RESOLUTION NO. 71-10-20

A RESOLUTION OF THE TOWN COMMISSION OF THE TOWN OF LAKE PARK, FLORIDA, TO AUTHORIZE THE TOWN MANAGER TO SIGN A WORK AUTHORIZATION FOR WATER RESOURCES MANAGEMENT, INC. (WRMA) TO ASSESS AND ANALYZE THE FAILING 72-INCH SOUTHERN OUTFALL PIPE AND DESIGN A PLAN TO REPLACE IT.

WHEREAS, the Town of Lake Park ("Town") is a municipal corporation of the State of Florida with such power and authority as has been conferred upon it by the Florida Constitution and Chapter 166, Florida Statutes; and

WHEREAS, the Town desires to implement strategies that will improve the quality of life for residents and visitors in the community; and

WHEREAS, The Town of Lake Park seeks to develop a scope of work to design a replacement for the existing 72-inch Corrugated Aluminum Pipe (CAP) Southern Outfall pipe, which is approximately 50 years old and failing; and

WHEREAS, it is necessary for the Town to create a work authorization for WRMA to undertake the activities necessary to design the required scope of work.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COMMISSION OF THE TOWN OF LAKE PARK, FLORIDA:

SECTION 1. The foregoing recitals are incorporated herein.

SECTION 2. The Town Commission hereby authorizes and directs the Town Manager to sign the work authorization for WRMA to perform the required assessment and analysis and create the required replacement plan.

SECTION 3. This Resolution shall take effect immediately upon its adoption.

The foregoing Resolution was offered by Vice-Mayor Glas-Castro, who moved its adoption. The motion was seconded by Commissioner Michaud and upon being put to a roll call vote, the vote was as follows:

	AYE	NAY
MAYOR MICHAEL O'ROURKE	/	
VICE-MAYOR KIMBERLY GLAS-CASTRO	/	
COMMISSIONER ERIN FLAHERTY	/	
COMMISSIONER JOHN LINDEN	/	
COMMISSIONER ROGER MICHAUD	/	

The Town Commission thereupon declared the foregoing Resolution No. 71-10-20 duly passed and adopted this 7 day of October, 2020.

TOWN OF LAKE PARK, FLORIDA

BY: _____
MICHAEL O'ROURKE
MAYOR

ATTEST:

_____
VIVIAN MENDEZ
TOWN CLERK

Approved as to form and legal sufficiency:

BY: _____
THOMAS J. BAIRD
TOWN ATTORNEY

TOWN OF LAKE PARK SEAL FLORIDA
(TOWN SEAL)

PROPOSED SCOPE OF SERVICES
FOR TOWN OF LAKE PARK
SOUTHERN OUTFALL REPLACEMENT & GREEN INFRASTRUCTURE PROJECT

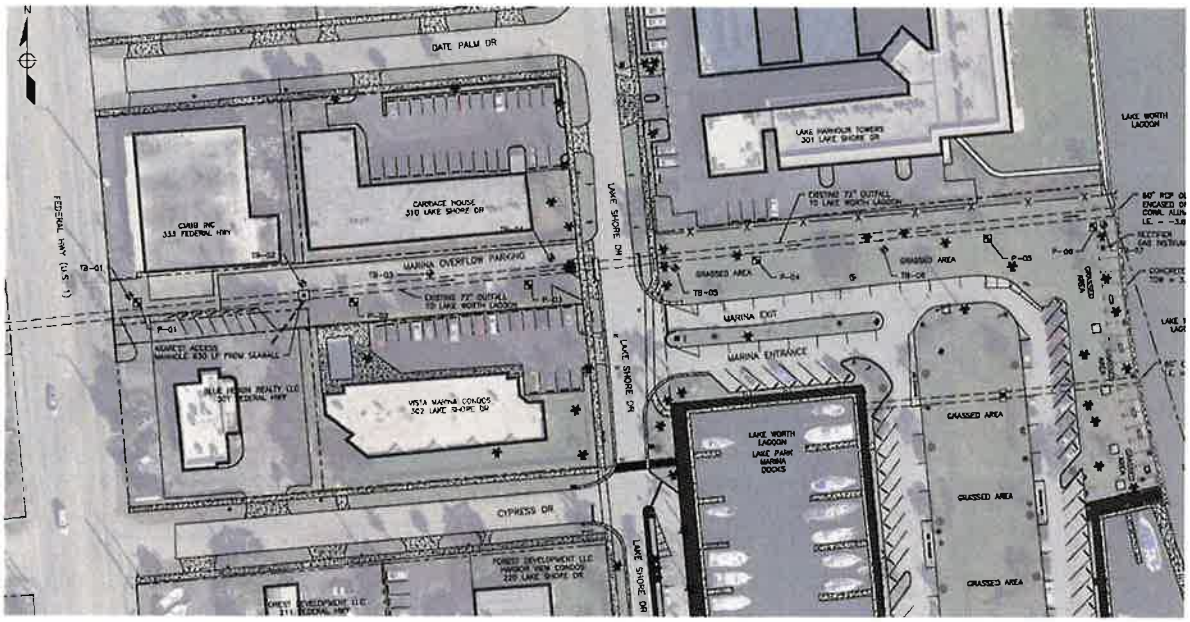
PART 1.0 PROJECT OVERVIEW

Background

The Town of Lake Park seeks to develop a scope of work to design a replacement of the existing 72-in Corrugated Aluminum Stormwater Outfall pipe, located near the Southern Boundary of the Town of Lake Park, between Federal Hwy (U.S. 1) and the Lake Worth Lagoon at the Lake Park Marina.

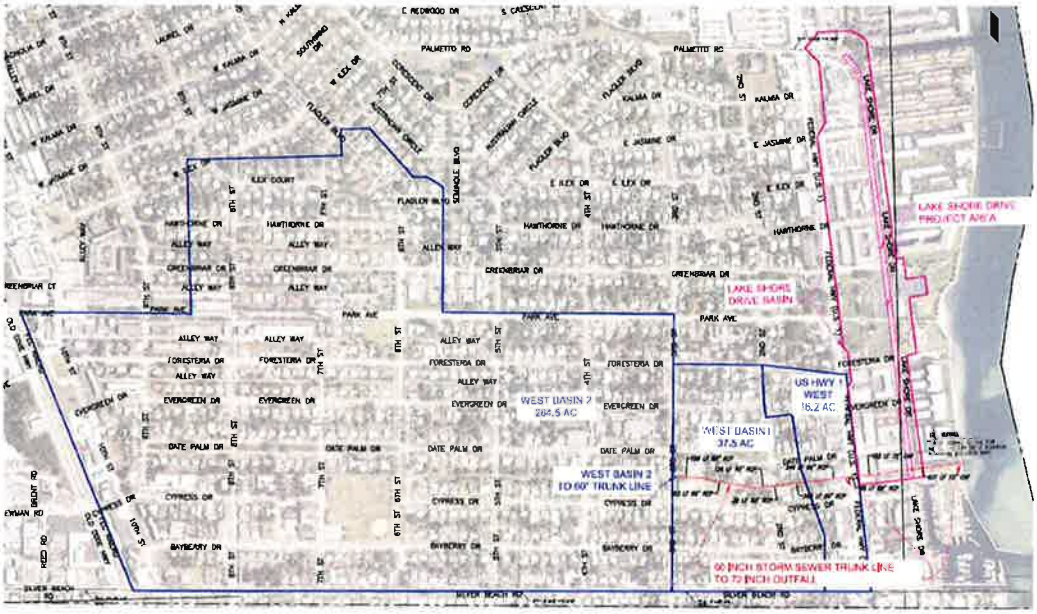
WRMA has previously performed a CCTV investigation and condition assessment of the southern outfall pipe which was is known to have been constructed in late 1971 (approx. 50 years old). Previous point repairs to the outfall have also been performed.

The existing 72-in CAP outfall pipe is a major outfall of the Town's drainage collection system, and provides conveyance of substantial discharges of stormwater runoff collected from a large drainage area on the western half of the Town, as well as a significant portion of drainage from Federal Hwy (U.S. 1) within the FDOT Right of Way, in the Town of Lake Park.



Southern Outfall Project Site

Currently stormwater runoff collected from a large drainage area west of U.S. 1, as well as a significant volume of runoff from U.S. 1, are discharged via the Town's outfall pipe, into the Lake Worth Lagoon untreated.



Southern Outfall Contributing Drainage Areas

The purpose of the Southern Outfall project, is to engineer a design plan, to open-cut (excavate) and replace the existing aged outfall pipe, and provide water quality treatment for the removal of pollutants and heavy metals prior to discharge into the Lake Worth Lagoon, which is a pristine water body. This will be accomplished through an open cut excavation along the existing pipe alignment, removal and replacement with new pipe materials, and in the installation of a bio-retention basin, prior to discharge into the Lake Worth Lagoon.

In addition to the replacement of the outfall pipe, there is an existing former bridge (circa 1930's) located on Lake Shore Drive, which is currently located on top of the outfall. The old bridge deck and guard railings will need to be removed during the construction of the replacement outfall.

Existing Former Bridge on Lake Shore Drive

Project Site Data Collection Requirements

Topographic, Boundary and Tree Survey of the project limits shall be required to prepare the final design plans. Additionally, due to the breadth and depth of the proposed excavation and the proposed bridge deck removal on Lake Shore Drive, Quality Level B subsurface utility location will be required within the proposed project limits. Geotechnical sampling and testing will be needed in the form of SPT borings and permeability tests which shall be taken at select locations to determine the existing soil profile characteristics, ground water table fluctuation, and soil bearing capacities. Internal CCTV inspection of a portion of the existing pipe shall also be required to identify any potential issues which may impact the removal of the existing pipe.

Regulatory Agency Coordination

FDEP

The Florida Department of the Environment has regulatory authority to review all site plans and construction drawings for projects where construction and clearing of disturbed areas are greater than one acre prior to any NPDES Construction discharge permit being granted to the Owner. WRMA shall prepare and submit required FDEP applications with accompanying site plans for proposed construction activities requiring review by the Florida Department of the Environment. FDEP may also have review authority if the final proposed plans indicate impacts from construction to the lagoon.

South Florida Water Management District

The Southern Outfall was built before the SFWMD began issuing surface water management permits and no current SFWMD permit exists, however, it is anticipated that a new SFWMD ERP permit may be required. As part of WRMA's due diligence, WRMA shall meet with SFWMD to ensure that all proposed modifications are in compliance.

FDOT

FDOT owns and maintains a 5' x 10' concrete box culvert underneath Federal Hwy which is a component of the Southern Outfall. Although the project does not propose to replace the existing box culvert (at this time), coordination with the FDOT District 4 drainage engineer may be required in order to coordinate design alternatives and construction sequencing. FDOT also is a major stakeholder in the maintenance and funding of the Southern Outfall Project.

FDOT would also be involved in the proposed maintenance of traffic plans. The proposed replacement of the 72-inch outfall may require temporary closure of Lake Shore Drive. Consequently, a site specific traffic control plan may be required, in order to provide a detour for vehicular and pedestrian traffic on Lake Shore Drive. Said traffic control plans may require comments from FDOT staff since any proposed detour may involve U.S. Hwy 1.

Army Corps of Engineers

At present, no construction is proposed within limits of the Lake Worth Lagoon. However, should the proposed construction plans evolve to indicate that construction on the water side of the sea wall is necessary or required, then a permit application to the ACOE might be necessary.

Palm Beach County
Although the existing 72-inch outfall pipe is entirely located within the limits of the Town of Lake Park, coordination with Palm Beach County DERM and emergency response services will be needed. Should the site specific traffic control plans propose a partial or full closure of Lake Shore Drive, coordination with Palm Beach County would be needed to provide advance notice for County emergency services.

Utility Coordination

The proposed outfall replacement project will require continual coordination with multiple above and below ground utility services including:

- Electric - Florida Power and Light
- Cable - Comcast Cable
- Water and Sewer - Seacoast Utility Authority
- Gas - Florida Public Utilities
- Stormwater - Town of Lake Park
- Telephone - AT&T

The following Scope of Services is proposed to design the replacement of the outfall pipe.

PART 2.0 SCOPE OF SERVICES TO BE PERFORMED BY WRMA ON THE PROJECT

Task 1 – Project Management

1.1 Project Management
The WRMA project manager shall serve at the point of contact for the Town and manage the day to day design engineering tasks associated with this scope of services. The Project Manager will prepare a schedule for all engineering tasks in the scope, and provide bi-weekly updates on the ongoing progress of each task.

1.2 Meetings and Inter-Agency Coordination
Coordination with federal and state agencies is necessary for the development and planning of this project. The Project Manager shall attend all scheduled meetings either by phone, virtual or in person meetings with Town staff and coordinate with other agencies as necessary in order to move the project towards completion.

Task 1 Deliverable
WRMA will provide bi-weekly progress updates on design progress and inter-agency coordination.

Task 2 – Site Analysis, Planning and Collection of As-Built Information

2.1 Collection and Analysis of Utility As-Built Data
WRMA shall communicate with the Town, FDOT, FP&L and other utilities as necessary to obtain as-built information for existing utilities in or around the 72-inch outfall pipe. As-Built information will be

analyzed during the preliminary planning process to locate potential utility conflicts which could affect construction or impact services to customers. A quality level B utility designation will be performed.

2.2 Coordination of Field Survey Data Collection

WRMA will coordinate with the surveyor, geotechnical engineer, and subsurface utility engineer in order to deploy and collect all pertinent field survey data in relation to above ground surface features and below ground soil characteristics and utility locations. Collection of field survey data will be necessary to create an accurate basemap of the existing conditions within the project limits, in order to provide information for detailed design engineering and for identifying the need for potential utility relocations or temporary service disruptions during construction. The survey shall establish control for the project.

2.3 Basemap Development

WRMA shall develop a project basemap of the project site displaying all information collected including topographic, boundaries, Right-of-Way, soil profiles and utility information. The basemap shall be used for preliminary and final detailed engineering design. Exhibits of design concepts and alternatives, temporary maintenance of traffic plans and other exhibits shall be prepared for the Town using the basemap as needed.

Task 2 Deliverable

WRMA will provide the Town with a basemap plan drawing of the project site existing conditions, showing the topographic, soils and utility information collected.

TASK 3.0 HYDROLOGIC & HYDRAULIC ANALYSIS

3.1 Hydrologic and Hydraulic Modeling

The ICPR4 model of the Lake Park drainage system will be updated by WRMA to assess hydrology systems, hydraulic networks, and functions of the proposed replacement outfall and green infrastructure facility. The ICPR4 H&H model shall be used for the development of flood control GI/LID based design alternatives. The project GIS database will be extensively applied to delineate sub-basin boundaries and process the selected model hydrologic parameters. Upon generation of final catchment boundaries links and nodes corresponding to hydraulic drainage conveyance elements, flood staging locations will be coded into the ICPR4 model. Stage storage will be provided at selected locations to assess the level of runoff impoundment for various flood levels of service, including the 10-yr/24-hr, 25-yr/72-hr, and the 100-yr/72-hr design storm events.

3.2 Conceptual/Preliminary Drainage Design Alternatives Analysis

The objective of the conceptual drainage alternative analysis is to site and incorporate a green infrastructure bio-detention basin facility into the ICPR4 model, in order analyze the hydraulic affects of said facility. The GI facility will be designed to treat stormwater runoff from the outfall pipe prior to discharge into the Lake Worth Lagoon. Based on selected level of service criteria, WRMA shall evaluate preliminary drainage design alternatives including:

- Multiple Outfall Pipe Sizes
- Box Structure Configurations
- Outfall Structure Configurations
- Bio-Retention Based Configurations

Task 3 Deliverable

WRMA will prepare a technical report for the proposed outfall replacement and GI facility, including all findings of the study and ICPR modeling information and data. The technical report shall provide the basis of design and proof-of-concept for final engineering design and/or development of grant applications in order to acquire funding for further project development, design engineering and construction implementation.

TASK 4.0 PRE-LIMINARY ENGINEERING

4.1 Conceptual Site Planning and Layout

Based on the results of the modeling activities, WRMA will design an engineering plan for the proposed open cut excavation and removal of the existing 72-inch outfall pipe. The concept plan will include plans, sections and profiles of the proposed outfall plan and GI facility. The plan will also identify potential impacts to vehicular and pedestrian traffic, utility relocations, as well as a temporary bypass pumping station. WRMA will prepare alternative site layouts showing the proposed temporary bypass, MOT plan alternatives, proposed pipe replacement and GI facility.

4.2 60% Plans Production

Based on the selected design concept, WRMA will coordinate with the Town of Lake Park, to prepare a set of 60% plans. The selected alternative shall be refined further, and optimized with the H&H model to provide maximum benefits and cost efficiencies. Engineering design of plans, profiles and cross sections shall be developed on plans. The 60% plans shall be used for acquisition of grant funding applications and any applicable permit applications.

4.3 InfraWorks Model Development and Planning Assessment

Following completion of the 60% site plans for the Southern Outfall Replacement Project, WRMA will produce a 3D model in Infraworks. The InfraWorks Model will provide Town Planning Staff and Officials with the ability to view a site rendering of the proposed project phases of construction.

4.4 Engineer's Opinion of Probable Cost

Following completion of the 60% plans, WRMA shall develop a cost estimate for the proposed construction of the replacement outfall pipe and proposed GI facility. The cost estimate will form the basis for grant funding requests from state or federal agencies.

4.5 Utility Coordination

WRMA will communicate and coordinate with existing utilities to determine or identify locations of existing utilities and/or potential utility conflicts with the proposed plans for construction of the outfall replacement project. Any conflicts identified will be explored and analyzed during final engineering.

Task 4 Deliverable

WRMA will provide a 60% plan set to the Town, a cost estimate for construction, and renderings of the proposed pipe replacement and GI facility, as well as a report on any potential utility conflicts, should any be identified. The 60% plans may also be use for acquiring permits or grant applications.

TASK 5.0 FINAL ENGINEERING

5.1 90% Plans

Following comments received from the Town, FDOT and other agencies, WRMA will refine the design plans with additional engineering detail. WRMA shall develop a sequence of construction and technical specifications for the project. Following detailed design, a 90% plan set will be developed. The 90% plans will include any identified utility conflicts, or relocations proposed, the final TTC plan, and temporary bypass plan. The 90% plans will provide, plans, sections and profiles of all proposed features and structures. The 90% plans will also provide a demolition and removal plan, for the former existing bridge located on top of the outfall pipe at Lake Shore Drive.

5.2 Engineer's Opinion of Probable Cost

Following completion of the 90% plans, WRMA shall develop a cost estimate for the proposed construction of the replacement outfall pipe and the GI facility.

5.3 Utility Coordination

WRMA will continue to communicate and coordinate with existing utilities during the final engineering phase to determine or identify locations of existing utilities and/or potential utility conflicts with the proposed plans for construction of the outfall replacement project. Any conflicts identified will be resolved during final engineering.

5.4 Permitting and Grant Applications

WRMA will submit all permit applications needed to construct the project. WRMA will assist with the development of grant applications to fund the construction of the project.

5.5 Final Ready to Advertise Plans and Project Manual

WRMA shall make any final revisions necessary to the construction plans, following a final comment period. All plans and technical specifications shall be compiled into a Project Manual, for inclusion into a bid package in preparation for advertisement during the contractor procurement phase.

5.6 Pre-Bid and Contractor Procurement Technical Support

WRMA will attend the pre-construction meeting for the project and address any contractor RFIs during the bidding process and if needed, assist in the evaluation of bids and determination of the lowest responsive bid. Construction phase services, while not included in this proposal, can be provided by WRMA, under separate proposal.

Task 5 Deliverable

WRMA will provide a Final Ready to Advertise Construction Plans and Technical Specifications, and the project Manual to the Town, including relevant permits, and a detailed cost estimate for construction.

END OF SCOPE OF SERVICES

PART 3.0 OWNER RESPONSIBILITIES

Provide WRMA, with any previous or current As-Built drawings for all areas within the project limits, as well other relevant property records, building permits and inspection documentation of any areas within

the project limits. Provide Right-of-Entry to all Rights of Way, drainage, utility, maintenance, and Town owned easements and parcels.

PART 4.0 PERIODS OF SERVICE

September 14, 2020 through September 14, 2021 or until Notice of Final Completion of Services.

PART 5.0 SCHEDULE

Task 1 Deliverables	Deliverable Due
Project Manager's Bi-Weekly Progress Reports	Bi-Weekly
Task 2 Deliverables	**Deliverable Due**
Project Site Basemap of Existing Conditions	60 Days from NTP
Task 3 Deliverables	**Deliverable Due**
72-in Outfall Replacement and GI Facility H&H Study (Technical Report)	90 Days from NTP
Task 4 Deliverables	**Deliverable Due**
60% Plans, Engineers Opinion of Probable Cost, Renderings	150 Days from NTP
Task 5 Deliverables	**Deliverable Due**
Final RTA Plans and Specs, Engineers Opinion of Probable Cost, Permits	210 Days from NTP

PART 6.0 FEES

The proposed Not-to-Exceed fee for this project is **$236,200.00**. This fee includes all direct labor and direct expenses.

A detailed fee schedule and task by task breakdown is attached to this proposal.

WATER RESOURCES MANAGEMENT ASSOCIATES, INC.

TOWN OF LAKE PARK
PROPOSED FEE
SOUTHERN OUTFALL REPLACEMENT AND GREEN INFRASTRUCTURE PROJECT

SEPTEMBER 2020

TASK ITEM AND DESCRIPTION	Sr. Prj Mgr	Sr Engineer	Associate Engineer Prj Mgr	Staff Engineer	Engineering Design Technician	Field Inspector	Admin	Total Hours (hrs)	Total Labor Cost (hrs x rate)	Task Subtotal Fee
	$ 125.00	$ 115.00	$ 110.00	$ 85.00	$ 65.00	$ 80.00	$ 65.00			
1.0 PROJECT MANAGEMENT										$ 16,080.00
1.1 Project Management	40		40					80	$ 9,400.00	
1.2 Meetings and Inter-Agency Coordination	24		24				16	64	$ 6,680.00	
2.0 SITE ANALYSIS, PLANNING & COLLECTION OF AS-BUILT INFORMATION										$ 19,200.00
2.1 Collection and Analysis of Utility As-Built Data		8	16	16				40	$ 4,040.00	
2.2 Coordination of Field Suvey Data Collection		8	40			24		72	$ 7,240.00	
2.3 Basemap Development		8	40		40			88	$ 7,920.00	
3.0 HYDROLOGIC & HYDRAULIC ANALYSIS										$ 30,460.00
3.1 Hydrologic/Hydraulic Modeling		40	16	140				196	$ 18,260.00	
3.2 Conceptual/Preliminary Drainage Design Alternatives Analysis		24	24	80				128	$ 12,200.00	
4.0 PRE-LIMINARY ENGINEERING										$ 62,140.00
4.1 Conceptual Site Planning and Layout		8	40	40				88	$ 8,720.00	
4.2 60% Plans		16	160	80	120			376	$ 34,040.00	
4.3 InfraWorks Model Development and Planning Assessment		8	24	80				112	$ 10,360.00	
4.4 Engineers Opinion of Probable Cost		8	16	12				36	$ 3,700.00	
4.5 Utility Coordination		8	40					48	$ 5,320.00	
5.0 FINAL ENGINEERING DESIGN										$ 53,320.00
5.1 90% Plans and Technical Specifications		8	120	120	80			328	$ 29,520.00	
5.2 Engineers Opinion of Probable Cost		8	32	16				56	$ 5,800.00	
5.3 Utility Coordination		8	32					40	$ 4,440.00	
5.4 Permitting and Grant Application		8	16					24	$ 2,680.00	
5.5 Final Ready To Advertise Plans and Project Manual		8	32	24			40	104	$ 9,080.00	
5.6 Pre-Bid and Contractor Procurement Technical Support		8	8					16	$ 1,800.00	
SUBTOTAL DIRECT LABOR										$ 181,200.00
Subconsultant: Topographic, Boundary & Tree Survey								$ 7,340.00	$ 10,000.00	
Subconsultant: Geotechnical Sampling and Testing								$ 10,900.00	$ 12,000.00	
Subconsultant: Subsurface Utility Location								$ 9,955.00	$ 11,000.00	
Subconsultant: Internal CCTV Inspection								$ 6,200.00	$ 7,000.00	
Subconsultant: Landscape Architecture								$ 10,000.00	$ 15,000.00	
SUBTOTAL DIRECT EXPENSES										$ 55,000.00
TOTAL COST										$ 236,200.00