improvements) and the South Whitney/West King Flood Mitigation project.
 - a) The Sidney Street Drainage project was completed in 2016-2017.
 - b) The South Dixie Highway Improvements project is described under the next item number.
 - c) Flood Mitigation on South Whitney and West King Street project is ongoing. It is currently funded through FEMA’s Hazard Mitigation Grant Program (HMGP). Phase 1 design is completed. Phase 2 for construction is pending approval by FEMA. If approved by FEMA, the project construction would be approximately 1 year.
 - d) Additional projects are being identified in this basin.
- 4) South Dixie Highway Improvements – Construction of a new storm sewer collection system, road base, traffic lanes including bike lanes, sidewalks and replacement of the existing box culvert. This will involve the segment of road between King Street and State Road 207.
 - a) Project Status – Started. Preliminary engineering evaluation study has been completed. The box culvert replacement (Phase 1) was completed in 2018 (see next bullet). The second phase (roadway design and construction) is contingent upon additional funding (State and/or Federal) that can be secured.
 - b) So. Dixie Box Culvert Replacement (Phase 1) – completed. Due to deterioration of the box culvert and damage associated with Hurricane’s Matthew and Irma, design and construction of the box culvert was completed in 2018 and partially funded through the St. Johns River Water Management District’s cost share program.
- 5) Lake Maria Sanchez Flood Mitigation and Drainage Improvements – will serve 200 acres of the City’s downtown core.
 - a) Project Status – Started. FEMA HMGP grant funding was awarded in 2018. Design and permitting for Phase 1 is currently underway and expected to be completed in 2021. Phase 2 construction will be determined by FEMA. If approved by FEMA, the project construction would be approximately 2 years.
- 6) May Street Drainage Improvements
 - a) Project Status (FDOT) – Started. Construction for the drainage improvements is scheduled to be completed in 2021.
- 7) Avenida Menendez Outfall Improvements – Retrofit storm sewer outfalls between the Bridge of Lions and the Fort with backflow valves to prevent tidal influence by the Matanzas River.

- a) Project Status (FDOT) – completed. This project was part of the FDOT re-surfacing project for San Marco completed in 2019.
- 8) North and South Davis Shores Outfall Improvements - Retrofit storm sewer outfalls in the neighborhoods with backflow valves to prevent tidal influence by the Matanzas River and Salt Run.
 - a) Project Status – Completed. The City retrofitted and installed a total of 30 tide check valves into existing stormwater outfall pipes. A majority of the retrofits were grant funded as part of a cost share program with the St. Johns River Water Management District and the Florida Department of Environmental Protection’s (FDEP) Florida Resilient Coastlines Program.
- 9) Macaris Stormwater Outfall Resiliency Retrofit – Retrofit two (2) storm sewer outfalls in this neighborhood with backflow valves to prevent tidal influence.
 - a) Project Status – completed. This included the installation of two tide check valves in the storm sewer outfall. One of the outfalls is the largest in the City at 66-inches in diameter. Project was completed in 2019 as part of a cost share project with the St. Johns River Water Management District.
- 10) Drainage Improvements by Retrofitting Stormwater Outfalls Citywide – The City currently has over 100 stormwater outfalls that are being targeted for retrofitting with backflow valves to prevent tidal influence.
 - a) Project Status – in progress. The City currently has a total of 43 stormwater outfalls that have been retrofitted with tide check valves. Concurrent with these efforts, the City has a Stormwater Outfall Resiliency Retrofit Master Plan in development that will be completed in 2021. This will prioritize the remaining outfalls within the City.
- 11) Flood Mitigation at Avenida Menendez Seawall Connectivity Project – Reinforce and elevate approximately 240 linear feet of the south section of the seawall to match higher existing seawall elevations of 7 feet NAVD88.
 - a) Project Status – started. This project was awarded a contract by the State to initiate Phase 1 design in 2020. This will be funded through FEMA’s Hazard Mitigation Grant Program (HMGP). Phase 1 design is expected to be completed in 2021. Phase 2 construction will be determined by FEMA. If approved by FEMA, the project construction would be approximately 2 years.
- 12) Wastewater Treatment Plant Flood Proofing – Install dry and wet flood proofing methods at the wastewater treatment plant to provide protection during storm surge events.
 - a) Project status – completed. Efforts are completed to provide dry and wet flood proofing of critical equipment and/or processes up to elevation 12 feet NAVD88. This was completed in 2020.
- 13) City of St. Augustine Stormwater Master Plan

- a) Project Status – Completed. The City’s stormwater master plan from 1995 was updated in 2012. Three pilot projects were identified as part of the plan, which includes:
 - i) Sidney Street Pilot Project is completed.
 - ii) South Dixie Pilot Project has started. Phase 1 is the box culvert replacement which is completed. Phase 2 involves completing the design and then construction which is contingent upon additional funding (State and/or Federal) that can be secured.
 - iii) Lake Maria Sanchez project is in progress.
 - b) The Master Plan is available for download on the City’s website. The City intends to expand upon the current master plan through a future update. The update will take into consideration results from the Coastal Vulnerability Assessment and Strategic Adaptation Plan. The plan will also take into consideration factors such as: changes in climatic patterns, ground water levels, rainfall, sea level rise projections, water quality, salt water intrusion, storm surge, land use, resilient natural and built coastal features and infrastructure, current and future regulatory environments, desired levels of service. The City intends to initiate the process for updating the stormwater master plan in 2022.
- 14) Expand/enhance/improve utilities – various projects were identified to address aging utility infrastructure to make it more resilient. A status update for each project is listed below:
- a) Flood Mitigation Improvements to St. Augustine Sanitary Sewer Pumping Stations – started. This project is also known as the FEMA 13 Sanitary Sewer Lift (or Pump) Stations. This project includes the design and rehabilitation, hardening and/or floodproofing of 13 sanitary sewer lift (or pump) stations that were damaged in Hurricane Matthew. This is being funded through FEMA’s Public Assistance program. Design is complete. Construction is scheduled to begin in 2021 for approximately 2 years.
 - b) Cured-In-Place-Pipe Lining of Sanitary Sewer Laterals – started. This project is now part of the City’s Capital Improvement Program (CIP) to address Infiltration and Inflow (I&I). Each year funding is allocated to inspect and rehabilitate this infrastructure. This will be an on-going program budgeted each year in the City’s CIP.
 - c) Cured-In-Place-Pipe lining of Sanitary Sewer Gravity Mains – started. This project is now part of the City’s Capital Improvement Program (CIP) to address Infiltration and Inflow (I&I). Each year funding is allocated to inspect and rehabilitate this infrastructure. This will be an on-going program budgeted each year in the City’s CIP.
 - d) Manhole Lid Inserts - Reduction of Infiltration & Inflow to the City’s Sanitary Sewer System – started. This project is now part of the City’s Capital Improvement Program (CIP) to address Infiltration and Inflow (I&I). Each year funding is allocated to inspect and rehabilitate this infrastructure. This will be an on-going program budgeted each year in the City’s CIP.
 - e) Rehabilitation of existing sewer system in Oyster Creek – completed. This project was completed as part of the South Dixie Highway Box Culvert Replacement (Phase 1) project.

- f) Seal and Coat Sanitary Sewer Manholes to prevent groundwater infiltration – started. This project is now part of the City’s Capital Improvement Program (CIP) to address Infiltration and Inflow (I&I). Each year funding is allocated to inspect and rehabilitate this infrastructure. This will be an on-going program budgeted each year in the City’s CIP.

The entire St. Johns County LMS Inventory of Ranked Projects can be found in **Appendix A**.

CRS Program Participation

The CRS provides a flood insurance discount incentive to the City for undertaking flood protection measures beyond the minimum requirements of the NFIP. In 2019 the City’s Community Rating System (CRS) was increased from a Class 7 rating to a Class 5 rating, resulting in up to a 25% discount in flood insurance premium. The program’s goal is to create an overall comprehensive outreach strategy focused on flood information that encourages flood protection and raises awareness of the City’s unique environment.

The following table lists all of the CRS activities that the City is credited under the current certification:

CRS Activity No.	Activity Description	Departments
310	Elevation Certificates	Planning & Building
320	Map Information Service	Planning & Building
330	Outreach Projects	City/Local Representatives
350	Flood Protection Information	Planning & Building
420	Open Space Preservation	Planning & Building
430	Higher Regulatory Standards	Planning & Building/ Public Works
450	Stormwater Management	Public Works
502	Repetitive Loss Category	Planning & Building
510	Floodplain Management Planning	St. Johns County/ Planning & Building/ Public Works/Fire
540	Drainage System Maintenance	Public Works
610	Flood Warning Program	St. Johns County/ Fire

Certified Floodplain Manager Program

The Association of State Floodplain Managers (ASFPM) has established a national program for professional certification of floodplain managers. The program recognizes continuing education and professional development that enhances the knowledge and performance of local, state, federal and private-sector floodplain managers. There is currently one (1) member of City staff that have achieved the status of Certified Floodplain Manager (CFM), which reflects the City's commitment to professional services in implementing the City's Floodplain Management Plan.

Ordinance Revisions Improve Building Resiliency

In 2017, the City adopted higher standards for development that will provide greater flood protection. Ordinances 2017-08 and 2017-09 adopted new standards that are in keeping with the updated Florida Building Code, effective December 31, 2017. The ordinance requires additional freeboard for finished floors above the base flood elevation and engineered and sealed foundation plans designed to resist flood loads. With the adoption of these new ordinances the city has improved its resiliency against flood damages.

Stormwater Master Plan

The City completed Phase 1 of the Stormwater Master Plan in 2012. The master plan proposes solutions to three large projects and smaller neighborhood projects that experience flooding and other stormwater issues. A hard copy is available to view at the City's Public Works Department and an electronic copy of the master plan is available for download at the City's website. Sidney Street, one of the master plan pilot projects, is completed. The other two pilot projects identified, South Dixie Highway and Lake Maria Sanchez, are under way. The City intends to expand upon the current master plan through a future update. The update will take into consideration results from the Coastal Vulnerability Assessment and Strategic Adaptation Plan. The plan will also take into consideration factors such as: changes in climatic patterns, ground water levels, rainfall, sea level rise projections, water quality, salt water intrusion, storm surge, land use, resilient natural and built coastal features and infrastructure, current and future regulatory environments, desired levels of service. The City intends to initiate the process for updating the stormwater master plan in 2022.

Adapting to Sea Level Rise (SLR)

The City is keenly aware of the challenges posed by climate change and as a low-lying coastal community especially sensitive to the effects of future sea level rise. The Florida Department of

Economic Opportunity (DEO) Community Resiliency Initiative selected the City of St. Augustine to participate as one of three pilot communities to study the city’s vulnerability to coastal flooding and to assist the city in identifying steps that can be taken to help the city adapt to those vulnerabilities. The project began in 2016 with a series of meetings and workshops with the DEO consultant, Dewberry. With a majority of the city being located in a flood plain, the city is proactively identifying areas of risks, as presented in the two papers that were published in 2017, (1) Florida Community Resiliency Initiative Pilot Project: Adaptation Plan for St. Augustine, and (2) Coastal Vulnerability Assessment: City of St. Augustine. Additionally, a grant funded study through FDEP’s Florida Resilient Coastlines Program to conduct a “Vulnerability Assessment of Onsite Treatment and Disposal Systems (OSTDS or septic systems) to Sea Level Rise and Storm Surge to Develop Adaptation Plans in St. Augustine” will be completed in 2021. Given the vulnerability of the City with respect to sea level rise and changing coastal conditions, it is expected that projects to protect and maintain infrastructure subject to adverse conditions created by SLR to be very costly and will require the assistance of state and federal programs to provide supplemental funding to implement.

Capital Improvement Projects

The City of St. Augustine has also undertaken Capital Improvement Projects (CIPs) included in and also outside of the LMS that provide stormwater improvements in the form of water quality treatment and localized flood reduction. The following is a list of CIPs that the City is currently working on:

- Downtown Improvements District – Phase 1 (Hypolita, Treasury & Spanish).
 - Project Status – Completed in February 2015.
- Downtown Improvements District – Phase 2 (Spanish, Cuna and Tolomato).
 - Project status – Started. The project is currently under design, estimated to complete design in 2021.
- South Dixie Highway Corridor Improvements
 - Project Status – Preliminary evaluation complete. Box culvert replacement was completed in 2018. The roadway design and associated construction is contingent upon additional funding (State and/or Federal) that can be secured.
- Sidney Street Stormwater Improvements
 - Project Status – Completed in 2016.
- Lake Maria Sanchez Flood Mitigation and Drainage Improvement Project
 - Project Status – Started. FEMA HMGP grant funding awarded in 2018. Design for Phase 1 is underway, expected to be completed in 2021. Phase 2 construction will be contingent upon FEMA approval. If approved, it would be approximately 2 years. Project also identified as a CIP in the Master Stormwater Plan.
- Coquina Ditch Drainage Improvements
 - Project Status – Completed in 2016.
- Lincolnville Storm Sewer and Collection Expansion
 - Project Status – Phase 1 (Duero Street) completed in 2019. Phase 2 (South and DeHaven Streets) construction completed in 2020. Phase 3 (Duero and Cerro) is expected to complete design in 2021.
- Hermosa Outfall Study
 - Project Status – Study completed.
- Isla Drive Drainage Improvements
 - Project Status – Completed in 2016.
- Prawn Street Drainage Improvements
 - Project Status – Under construction, scheduled to be completed 2021.
- Court Theophelia/Edna Neighborhood Drainage Improvements
 - Project Status – Project area will be evaluated as part of the Stormwater Master Plan Update in 2022.

- Atlantic/Fern/Althea/Seminole Neighborhood Drainage Improvements
 - Project Status – Project area will be evaluated as part of the Stormwater Master Plan Update in 2022.
- Outfall Backflow Prevention
 - Project Status – Started. A total of 43 valves have been installed city wide. The City is also developing a Master Stormwater Outfall Retrofit Plan for the remaining stormwater outfalls, which will be completed in 2021. The City will continue retrofitting outfalls based on the Master Plan as funds become available.
- South Whitney and West King Flood Mitigation
 - Project Status – Started. FEMA HMGP grant funding awarded in 2018. Design and permitting for Phase 1 was completed in 2020. Phase 2 for construction is currently under review by FEMA and contingent upon FEMA approval.
- Coquina Park
 - Project Status – completed. The City purchased property in South Davis Shores in 2019 to serve as a park and flood protection project. The construction for the project was completed in 2020.
- Sevilla Street Brick, Roadway and Utility Improvements
 - Project Status – started. This project will include the complete rehabilitation of the existing utilities (water, sewer), stormwater improvements, brick and roadway reconstruction. Design for this project is underway and expected to be completed in 2021.
- West Augustine Conversion of Septic to Sewer
 - Project status – started. The City has completed West 5th Street Sewer Extension (Phase 1). This was a state grant (FDEP) funded project that installed new gravity sewer (mains, manholes and services) on West 5th Street between Duval and Nassau Streets and connected area residents to the new sewer system. A total of 12 existing septic systems were abandoned. Phase 2 is in progress and scheduled to complete construction in 2021 to abandon an additional 13 septic systems and connections. Previous septic to sewer connections were completed by the City for a total of 57 existing septic systems abandoned and connecting those residents to the existing sewer system. Future areas are being evaluated to determine feasibility of connections. This will be accomplished through the development of the West Augustine Sewer Master Plan. Initial scope development for the master plan is scheduled to begin in 2021.

Drainage System Maintenance

The City utilizes detailed inspection and maintenance forms for storm drains, manholes and outfalls as a supplemental report to support the *Drainage Structure Inspection and Maintenance Program* document that is currently on record with the CRS and used by the CRS to rate the City's drainage system. The forms were designed to collect more detailed information during the routine inspections and maintenance of the existing drainage system. In addition, the City now has a dedicated stormwater maintenance crew that conducts the inspection and maintenance for the entire City's stormwater system. This includes the cleaning of thirteen (13) stormwater vaults located throughout the City that capture sediment and pollutants preventing them from reaching receiving waterbodies.

Conclusion

In 2020, the City of St. Augustine has implemented its Floodplain Management Plan through participation in the St. Johns County LMS as an active task force member and by continuing to meet the requirements of the CRS for all of the activities listed in this report. In addition to the above, the City has also pursued and implemented CIPs that provide quality stormwater improvements for its citizens.

Recommendation

The City will remain an active member of the LMS task force and continue to pursue federal and/or state funding for future flood mitigation projects. CIPs identified in the Stormwater Master Plan Update will follow the scheduled implementation proposed in the plan. The City will also pursue backflow improvements for the major stormwater outfalls and implement smaller neighborhood projects to address local/nuisance flooding issues reported by residents. In the long term, the City must plan for and create adaptive management policies and strategies for sea level rise including seeking assistance from state and federal programs.

APPENDIX A