CITY OF MIRAMAR
PROPOSED CITY COMMISSION AGENDA ITEM

Meeting Date: October 13, 2021

Presenter's Name and Title: Ronnie S. Navarro, Assistant Director of Utilities, on behalf of the Utilities Department and Alicia Ayum, Director of Procurement on behalf of the Procurement Department

Prepared By: Ronnie S. Navarro, Assistant Director of Utilities

Temp. Reso. Number: 7497

Item Description: Temp Reso. No. 7497, APPROVING THE FINAL RANKING AND AWARD OF, RLOI 21-02-15, ENTITLED: "WASTEWATER COLLECTION SYSTEM HYDRAULIC MODEL & MASTER PLAN" TO THE HIGHEST EVALUATION SCORING, MOST QUALIFIED, RESPONSIVE AND RESPONSIBLE PROPOSER, HAZEN AND SAWYER, P.C; AUTHORIZING THE CITY MANAGER TO EXECUTE THE PROPOSED PROJECT AGREEMENT FOR PROFESSIONAL SERVICES WITH HAZEN AND SAWYER, FOR THE PROPOSED UTILITY SERVICES IN AN AMOUNT NOT-TO-EXCEED $475,564.00 (Utilities Director Roy Virgin and Procurement Director Alicia Ayum)

Consent ☒ Resolution ☐ Ordinance ☐ Quasi-Judicial ☐ Public Hearing ☐

Instructions for the Office of the City Clerk: none

Public Notice – As required by the Sec. ___ of the City Code and/or Sec. ___, Florida Statutes, public notice for this item was provided as follows: on _____ in a _____ ad in the _____; by the posting the property on _____ and/or by sending mailed notice to property owners within ____ feet of the property on _____ (fill in all that apply)

Special Voting Requirement – As required by Sec. _____, of the City Code and/or Sec. ____, Florida Statutes, approval of this item requires a _____ (unanimous, 4/5ths etc.) vote by the City Commission.

Fiscal Impact: Yes ☒ No ☐

REMARKS: This project is part of Utilities Collection and Distribution System Improvements (Master Plan and Subsequent Construction). Funding is available under FY22 - CIP-Plan/Design/Eng 410-55-813-533-000-606502-52091 in the amount of $500,000.00

Content:

- Agenda Item Memo from the City Manager to City Commission
- Resolution TR No. 7497
- Exhibit A: Project Agreement with HAZEN AND SAWYER
- Attachment 1: (RLOI 21-02-15)
- Attachment 2: Evaluation & Scoring Sheet
- Attachment 3: Vendor's Proposal/Scope of Services

CITY OF MIRAMAR
INTEROFFICE MEMORANDUM

TO: Mayor, Vice Mayor, & City Commissioners

FROM: For Vernon E. Hargray, City Manager

BY: Roy L. Virgin, Ph.D., Director of Utilities

DATE: October 7, 2021

RE: Temp. Reso. No. 7497, Project Agreement with Hazen and Sawyer P.C.

RECOMMENDATION: The City Manager recommends approval of Temp. Reso. No. 7497 approving the final ranking and award of Request for Letter of Intent (the "RLOI") No. 21-10-15," entitled: "Wastewater Collection System Hydraulic Model & Master Plan," to the highest evaluation scoring, most qualified, responsive and responsible proposer whose proposal is most adventageous to the City, Hazen and Sayer P. C. (the "Consultant"); and authorizing the City Manager to execute the proposed Project Agreement with the Consultant, for the provision of professional services in an amount not-to-exceed $475.564.

ISSUE: City Commission approval is required for purchases exceeding $75,000 by a single department per vendor per fiscal year, in accordance with Section 2-412(a)(1) of the City Code.

BACKGROUND: The City of Miramar owns and operates an extensive wastewater collection system, also called a sewerage system, composed of 141 lift stations (sewage pumping stations), a master pump station, a sewage booster station, and over 344 miles of complex gravity sewer and forcemain systems. To effectively manage this complex system of pumps and pipelines, an integrated master plan is necessary. In order to effectively develop a master plan, a good and well-calibrated hydraulic model is a prerequisite. This master plan will provide the fundamental principles and guidelines for how the Utilities Department will achieve its goals and objectives.

The purpose of this master plan is to provide an assessment of the current situation and, in the light of known and assumed conditions, provide a framework for future actions. The specific objectives for this undertaking are to preserve the public's trust in our wastewater

systems through compliance with state and federal regulations; to guide strategic long-term planning; and to demonstrate leadership in the stewardship of our limited and sensitive natural resources. The master plan will likewise identify capital improvement projects that will meet these stated purpose and objectives.

PROCUREMENT: On February 11, 2021, the City's Procurement Department issued RLOI No. 21-02-15. On March 8, 2021, the City received proposals from four (4) firms.

On March 22, 2021, City staff evaluated the proposals and HAZEN AND SAWYER P.C., was evaluated as the highest evaluation scoring, most qualified, responsive and responsible proposer whose proposal is in the best interest of the City.

The City and the Consultant have negotiated the fees for professional utility services in the amount not-to-exceed $475,564.

Temp. Reso. No. 7497
10/1/21
10/5/21

CITY OF MIRAMAR
MIRAMAR, FLORIDA

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF MIRAMAR, FLORIDA, APPROVING THE FINAL RANKING AND AWARD OF REQUEST FOR LETTER OF INTEREST, RLOI 21-02-15, ENTITLED: "WASTEWATER COLLECTION SYSTEM HYDRAULIC MODEL & MASTER PLAN" TO THE HIGHEST EVALUATION SCORING, MOST QUALIFIED, RESPONSIVE, AND RESPONSIBLE PROPOSER, HAZEN AND SAWYER P.C.; AUTHORIZING THE CITY MANAGER TO EXECUTE THE PROPOSED PROJECT AGREEMENT FOR PROFESSIONAL SERVICES WITH HAZEN AND SAWYER P.C., FOR THE PROPOSED UTILITY SERVICES IN AN AMOUNT NOT-TO-EXCEED $475,564.00; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the City of Miramar owns and operates an extensive wastewater collection system composed 441 miles of pipelines, fire hydrants, valves, and pumps;

WHEREAS, the City serves 96% of the City's population with potable water;

WHEREAS, a well-calibrated and updated hydraulic model is an integral part of the decision-making process for planning, designing, and operating the City's wastewater collection system;

WHEREAS, the hydraulic model will provide transparency to decision makers regarding capital improvements, short- and long-term planning, fire flow evaluations, operational strategies and alternatives, and water quality monitoring and sampling.;

WHEREAS, a master plan will be generated based on the hydraulic model;

WHEREAS, at project completion the City will own and maintain the hydraulic model and be able to update the master plan periodically based on needs.

WHEREAS, on date February 11, 2021, the City's Procurement Department issued a Request for Letters of Interest, RLOI 21-02-15;

WHEREAS, on date March 22, 2021, a selection committee comprised of City staff evaluated, scored and ranked all submittals based on the criteria contained in the RLOI, and determined HAZEN AND SAWYER P.C. (the “Consultant”) to be the highest evaluation scoring, most qualified responsive and responsible proposer whose proposal is most advantageous to the City; and

WHEREAS, the City and the Consultant have negotiated the fees for the utility engineering services in an amount not-to-exceed $475,564.00;

WHEREAS, the City Manager recommends that the City Commission approve the final ranking and award the RLOI to HAZEN AND SAWYER P.C; and authorization for the City Manager to execute the proposed Project Agreement, in an amount not-to-exceed $475,564.00, in the form attached hereto as Exhibit “A”; and

WHEREAS, the City Commission deems it to be in the best interest of the citizens and residents of the City of Miramar to approve the final ranking and award of the RLOI to HAZEN AND SAWYER P.C.; and to authorize the City Manager to execute the proposed Project Services Agreement, in an amount not-to-exceed $475,564.00, in the form attached hereto as Exhibit “A”.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF MIRAMAR, FLORIDA AS FOLLOWS:

Section 1: That the foregoing **"WHEREAS"** clauses are hereby ratified and confirmed as being true and correct and are hereby made a specific part of this Resolution.

Section 2: That it approves the award of the RLOI No. 21-02-15 to HAZEN AND SAWYER, P.C.

Section 3: That the City Manager is authorized to execute the proposed Project Agreement with HAZEN AND SAWYER. P.C., in an amount not-to exceed $475,564.00, in the form attached hereto as Exhibit "A", together with such non-substantive changes as are deemed acceptable to the City Manager and approved as to form and legal sufficiency by the City Attorney.

Section 4: That the appropriate City officials are authorized to do all things necessary and expedient in order to carry out the aims of this Resolution.

Section 5: That this Resolution shall take effect immediately upon adoption.

PASSED AND ADOPTED this _____ day of _____, _____.

_____
Mayor, Wayne M. Messam

_____
Vice Mayor, Yvette Colbourne

ATTEST:

_____
City Clerk, Denise A. Gibbs

I HEREBY CERTIFY that I have approved
this RESOLUTION as to form:

_____
City Attorney,
Austin Pamies Norris Weeks Powell, PLLC

Requested by Administration	**Voted**
Commissioner Winston F. Barnes	_____
Commissioner Maxwell B. Chambers	_____
Vice Mayor Yvette Colbourne	_____
Commissioner Alexandra P. Davis	_____
Mayor Wayne M. Messam	_____

PROJECT AGREEMENT
FOR PROFESSIONAL SERVICES
BETWEEN
THE CITY OF MIRAMAR
AND
HAZEN AND SAWYER, P.C.

THIS PROJECT AGREEMENT (the "Agreement") is made and entered into this _____ day of _____, 2021 between the **CITY OF MIRAMAR, FLORIDA,** a Florida municipal corporation with its principal offices located at 2300 Civic Center Place, Miramar, Florida 33025 (the "City"), and **HAZEN AND SAWYER, P.C.,** a Florida Foreign profit corporation, (the "Consultant"), with its principal offices located at 4000 Hollywood Boulevard, Suite 750N, Hollywood, Florida 33021.

WITNESSED:

WHEREAS, on January 16, 2019, by the adoption of Resolution No. 19-52, the City Commission approved a new pool of Architectural and Engineering Consultants to provide professional services to the City on an as needed basis; and

WHEREAS, the Consultant is a member of the new pool under the subcategory of Civil and Utilities Engineering and has executed a Continuing Services Agreement applicable to the provision of such professional services; and

WHEREAS, the Consultant responded to the City's Request for Letter of Interest #21-02-15 ("RLOI"), and has been chosen by the City to provide Civil and Utilities Engineering (the "Services") for Wastewater Collection and Transmission System Master Plan and Hydraulic Modelling (the "Project" or the "Scope of Services") and the parties, through mutual negotiation, have agreed upon the Scope of Services.

NOW, THEREFORE, in consideration of the foregoing recitals, which are incorporated herein, and the mutual covenants, terms and conditions provided below, the Consultant and the City agree as follows:

1. Contract Documents

The Contract Documents referred to in this Agreement shall be comprised of the following:

1.1 This Agreement (the "Specific Projects" or "Project Agreement") in the Continuing Services Agreement between the parties, including any

General Terms and Conditions, Supplementary Conditions, Statement of Work or any other provisions contained within this Agreement;

1.2 A Scope of Services request completed by the Consultant and accepted by the City, attached hereto as **Attachment "A"**;

1.3 The Continuing Services Agreement dated March 27, 2019, between the City and Consultant, the terms and conditions of which shall apply to the provision of Services under this Agreement;

1.4 Any and all applicable addenda, proposals executed and submitted by the Consultant and accepted by the City, specifications and insurance certificates; and

1.5 All amendments mutually agreed to after execution of this Agreement.

These Contract Documents comprise the entire agreement for the Services agreed to herein between the parties, and incorporated into and made a part of this Agreement as if attached to this Agreement or repeated herein. In the event of a conflict between this Agreement and any other Contract Document(s), this Agreement shall prevail.

2. The Work

Consultant shall furnish all labor, materials and equipment necessary to provide professional Services as specified in the Scope of Services request completed by the Consultant and accepted by the City.

3. Period of Service

The Consultant shall begin work promptly after receipt of a fully executed copy of this Agreement and a letter of Notice to Proceed from the City and shall complete the Project within the time mutually agreed upon, as specified in the Scope of Services request accepted by the City.

4. Compensation

Compensation (the "Contract Sum") for performing the Services related to the Project shall be the fee of Four Hundred Seventy-Five Thousand, Five Hundred Sixty-Four Dollars ($475,564.00) specified in the Scope of Services request accepted by the City.

5. Payments

5.1 The City shall pay the Contract Sum to the Consultant subject to the completion of tasks as specified in the Attachment A. The City shall pay the Consultant for work performed subject to the specifications of the job and any additions and deductions by subsequent change order provided in the Contract Documents. All payments shall be governed by the Florida Prompt Payment Act, Chapter 218, Part VII, Florida Statutes.

5.2: The Consultant shall provide periodic invoices to the City upon completion of a substantial amount of Services relating to the Scope of Services contained within this Agreement. Payment shall be made to the Consultant upon approval of submitted invoices to the City.

6. Termination

This Agreement may be terminated by the City for convenience upon thirty (30) calendar days' written notice to the Consultant. In the event of such termination, any Services performed by the Consultant under the this Agreement shall, at the option of the City, become the City's property, and the Consultant shall be entitled to receive compensation for any work completed pursuant to this Agreement to the satisfaction of the City up through the date of termination. Under no circumstances shall City make payment for Services that have not been performed.

This Agreement may be terminated by either party for cause upon five calendar days' written notice to the other should such other party fail to perform in accordance with its material terms through no fault of the party initiating the termination. In the event the Consultant abandons this Agreement or causes it to be terminated by the City, the Consultant shall indemnify and save the City harmless against loss pertaining to this termination. In the event that the Consultant is terminated by the City for cause and it is subsequently determined by a court of competent jurisdiction that such termination was without cause, such termination shall thereupon be deemed a termination for convenience and the provisions in the paragraph above shall apply.

7. Default:

In the event of a default by Consultant, the default provisions contained in the Continuing Services Agreement between the parties shall govern.

8. Anti-lobbying/No Contingent Fee:

The provisions of Section 11 of the Continuing Services Agreement shall apply to this Agreement.

9. Warranties and Guarantees:

9.1 The Consultant warrants that its Services are to be performed within the limits prescribed by the City and with the usual thoroughness and competence of the Consultant's architectural and/or engineering profession.

9.2 The Consultant shall be responsible for technically deficient designs, reports or studies due to negligent acts, errors or omissions. The Consultant shall, upon the request of the City, promptly correct or replace all deficient work due to negligent acts, errors or omissions without cost to the City.

10. Binding Effect:

This Agreement shall bind and the benefits thereof shall inure to the respective parties hereto, their legal representatives, executors, administrators, successors and assigns.

11. Amendments and Modification:

No amendments and/or modifications of this Agreement shall be valid unless in writing and signed by each of the parties to the Agreement.

12. Merger; Amendment:

This Agreement, including the referenced Contract Documents, and any attachments, constitute the entire agreement between Consultant and City, and all negotiations and oral understandings between the parties are merged herein. This Agreement may be supplemented and/or amended only by a written document executed by both Consultant and City.

13. Nonassignability:

Consultant shall not assign, subcontract or transfer any rights or delegate any duties arising under this Agreement without prior written consent of the City, which consent may be withheld by the City in its sole discretion.

14. Notices:

Whenever either party desires to give notice to the other, it shall be given by written notice, sent by certified United States mail, with return receipt requested, addressed to the party for whom it is intended, at the place last specified, and the place for giving of notice in compliance with the provisions of this paragraph. For the present, the parties designate the following as the respective places for giving of notice, to-wit:

FOR CONSULTANT:

Hazen and Sawyer, P.C.
Patrick A. Davis, Vice President
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Telephone: 954-987-0066
Facsimile:

FOR CITY:

City of Miramar
Vernon E. Hargray
City Manager
2300 Civic Center Place
Miramar, FL 33025
Telephone: 954-602-3115
Facsimile: 954-602-3672

With Copy to:

Austin Pamies Norris Weeks
Powell, P.L.L.C., City Attorney
401 NW 7th Avenue
Ft. Lauderdale, FL 33311
Telephone: 954-768-9770
Facsimile: 954-768-9790

15. Severability; Waiver:

Any provision in this Agreement that is prohibited or unenforceable under Florida or federal law shall be ineffective to the extent of such prohibitions or unenforceability without invalidating the remaining provisions hereof. Also, the non-enforcement of any provision by either party to this Agreement shall not constitute a waiver of that provision nor shall it affect the future enforceability of that provision or the remainder of this Agreement.

16. Public Records:

The Consultant shall comply with The Florida Public Records Act as follows:

16.1 Keep and maintain public records in the Consultant's possession or control in connection with the Consultant's performance under this Agreement, that ordinarily and necessarily would be required by the City in order to perform the service.

16.2 Upon request by the City's records custodian, provide the City with a copy of requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes, or as otherwise provided by law.

16.3 Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of this Agreement, and following completion of this Agreement until the records are transferred to the City.

16.4 Upon completion of this Agreement or in the event of termination of this Agreement by either party, any and all public records relating to this Agreement in the possession of the Consultant shall be delivered by the Consultant to the City, at no cost to the City, within seven (7) days. All records stored electronically by the Consultant shall be delivered to the City in a format that is compatible with the City's information technology systems. Once the public records have been delivered to City upon completion or termination of this Agreement, the Consultant shall destroy any and all duplicate public records that are exempt or confidential and exempt from public record disclosure requirements.

16.5 The Consultant's failure or refusal to comply with the provisions of this Section shall result in the immediate termination of this Agreement by the City.

16.6 IF THE CONSULTANT HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONSULTANT'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT 954-602-3011, dagibbs@miramarfl.gov OR BY MAIL: City Of Miramar – City Clerk's Office, 2300 Civic Center Place, Miramar, FL 33025.

17. Ownership Of Documents:

17.1 All original construction Drawings and Specifications produced by Consultant under this Agreement shall remain the property, and shall remain in the custody and possession, of Consultant, who shall retain them in confidence. Copies of all Drawings and Specifications (both in electronic form, clearly marked as copies, and in the form of reproducible hard copies) shall be furnished to the City, along with copies (or originals to the extent permitted by Florida Regulations governing the practice of Consultants) of any drafts, Work papers, samples, prototypes, models, sketches, conceptual or schematic Drawings, master plan documents, and other work product produced in connection with this Agreement or the Project which is the subject of this Agreement, regardless of the state of completion of the Work, and regardless of the source (collectively, Consultant's "Work") that Consultant has retained in its possession. City may reuse the concepts, themes, ideas, and expression reflected or embodied in the Drawings and Specifications and may, if it wishes, retain another licensed design professional to incorporate said concepts, themes, ideas, and expression into other plans and Specifications. All Consultant's Work other than one set of original construction Drawings, line Drawings, Specifications, and computer disks prepared by the Consultant shall be the property of the City and may be used by the City as the City sees fit. The original physical Drawings and Specifications retained by City may be used for occupying the Project, completing or modifying the Project, the building, the site for which they were prepared, but not for the construction of another project on another site. All original construction Drawings, line Drawings, Specifications, and computer disks shall remain in the possession, care, custody and control of Consultant. Consultant's Work shall be deemed "work for hire" commissioned by the City to the fullest extent permitted by the

copyright Laws of the United States and by Florida Law. To the fullest extent permitted by federal and Florida Law, Consultant hereby transfers to the City, for good and valuable consideration, all copyright, trademark, and patent rights in and to Consultant's Work, and agrees to sign any and all further documents deemed necessary by the City to protect the City's copyright rights therein at the conclusion of the Project. Consultant agrees not to share, reveal, or advertise any of the Work, or the concepts, themes or ideas reflected therein, with or to any third parties absent City's prior written consent, and further agrees not to reuse same for any purpose without City's prior written consent. Consultant expressly acknowledges that, to the extent the concepts and themes for a given Project were initially conceived by the City, they shall remain the property of the City, and the City may reuse them as it sees fit. Upon the completion or termination of Consultant's involvement on a given Project, any and all documents, information or use rights provided to the Consultant for purposes of or in connection with the Consultant's performance of this Agreement in connection with the Project, or otherwise related to the Project, shall be returned to the City, without Consultant retaining any copies except that Consultant shall retain copies of documents or information furnished by the City which were influential in Consultant's production of the Work so long as the Consultant holds same in confidence and does not disseminate them or share them with any other third parties.

17.2 When the City requests that the Consultant provide to it certain plans, Specifications, or other documents in electronic form ('Electronic Documents'), the Project Consultant will do so subject to the terms of this provision. The City recognizes that Electronic Form Documents are not intended to be used for construction, are not Contract Documents under the terms of the Construction Contract, may be revised by others without the knowledge or consent of the Consultant, and, when plotted, may result in variances or corrupt other files of the user. City agrees not to use the Electronic Form Documents for any purposes other than the Project for which they were prepared. Consultant will provide to the City only a working copy of the Electronic Form Documents. Said working copy of the Electronic Form Documents shall have removed from the electronic display all indices of the Consultant's ownership, professional name, and/or involvement in the Project. Any use of any kind and/or changes to the Electronic Form Documents will be at the sole risk of the user and without liability, risk, or legal exposure to the

Consultant.

18. Other Provisions:

18.1 Titles and paragraph headings are for convenient reference and are not a part of this Agreement.

18.2 In the event of conflict between the terms of this Agreement and any terms or conditions contained in any attached or referenced Contract Documents, the terms in this Agreement shall prevail.

18.3 No waiver or breach of any provision of this Agreement shall constitute a waiver of any subsequent breach of the same or any other provision, and no waiver shall be effective unless made in writing.

19. Scrutinized Companies:

19.1 Contractor certifies that it and its subcontractors are not on the Scrutinized Companies that Boycott Israel List. Pursuant to Section 287.135, F.S., the City may immediately terminate this Agreement at its sole option if the Contractor or its subcontractors are found to have submitted a false certification; or if the Contractor, or its subcontractors are placed on the Scrutinized Companies that Boycott Israel List or is engaged in the boycott of Israel during the term of the Agreement.

19.2 If this Agreement is for more than one million dollars, the Contractor certifies that it and its subcontractors are also not on the Scrutinized Companies with Activities in Sudan, Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or engaged with business operations in Cuba or Syria as identified in Section 287.135, F.S. Pursuant to Section 287.135, F.S., the City may immediately terminate this Agreement at its sole option if the Contractor , its affiliates, or its subcontractors are found to have submitted a false certification; or if the Contractor, its affiliates, or its subcontractors are placed on the Scrutinized Companies with Activities in Sudan List, or Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or engaged with business operations in Cuba or Syria during the term of the Agreement.

19.3 The Contractor agrees to observe the above requirements for applicable subcontracts entered into for the performance of work under this Agreement.

19.4 As provided in Subsection 287.135(8), F.S., if federal law ceases to authorize the above-stated contracting prohibitions then they shall become inoperative.

Consultant's failure or refusal to comply with the provisions of this Section shall result in the immediate termination of this Agreement by the City.

20. E-Verify Program

In accordance with Florida Statutes §448.095, the Consultant, prior to commencement of services or payment by the City, will provide to the City proof of participation/enrollment in the E-Verify system of the Department of Homeland Security. Evidence of participation/enrollment will be a printout of the Company's "Company Profile" page from the E-Verify system. Failure to be continually enrolled and participating in the E-Verify program will be a breach of contract which will be grounds for immediate termination of the contract by the City. The Consultant will not hire any employee who has not been vetted through E-Verify. The Consultant may not subcontract any work for the City to any subconsultant that has not provided an affidavit stating that the subconsultant does not employ, contract with or subcontract with an unauthorized alien."

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed by their respective duly authorized representatives the day and year written below.

FOR CITY:

ATTEST:

CITY OF MIRAMAR

_____
Denise Gibbs, City Clerk

By:_____
Vernon E. Hargray,
City Manager

Dated: _____

Approved as to form and legal sufficiency for the use of and reliance by the City of Miramar only:

_____
City Attorney
Austin Pamies Norris Weeks Powell, PLLC

FOR CONSULTANT:

WITNESS:

HAZEN AND SAWYER, P.C.

_____

By: _____
Patrick A. Davis, Vice President

Print Name: _____

Date: _____

Corporate Seal:

SCOPE OF SERVICES
(RLOI 21-02-15)

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM MASTER PLAN AND HYDRAULIC MODELING

September 1, 2021

PREAMBLE

The City of Miramar (**CITY**) has the responsibility for planning, regulating, designing, constructing, operating and maintaining a wastewater collection and transmission system and a wastewater treatment plant within the **CITY's** corporate limits. The **CITY** recently completed its 2020 Water Supply Facilities Work Plan which included population projections through the year 2045. The **CITY** anticipates an increase in population leading to an overall increase in demand for finished water of approximately 25%. Accordingly, an uprating or expansion in capacity at the Wastewater Reclamation Facility (WWRF) is anticipated for treatment of long-term wastewater flows. Thus, increased capacity demands are expected for the wastewater service area's collection and transmission system. The **CITY** must also comply with regulatory programs at various levels (federal, state, county and local) that impact existing infrastructure. Therefore, to fulfill its responsibilities, provide a high level of service to its residents and customers, practice water conservation, accommodate growth and economic development, and protect public health, safety and the environment, the **CITY** has defined the need for a Wastewater Collection and Transmission System Master Plan.

The objectives of this Master Plan include the following:

- Upgrade the **CITY's** existing WaterCAD wastewater collection and transmission system hydraulic model to Infoworks ICM
- Update the **CITY's** wastewater collection and transmission system model to include newly installed infrastructure, lift stations and force mains
- Calibrate the updated/upgraded hydraulic model
- Perform a system-wide hydraulic analysis including critical gravity sewer segments serving booster pumping stations
- Conduct a condition assessment of the **CITY's** lift stations
- Conduct a desktop risk analysis of the **CITY's** wastewater force mains
- Estimate inflow and infiltration within the **CITY's** collection system
- Identify immediate, short-term and long-term improvements necessary for the **CITY's** wastewater collection and transmission system
- Develop a Capital Improvements Program
- Present findings in a comprehensive Wastewater Master Plan

CONSULTANT shall perform the scope of work described below.

SCOPE OF WORK

Task 1 – Project Kickoff and Data Collection

CONSULTANT shall conduct a project kickoff meeting within two weeks after receiving the Notice to Proceed. The purpose of this task is to identify project protocols, establish coordination between **CONSULTANT** and **CITY** staff, and collect available documents from **CITY** on the existing facilities. **CONSULTANT** shall prepare an agenda prior to the meeting and electronically distribute meeting minutes following the meeting. It is anticipated that **CITY** field operations personnel with experience regarding excessive pump run-times and other recent issues in the eastern service area (Historic Miramar) will attend this meeting and provide an update on current operational challenges for purposes of further evaluation in later tasks.

Population and flow projections performed under the current Capacity Analysis, Evaluation and Re-Rating project will be used to establish anticipated wastewater volumes for the **CITY**'s service area through the year 2045. Data required from the **CITY** for subsequent tasks include the following:

- Lift station maintenance records for the previous ten years
- **CITY** plans (recent past and future planned) from septic to sewer conversions
- Updated records for any City rehabilitation efforts at lift stations or force mains
- Records of repairs, leaks, or line breaks in gravity sewer and force main system
- GIS data for existing wastewater and water customers (including billing records for the period of January 2016 through December 2020 by address)
- Proposed major developments and associated flow projections

Task 2 – Historic Miramar Rapid Hydraulic Analysis

The eastern service area, also known as Historic Miramar, has undergone a sewer collection system expansion and this area's Master Pump Station has been experiencing excessive run times potentially due to a hydraulic constriction for pumping flow west to the WWRF. It is the objective of this task to update the existing model to reflect currently installed infrastructure and make recommendations for reducing excessive pump run times, including the need for a parallel force main along Miramar Boulevard from the Master Pump Station to the Booster Pump Station. **CONSULTANT** shall include the following:

- Lift station inflows
- New/upgraded force mains
- Current/new lift station pump curves
- Septic tank conversion area lift stations and force mains
- Gravity collectors upstream of the Booster Pump Station
- Master Pump Station flow to the west (WWRF)
- Master Pump Station flow to the east (Hollywood)
- Booster Pump Station control and operation

CONSULTANT shall, with **CITY** input, develop hydraulic scenarios for the existing flow conditions and future conditions which will include, at a minimum, system flows and pressures for:

- Master Pump Station for flow to the west (WWRF) under peak flow conditions
- Master Pump Station for flow to the west under average day flow condition
- Master Pump Station for flow to both west and east under emergency condition (Hollywood)

CONSULTANT shall also assist the **CITY** with confirming current instrumentation and valve settings at the Master Pump Station. Upon completion, **CONSULTANT** shall provide a brief Technical Memorandum summarizing the modeling results for each scenario and meet with the **CITY** to discuss recommendations for identified improvements. Quality control of data analysis and technical review for this task will be performed by Water Rite Consulting, a registered County Business Enterprise and Small Business Enterprise.

Task 3 – Wastewater System Hydraulic Model

CONSULTANT shall upgrade the existing WaterCAD hydraulic model to Infoworks ICM based on the current GIS records (baseline system). This baseline system model will be used for model calibration and will include the existing infrastructure. Once updated, wet/dry season data will be collected followed by model calibration.

The baseline sewer flow contribution will be determined to spatially characterize sewer flow and quantify collection system capacity. A monitoring plan will be developed for effective and efficient placement of metering instruments. Pressure data loggers will be installed at key pump stations and force mains for calibration of the model.

Hydraulic model calibration efforts will include both dry and wet weather calibration and the flow monitoring data will be analyzed for both accuracy and completeness prior to identifying input parameters for the model. The model input dry weather volumes will be based on monitoring results. To improve the accuracy of predicted wet-weather planning conditions, the model will be calibrated to a continuous time series by comparing the modeled flow to the metered field observations under both dry weather and wet weather conditions.

The calibration criteria for both dry and wet weather conditions is shown in Table 1 below. The calibration criteria are based in part on the standards outlined in the Wastewater Planning Users Group Code of Practice for the Hydraulic Modelling of Sewer Systems (WaPUG) (Version 3.001, Amended December 2002).

Table 1. Sewer System Hydraulic Model Calibration Criteria

Hydraulic Characteristics	Criteria*
Dry Weather Calibration Criteria	
Flow Rate	-10% to 10% of measured or <±0.1 MGD
Flow Volume	-10% to 10% of measured or <±0.1 MG
Depth (Avg, Max, Min)	-15% to 15% of measured
Shape	Modeled and metered curves should be similar for flow and depth.
Timing	Peaks, troughs, and recessions of modeled and metered curves should be similar for flow and depth.
Wet Weather Calibration Criteria	
Flow Rate	-15% to 25% of measured or <±0.1 MGD
Flow Volume	-15% to 25% of measured or <±0.1 MG
Depth (Avg, Max, Min)	-15% to 15% of measured
Shape	Modeled and metered curves should be similar for flow and depth.
Timing	Peaks, troughs, and recessions of modeled and metered curves should be similar for flow and depth.
Flooding	Corroborated using City data and other historical records.

**In compliance with Wastewater Planning Users Group Code of Practice for the Hydraulic Modelling of Sewer Systems (WaPUG), Version 3.001, Amended December 2002.*

The shape of the modeled and metered curves and the timing of the peaks, troughs, and recessions of the modeled and metered curves will be compared to confirm satisfaction of the calibration criteria. Any needed system improvements will be noted and accompanied by planning level costs.

While most of the City is currently served by the wastewater collection system, the City may expand the collection system to the unsewered areas in the future. Using customer water consumption records, **CONSULTANT** will estimate sewer volumes and include the impact of a sewer expansion to the collection system model. Flow inputs will be assumed at existing system trunk lines. Preliminary collection system layouts for unsewered areas is not envisioned. Using the calibrated model, **CONSULTANT** will perform up to four simulations to identify system deficiencies as follows:

- Current average flow
- Current peak hour flow
- 2045 average flow
- 2045 peak hour flow

Identification of system deficiencies will be based primarily on lift station run-time, wet well level, and force main headloss, velocity and pressure. A meeting with pertinent **CITY** staff is envisioned specific to the hydraulic modeling effort to discuss results. Up to three additional scenarios will be performed to model resolutions to noted deficiencies. **CITY** assistance will be needed to obtain access to pertinent facilities, particularly for the coordination, deployment and retrieval of monitoring equipment. Upon completion, modeling, calibration and sewer expansion results will be included in the Wastewater Master Plan.

Task 4 –Transmission System Condition Assessment

The **CITY**'s wastewater transmission system consists of 126 lift stations and a sewer force main network. **CONSULTANT** shall perform a desktop assessment of the condition of the **CITY's** lift stations and force main network and an estimate of the effective useful life will be made based on available asset information. Condition assessment of the force main network will be made based on the existing GIS database utilizing date of installation and material of construction. Pending the results of the desktop assessment and discussions with **CITY** staff, **CONSULTANT** will assemble a team of engineers with expertise in structural, electrical, instrumentation, and mechanical engineering to perform the site visits and evaluate up to five lift stations. Asset data will be verified as a part of the field visits. **CONSULTANT** will perform a visual condition assessment. Visual inspections will include mechanical, structural, electrical and instrumentation inspections. The goal of the condition assessment is to identify the current state of visited assets, provide information for an estimate of remaining useful life, likelihood of failure, and to determine compliance with Chapter 62-604 of the Florida Administrative Code. Buried infrastructure and piping condition will not be physically evaluated as part of this effort.

CONSULTANT will evaluate the general condition five lift stations reviewed and populate a condition assessment form with all assessment activities. Each asset will be scored based upon condition criteria (example provided in Table 2).

Table 2. Lift Station Condition Assessment Criteria

Rating	Condition	Definition
1	Excellent	The physical condition of the asset is new or like-new, well maintained, fully operable, and performs at or above standards.
2	Good	Asset is sound, well maintained, delivers full efficiency with little or no performance deterioration, but may show signs of wear.
3	Average	Asset is functionally sound and shows normal signs of wear relative to age and use but may have minor failures or performance deterioration. Minor or moderate refurbishment of 10-20% of asset may be needed within next 2 years.
4	Fair	Asset functions but requires sustained high level of maintenance to remain operational. Substantial wear is visible and likely to cause significant performance deterioration. Refurbishment of 20-40% of asset may be needed within next 2 years.
5	Poor	Asset is very near, or beyond, its useful life. Incapable of performing to a satisfactory standard under normal operational conditions without on-going or corrective maintenance. Replacement needed in the near term (less than 2 years).

CONSULTANT shall estimate useful life based upon a simple straight-line degradation (straight-line degradation from 'new' to 'replace' over the published or typical asset lifespan). **CONSULTANT** will consolidate and review historical replacement cost data, our local knowledge of replacement cost, databases such as RS Means, and City databases with costs from similar projects to estimate the replacement cost in current dollars for each asset. For a lift station, cost is based on pump size, lift station configuration, and layout. Work planned on the lift stations and extraordinary conditions that have extended or shortened an asset's life will be included to the extent possible. Estimating the costs of routine maintenance, such as oil changes, lubrication, belt adjustments, etc. will not be included as part of this task effort. Buried infrastructure and piping condition will not be physically evaluated as part of this task effort. A limited assessment of wastewater transmission piping will be performed based on available information provided by the **CITY**. The **CITY** will provide information on the wastewater transmission piping infrastructure regarding material type and age that will be utilized by **CONSULTANT** for the purpose of evaluating useful life based on industry guidelines. The wastewater gravity collection system is not included as part of this task effort. Quality control of data analysis and technical review for this task will be performed by Water Rite Consulting, a registered County Business Enterprise and Small Business Enterprise.

Task 5 – Regulatory Compliance Overview

Although the outlook for NPDES permit requirements beyond the year 2021 cannot be accurately determined at this time, additional utility requirements can be reasonably assessed as possibilities. **CONSULTANT** will consider the impact of recent or proposed regulatory requirements and other regulatory trends on the **CITY's** wastewater system for inclusion in the Wastewater Master Plan. **CITY** input will be obtained to confirm/define scenarios of most concern which will be evaluated under this task.

Task 6 – Capital Improvements Program

This task consists of the development of a capital project prioritization framework to enable the **CITY** to plan and prioritize the renewal and replacement of assets with the highest risk of failure based on effective useful life, condition and consequence of failure assessments. Based on the results of the prior tasks and input from the **CITY**, **CONSULTANT** shall develop recommendations for major improvements. An estimated schedule for effective implementation of the identified wastewater improvements throughout the planning period including present planning-level cost estimates will be developed. Quality control of data analysis and technical review for this task will

be performed by Water Rite Consulting, a registered County Business Enterprise and Small Business Enterprise.

Task 7 – Wastewater Master Plan Administration, Coordination and Report Preparation

CONSULTANT shall prepare and assemble technical documentation resulting from the previously identified tasks into an overall Master Plan Draft Report. This Draft Report will include the identified recommended improvements for the **CITY's** wastewater infrastructure. The Draft Report will include identified costs and implementation schedules. The Draft Report will be prepared and submitted to the **CITY** staff for review and comment. A review meeting will be held with **CITY** staff within two weeks of submission of the Draft Report to discuss comments.

Comments received at the review meeting will be documented in meeting minutes and incorporated into the Master Plan Final Report. The Final Report will embody a dynamic master plan to allow **CITY** staff flexibility to incorporate future upgrades. A total of five hard copies of the Master Plan Final Report will be prepared and submitted to the **CITY** within two weeks of the review meeting. An electronic version of the Master Plan Final Report will also be included with the submittal. It is assumed that the final report will be provided in pdf (portable document format) and three-ring binder format. Quality control of data analysis and technical review for this task will be performed by Water Rite Consulting, a registered County Business Enterprise and Small Business Enterprise.

Task 8 – Hydraulic Model Technical Training Allowance

This task consists of an allowance for training for up to three **CITY** staff through Innovyze Inc. for the InfoWorks ICM software package. The allowance assumes virtual instruction over a standard 2-day ICM product workshop and is based upon current pricing. The schedule and the actual cost of the training will be determined by Innovyze at the time of registration. In addition, **CONSULTANT** shall provide technical assistance to **CITY** staff, via either telephone or site visits, with simulation scenarios to be defined by the **CITY** or other such hydraulic modeling concerns with a goal of allowing **CITY** staff flexibility to incorporate future upgrades. As the extent of the request cannot be known in advance, this task provides an allowance to be used on an as-needed basis at the **CITY's** request.

Task 9 – Engineering Assistance Allowance

As a future task, **CONSULTANT** may be requested to further investigate system deficiencies, consider the impact of impending regulatory issues such as SSES/Inflow/Infiltration surveys, CMOM programs and/or proposed requirements such as contaminants of emerging concern in reclaimed water. Work efforts engaged under this allowance will be negotiated and administered at the **CITY's** discretion on an as-needed basis. Quality control of data analysis and technical review for this task will be performed by Water Rite Consulting, a registered County Business Enterprise and Small Business Enterprise.

Fee

Compensation shall be made to **CONSULTANT** as indicated in the table below.

Task	Compensation Type	Fee
Task 1 – Project Kickoff and Data Collection		$16,194
Task 2 – Historic Miramar Rapid Hydraulic Analysis		$57,871
Task 3 – Wastewater System Hydraulic Model		$158,596
Task 4 – Transmission System Condition Assessment		$33,616
Task 5 – Regulatory Compliance Overview		$5,909
Task 6 – Capital Improvements Program		$33,368
Task 7 – Administration, Coordination & Report Preparation		$39,550
Subtotal	Lump Sum	$345,104
Subconsultants		
Water Rite Consulting	Lump Sum	$13,500
Other Direct Costs		
Innovyze Inc. Training Allowance	Not-to-Exceed	$6,610
Communication and Reproduction	Not-to-Exceed	$350
Task 8 – Hydraulic Model Technical Training Allowance (As-Needed)	Not-to-Exceed	$10,000
Task 9 – Engineering Assistance Allowance (As-Needed)	Not-to-Exceed	$100,000
TOTAL		**$475,564**

Time of Performance

The estimated schedule for activities to be performed under this scope of services is presented below.

Task	Task Duration, Days	Total Days from NTP
Task 1 – Project Kickoff and Data Collection	30	30
Task 2 – Historic Miramar Rapid Hydraulic Analysis	60	60
Task 3 – Wastewater System Hydraulic Model	300	300
Task 4 – Transmission System Condition Assessment	60	270
Task 5 – Regulatory Compliance Overview	30	180
Task 6 – Capital Improvements Program	300	365
Task 7 – Administration, Coordination & Report Preparation	365	365

Key Assumptions

CONSULTANT's level of effort is based on the following key assumptions:

- **CITY** will provide access to all necessary facilities for execution of the work.
- **CITY** shall provide access to plans and data (electronic format), both public and private, that **CITY** has record of and provide copies of requested information/documents at no charge.
- Postulation of regulatory actions resulting in the need for additional reuse facilities will be limited to wastewater related issues only.
- Tasks 1-7 do not include any permitting services or negotiations with other agencies, jurisdictions, or parties relative to specific projects. Meetings with these parties may occur relative to general matters and/or conceptual solutions.
- Tasks 1-7 do not cover implementation of any specific project/program including design, permitting, bidding, construction services, etc.
- No preliminary design of sewers for unsewered areas is included.
- Surveying services and underground utility locates are not envisioned.
- Preliminary construction cost estimate shall be unitized based on local, similar projects and quotes from contractors in accordance with AACE 56R-08 Estimate Class 5. The expected accuracy range is -50% to +100%. All costs will be provided in current dollars.
- Tasks 1-7 do not include assistance with funding applications.

TABLE 1 - FEE CALCULATION
MIRAMAR WASTEWATER COLLECTION AND TRANSMISSION SYSTEM MASTER PLAN AND HYDRAULIC MODELING

Work Element	Project Manager	Senior Engineer	Principal Engineer	Assistant Engineer / Scientist	Senior CADD / Graphics	Junior CADD / Graphics	Administrative Assistant	Total Hours	Total Fee
Task 1 - Project Kickoff and Data Collection	8	16	24	32	8	8	8	104	$16,194
Task 2 - Historic Miramar Rapid Hydraulic Analysis	56	72	116	28	16	16	16	320	$57,871
Task 3 - Wastewater Transmission System Hydraulic Model	70	332	226	144	16	40	16	844	$158,596
Task 4 - Transmission System Condition Assessment	8	36	92	56	8	8	8	216	$33,616
Task 5 - Regulatory Compliance Overview	4	4	8	12	2	2	8	40	$5,909
Task 6 - Capital Improvements Program	12	32	56	88	8	8	16	220	$33,368
Task 7 - Administration, Coordination and Report Preparation	6	32	96	80	16	16	28	274	$39,550
Total Labor (Lump Sum)	**164**	**524**	**618**	**440**	**74**	**98**	**100**	**2,018**	**$345,104**
Subconsultants									
Water Rite Consulting, LLC									$13,500
Total Subconsultants (Lump Sum)									**$13,500**
Lump Sum Fee									**$358,604**
Reimbursable Budget									
Innovyze Inc. Training Allowance									$6,610
Communication and Reproduction									$350
									$6,960
Task 8 - Hydraulic Modeling Technical Assistance (Not-to-Exceed)									**$10,000**
Task 9 - Engineering Assistance Allowance (Not-to-Exceed)									**$100,000**
PROJECT TOTAL									**$475,564**
Maximum Hourly Raw Labor Rate*	$85.00	$80.00	$45.00	$40.00	$45.00	$38.00	$30.00		

CITY OF MIRAMAR
REQUEST FOR LETTERS OF INTEREST
FOR
THE WASTEWATER COLLECTION AND TRANSMISSION SYSTEM
MASTER PLAN AND HYDRAULIC MODELLING

RLOI # 21-02-15

INTRODUCTION:
The City of Miramar ("City") Requests Letters of Interest ("RLOI") and updated statements of qualifications for consulting services from the list of pre-qualified firms awarded under City Resolution #19-52, in the categories of Civil Engineering and Utilities Engineering. This is not a solicitation for services. This is a request for firms ("Respondents") to provide updated information, express interest and credentials to assist the City in obtaining subsequent proposal(s) for Civil and Utilities Professional Services.

BACKGROUND: The City owns and operates a wastewater transmission / collection system that serves both its eastern and western service areas. The eastern area (between State Road 441 and Palm Avenue), also known as Historic Miramar, has undergone a sewer collection system expansion in the past 15 years. In the past five years, approximately 63,000 feet of gravity sewer had been installed to serve 1,600 homes that were on septic tanks. Two new lift stations were installed as well to transmit sewage to the Wastewater Reclamation Facility for treatment and disposal. In addition, the City has performed lift station rehabilitation as its on-going renewal and replacement maintenance program. As a result, the City seeks a qualified firm to provide Civil and Utilities Professional Services for the Utilities Department.

SCOPE OF SERVICES:

I. Perform a system-wide analysis and develop a master plan for short-term and long-term improvements, to include: Updating the existing hydraulic model that was developed in WaterCAD in the early 2000's. This model needs updating/upgrading to Innovyze's Infoworks ICM, to include newly installed infrastructure, lift stations and forcemain in the City's sewer collection system.

II. Perform hydraulic modeling analysis under dry and wet weather flow conditions and evaluate system operating capacity. The analysis needs to focus on lift station and forcemain performance. The critical gravity sewer segments that connect re-pumping lift stations will also be included in the modeling analysis.

III. Prepare a master plan based on the analysis results and provide the City with recommendations of system improvements and upgrades. The master plan will include a schedule of needed improvements in three tiers: a) immediate/most critical; b) short-term (1-3 year), and; c) long-term (3-10 years), and budgetary cost estimates.

SITE OF PROJECT:
City of Miramar Utilities Department, 13900 Pembroke Road, Miramar, Florida 33027.

BASIC INSTRUCTIONS:

DUE TO COVID-19, THE CITY OF MIRAMAR REMAINS CLOSED TO THE PUBLIC. NO PROPOSALS WILL BE ACCEPTED PERSONALLY OR BY DELIVERY CARRIER.

Letters of Interest should state the Respondent's name, RLOI title and number on the cover page, and must be submitted no later than 2:00 p.m. on Thursday, February 25, 2021, to the following dropbox address:

https://www.dropbox.com/request/OrfaV9BVA4ej08HsIAVf.

PREFERRED QUALIFICATIONS:
The contracted firm ("Consultant") shall provide Civil and Utilities Professional Services for the complete execution of the project and in-house staff experience is preferred in the following areas:

1. Completion of similar scope projects of same size and complexity. All work will be prepared in accordance with the State of Florida Standards. Please provide an updated reference list showing relevant experience in these areas.

2. A listing of Personnel to include, Civil Engineers and other professionals needed to complete the project scope.

LETTER OF INTEREST FORMAT:
The information requested below will assist City staff in the review process. Kindly provide the following in a letter format in the order listed below:

1. Brief updated description of experience and qualifications and the specific local office personnel that will be assigned to this project. 30 pts.

2. Demonstration of your understanding and approach to complete the assigned tasks of the project. 30 pts.

3. References of similar wastewater system master plan and modeling services provided to other local, federal, state, city utilities; list descriptions of service provided and reference contact information. Failure to provide references may deem your firm non-responsive. 20 pts.

4. Delivery Schedule and project timeline (20 points).

5. Proof of valid Florida professional/occupational licensure and insurance (i.e., Errors and Omissions, General Liability and Workers Compensation).

REVIEW / RANKING PROCESS:
A selection committee will review and rank submittals based on the above mentioned criteria. A presentation may be requested. The top ranked firm will be asked to develop a scope and proposal, and any existing plans will be made available for those purposes.

CONTACT INFORMATION:
Questions, explanations or other requests regarding the RLOI must be addressed in writing to the City's Procurement Department, ATTN: Brenda Martin, (954) 602-3311, or Email: bamartin@miramarfl.gov.

CITY'S RIGHTS RESERVED:
The City reserves the right to waive any informalities or irregularities in this RLOI. The City reserves the right to reject any and all letters of interest as they may deem to be in the best interest of the City's residents and as may affect this project.

REFERENCES

1. **FIRM'S NAME:** _____

CONTACT NAME: _____

STREET ADDRESS: _____

CITY, STATE, ZIP CODE: _____

TELEPHONE NUMBER: _____

FAX NUMBER: _____

2. **FIRM'S NAME:** _____

CONTACT NAME: _____

STREET ADDRESS: _____

CITY, STATE, ZIP CODE: _____

TELEPHONE NUMBER: _____

FAX NUMBER: _____

3. **FIRM'S NAME:** _____

CONTACT NAME: _____

STREET ADDRESS: _____

CITY, STATE, ZIP CODE: _____

TELEPHONE NUMBER: _____

FAX NUMBER: _____

RLOI NO. 21-02-15

Wastewater Collection and Transmission System Master Plan and Hydraulic Modeling Evaluation and Scoring

Ranking

3/22/2021 @ 1:00 PM

	RATERS			TOTAL	RANKNG
Firms	**1**	**2**	**3**		
BROWN & CALDWELL	83	72	71	226	3
CPH, INC.	73	57	82	212	4
HAZEN & SAWYER	97	88	96	281	1
STANTEC	92	78	91	261	2

SCOPE OF SERVICES
(RLOI 21-02-15)

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM MASTER PLAN AND HYDRAULIC MODELING

September 1, 2021

PREAMBLE

The City of Miramar (**CITY**) has the responsibility for planning, regulating, designing, constructing, operating and maintaining a wastewater collection and transmission system and a wastewater treatment plant within the **CITY's** corporate limits. The **CITY** recently completed its 2020 Water Supply Facilities Work Plan which included population projections through the year 2045. The **CITY** anticipates an increase in population leading to an overall increase in demand for finished water of approximately 25%. Accordingly, an uprating or expansion in capacity at the Wastewater Reclamation Facility (WWRF) is anticipated for treatment of long-term wastewater flows. Thus, increased capacity demands are expected for the wastewater service area's collection and transmission system. The **CITY** must also comply with regulatory programs at various levels (federal, state, county and local) that impact existing infrastructure. Therefore, to fulfill its responsibilities, provide a high level of service to its residents and customers, practice water conservation, accommodate growth and economic development, and protect public health, safety and the environment, the **CITY** has defined the need for a Wastewater Collection and Transmission System Master Plan.

The objectives of this Master Plan include the following:

- Upgrade the **CITY's** existing WaterCAD wastewater collection and transmission system hydraulic model to Infoworks ICM
- Update the **CITY's** wastewater collection and transmission system model to include newly installed infrastructure, lift stations and force mains
- Calibrate the updated/upgraded hydraulic model
- Perform a system-wide hydraulic analysis including critical gravity sewer segments serving booster pumping stations
- Conduct a condition assessment of the **CITY's** lift stations
- Conduct a desktop risk analysis of the **CITY's** wastewater force mains
- Estimate inflow and infiltration within the **CITY's** collection system
- Identify immediate, short-term and long-term improvements necessary for the **CITY's** wastewater collection and transmission system
- Develop a Capital Improvements Program
- Present findings in a comprehensive Wastewater Master Plan

CONSULTANT shall perform the scope of work described below.

SCOPE OF WORK

Task 1 – Project Kickoff and Data Collection

CONSULTANT shall conduct a project kickoff meeting within two weeks after receiving the Notice to Proceed. The purpose of this task is to identify project protocols, establish coordination between **CONSULTANT** and **CITY** staff, and collect available documents from **CITY** on the existing facilities. **CONSULTANT** shall prepare an agenda prior to the meeting and electronically distribute meeting minutes following the meeting. It is anticipated that **CITY** field operations personnel with experience regarding excessive pump run-times and other recent issues in the eastern service area (Historic Miramar) will attend this meeting and provide an update on current operational challenges for purposes of further evaluation in later tasks.

Population and flow projections performed under the current Capacity Analysis, Evaluation and Re-Rating project will be used to establish anticipated wastewater volumes for the **CITY**'s service area through the year 2045. Data required from the **CITY** for subsequent tasks include the following:

- Lift station maintenance records for the previous ten years
- **CITY** plans (recent past and future planned) from septic to sewer conversions
- Updated records for any City rehabilitation efforts at lift stations or force mains
- Records of repairs, leaks, or line breaks in gravity sewer and force main system
- GIS data for existing wastewater and water customers (including billing records for the period of January 2016 through December 2020 by address)
- Proposed major developments and associated flow projections

Task 2 – Historic Miramar Rapid Hydraulic Analysis

The eastern service area, also known as Historic Miramar, has undergone a sewer collection system expansion and this area's Master Pump Station has been experiencing excessive run times potentially due to a hydraulic constriction for pumping flow west to the WWRF. It is the objective of this task to update the existing model to reflect currently installed infrastructure and make recommendations for reducing excessive pump run times, including the need for a parallel force main along Miramar Boulevard from the Master Pump Station to the Booster Pump Station. **CONSULTANT** shall include the following:

- Lift station inflows
- New/upgraded force mains
- Current/new lift station pump curves
- Septic tank conversion area lift stations and force mains
- Gravity collectors upstream of the Booster Pump Station
- Master Pump Station flow to the west (WWRF)
- Master Pump Station flow to the east (Hollywood)
- Booster Pump Station control and operation

CONSULTANT shall, with **CITY** input, develop hydraulic scenarios for the existing flow conditions and future conditions which will include, at a minimum, system flows and pressures for:

- Master Pump Station for flow to the west (WWRF) under peak flow conditions
- Master Pump Station for flow to the west under average day flow condition
- Master Pump Station for flow to both west and east under emergency condition (Hollywood)

CONSULTANT shall also assist the **CITY** with confirming current instrumentation and valve settings at the Master Pump Station. Upon completion, **CONSULTANT** shall provide a brief Technical Memorandum summarizing the modeling results for each scenario and meet with the **CITY** to discuss recommendations for identified improvements. Quality control of data analysis and technical review for this task will be performed by Water Rite Consulting, a registered County Business Enterprise and Small Business Enterprise.

Task 3 – Wastewater System Hydraulic Model

CONSULTANT shall upgrade the existing WaterCAD hydraulic model to Infoworks ICM based on the current GIS records (baseline system). This baseline system model will be used for model calibration and will include the existing infrastructure. Once updated, wet/dry season data will be collected followed by model calibration.

The baseline sewer flow contribution will be determined to spatially characterize sewer flow and quantify collection system capacity. A monitoring plan will be developed for effective and efficient placement of metering instruments. Pressure data loggers will be installed at key pump stations and force mains for calibration of the model.

Hydraulic model calibration efforts will include both dry and wet weather calibration and the flow monitoring data will be analyzed for both accuracy and completeness prior to identifying input parameters for the model. The model input dry weather volumes will be based on monitoring results. To improve the accuracy of predicted wet-weather planning conditions, the model will be calibrated to a continuous time series by comparing the modeled flow to the metered field observations under both dry weather and wet weather conditions.

The calibration criteria for both dry and wet weather conditions is shown in Table 1 below. The calibration criteria are based in part on the standards outlined in the Wastewater Planning Users Group Code of Practice for the Hydraulic Modelling of Sewer Systems (WaPUG) (Version 3.001, Amended December 2002).

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Dry Weather Calibration Criteria	
Flow Rate	-10% to 10% of measured or <±0.1 MGD
Flow Volume	-10% to 10% of measured or <±0.1 MG
Depth (Avg, Max, Min)	-15% to 15% of measured
Shape	Modeled and metered curves should be similar for flow and depth.
Timing	Peaks, troughs, and recessions of modeled and metered curves should be similar for flow and depth.
Wet Weather Calibration Criteria	
Flow Rate	-15% to 25% of measured or <±0.1 MGD
Flow Volume	-15% to 25% of measured or <±0.1 MG
Depth (Avg, Max, Min)	-15% to 15% of measured
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Timing	Peaks, troughs, and recessions of modeled and metered curves should be similar for flow and depth.
Flooding	Corroborated using City data and other historical records.

**In compliance with Wastewater Planning Users Group Code of Practice for the Hydraulic Modelling of Sewer Systems (WaPUG), Version 3.001, Amended December 2002.*

The shape of the modeled and metered curves and the timing of the peaks, troughs, and recessions of the modeled and metered curves will be compared to confirm satisfaction of the calibration criteria. Any needed system improvements will be noted and accompanied by planning level costs.

While most of the City is currently served by the wastewater collection system, the City may expand the collection system to the unsewered areas in the future. Using customer water consumption records, **CONSULTANT** will estimate sewer volumes and include the impact of a sewer expansion to the collection system model. Flow inputs will be assumed at existing system trunk lines. Preliminary collection system layouts for unsewered areas is not envisioned. Using the calibrated model, **CONSULTANT** will perform up to four simulations to identify system deficiencies as follows:

- Current average flow
- Current peak hour flow
- 2045 average flow
- 2045 peak hour flow

Identification of system deficiencies will be based primarily on lift station run-time, wet well level, and force main headloss, velocity and pressure. A meeting with pertinent **CITY** staff is envisioned specific to the hydraulic modeling effort to discuss results. Up to three additional scenarios will be performed to model resolutions to noted deficiencies. **CITY** assistance will be needed to obtain access to pertinent facilities, particularly for the coordination, deployment and retrieval of monitoring equipment. Upon completion, modeling, calibration and sewer expansion results will be included in the Wastewater Master Plan.

Task 4 –Transmission System Condition Assessment

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3	Average	Asset is functionally sound and shows normal signs of wear relative to age and use but may have minor failures or performance deterioration. Minor or moderate refurbishment of 10-20% of asset may be needed within next 2 years.
4	Fair	Asset functions but requires sustained high level of maintenance to remain operational. Substantial wear is visible and likely to cause significant performance deterioration. Refurbishment of 20-40% of asset may be needed within next 2 years.
5	Poor	Asset is very near, or beyond, its useful life. Incapable of performing to a satisfactory standard under normal operational conditions without on-going or corrective maintenance. Replacement needed in the near term (less than 2 years).

CONSULTANT shall estimate useful life based upon a simple straight-line degradation (straight-line degradation from 'new' to 'replace' over the published or typical asset lifespan). **CONSULTANT** will consolidate and review historical replacement cost data, our local knowledge of replacement cost, databases such as RS Means, and City databases with costs from similar projects to estimate the replacement cost in current dollars for each asset. For a lift station, cost is based on pump size, lift station configuration, and layout. Work planned on the lift stations and extraordinary conditions that have extended or shortened an asset's life will be included to the extent possible. Estimating the costs of routine maintenance, such as oil changes, lubrication, belt adjustments, etc. will not be included as part of this task effort. Buried infrastructure and piping condition will not be physically evaluated as part of this task effort. A limited assessment of wastewater transmission piping will be performed based on available information provided by the **CITY**. The **CITY** will provide information on the wastewater transmission piping infrastructure regarding material type and age that will be utilized by **CONSULTANT** for the purpose of evaluating useful life based on industry guidelines. The wastewater gravity collection system is not included as part of this task effort. Quality control of data analysis and technical review for this task will be performed by Water Rite Consulting, a registered County Business Enterprise and Small Business Enterprise.

Task 5 – Regulatory Compliance Overview

Although the outlook for NPDES permit requirements beyond the year 2021 cannot be accurately determined at this time, additional utility requirements can be reasonably assessed as possibilities. **CONSULTANT** will consider the impact of recent or proposed regulatory requirements and other regulatory trends on the **CITY's** wastewater system for inclusion in the Wastewater Master Plan. **CITY** input will be obtained to confirm/define scenarios of most concern which will be evaluated under this task.

Task 6 – Capital Improvements Program

This task consists of the development of a capital project prioritization framework to enable the **CITY** to plan and prioritize the renewal and replacement of assets with the highest risk of failure based on effective useful life, condition and consequence of failure assessments. Based on the results of the prior tasks and input from the **CITY**, **CONSULTANT** shall develop recommendations for major improvements. An estimated schedule for effective implementation of the identified wastewater improvements throughout the planning period including present planning-level cost estimates will be developed. Quality control of data analysis and technical review for this task will

be performed by Water Rite Consulting, a registered County Business Enterprise and Small Business Enterprise.

Task 7 – Wastewater Master Plan Administration, Coordination and Report Preparation

CONSULTANT shall prepare and assemble technical documentation resulting from the previously identified tasks into an overall Master Plan Draft Report. This Draft Report will include the identified recommended improvements for the **CITY's** wastewater infrastructure. The Draft Report will include identified costs and implementation schedules. The Draft Report will be prepared and submitted to the **CITY** staff for review and comment. A review meeting will be held with **CITY** staff within two weeks of submission of the Draft Report to discuss comments.

Comments received at the review meeting will be documented in meeting minutes and incorporated into the Master Plan Final Report. The Final Report will embody a dynamic master plan to allow **CITY** staff flexibility to incorporate future upgrades. A total of five hard copies of the Master Plan Final Report will be prepared and submitted to the **CITY** within two weeks of the review meeting. An electronic version of the Master Plan Final Report will also be included with the submittal. It is assumed that the final report will be provided in pdf (portable document format) and three-ring binder format. Quality control of data analysis and technical review for this task will be performed by Water Rite Consulting, a registered County Business Enterprise and Small Business Enterprise.

Task 8 – Hydraulic Model Technical Training Allowance

This task consists of an allowance for training for up to three **CITY** staff through Innovyze Inc. for the InfoWorks ICM software package. The allowance assumes virtual instruction over a standard 2-day ICM product workshop and is based upon current pricing. The schedule and the actual cost of the training will be determined by Innovyze at the time of registration. In addition, **CONSULTANT** shall provide technical assistance to **CITY** staff, via either telephone or site visits, with simulation scenarios to be defined by the **CITY** or other such hydraulic modeling concerns with a goal of allowing **CITY** staff flexibility to incorporate future upgrades. As the extent of the request cannot be known in advance, this task provides an allowance to be used on an as-needed basis at the **CITY's** request.

Task 9 – Engineering Assistance Allowance

As a future task, **CONSULTANT** may be requested to further investigate system deficiencies, consider the impact of impending regulatory issues such as SSES/Inflow/Infiltration surveys, CMOM programs and/or proposed requirements such as contaminants of emerging concern in reclaimed water. Work efforts engaged under this allowance will be negotiated and administered at the **CITY's** discretion on an as-needed basis. Quality control of data analysis and technical review for this task will be performed by Water Rite Consulting, a registered County Business Enterprise and Small Business Enterprise.

Fee

Compensation shall be made to **CONSULTANT** as indicated in the table below.

Task	Compensation Type	Fee
Task 1 – Project Kickoff and Data Collection		$16,194
Task 2 – Historic Miramar Rapid Hydraulic Analysis		$57,871
Task 3 – Wastewater System Hydraulic Model		$158,596
Task 4 – Transmission System Condition Assessment		$33,616
Task 5 – Regulatory Compliance Overview		$5,909
Task 6 – Capital Improvements Program		$33,368
Task 7 – Administration, Coordination & Report Preparation		$39,550
Subtotal	Lump Sum	$345,104
Subconsultants		
Water Rite Consulting	Lump Sum	$13,500
Other Direct Costs		
Innovyze Inc. Training Allowance	Not-to-Exceed	$6,610
Communication and Reproduction	Not-to-Exceed	$350
Task 8 – Hydraulic Model Technical Training Allowance (As-Needed)	Not-to-Exceed	$10,000
Task 9 – Engineering Assistance Allowance (As-Needed)	Not-to-Exceed	$100,000
TOTAL		**$475,564**

Time of Performance

The estimated schedule for activities to be performed under this scope of services is presented below.

Task	Task Duration, Days	Total Days from NTP
Task 1 – Project Kickoff and Data Collection	30	30
Task 2 – Historic Miramar Rapid Hydraulic Analysis	60	60
Task 3 – Wastewater System Hydraulic Model	300	300
Task 4 – Transmission System Condition Assessment	60	270
Task 5 – Regulatory Compliance Overview	30	180
Task 6 – Capital Improvements Program	300	365
Task 7 – Administration, Coordination & Report Preparation	365	365

Key Assumptions

CONSULTANT's level of effort is based on the following key assumptions:

- **CITY** will provide access to all necessary facilities for execution of the work.
- **CITY** shall provide access to plans and data (electronic format), both public and private, that **CITY** has record of and provide copies of requested information/documents at no charge.
- Postulation of regulatory actions resulting in the need for additional reuse facilities will be limited to wastewater related issues only.
- Tasks 1-7 do not include any permitting services or negotiations with other agencies, jurisdictions, or parties relative to specific projects. Meetings with these parties may occur relative to general matters and/or conceptual solutions.
- Tasks 1-7 do not cover implementation of any specific project/program including design, permitting, bidding, construction services, etc.
- No preliminary design of sewers for unsewered areas is included.
- Surveying services and underground utility locates are not envisioned.
- Preliminary construction cost estimate shall be unitized based on local, similar projects and quotes from contractors in accordance with AACE 56R-08 Estimate Class 5. The expected accuracy range is -50% to +100%. All costs will be provided in current dollars.
- Tasks 1-7 do not include assistance with funding applications.

TABLE 1 - FEE CALCULATION
MIRAMAR WASTEWATER COLLECTION AND TRANSMISSION SYSTEM MASTER PLAN AND HYDRAULIC MODELING

Work Element	Project Manager	Senior Engineer	Principal Engineer	Assistant Engineer / Scientist	Senior CADD / Graphics	Junior CADD / Graphics	Administrative Assistant	Total Hours	Total Fee
Task 1 - Project Kickoff and Data Collection	8	16	24	32	8	8	8	104	$16,194
Task 2 - Historic Miramar Rapid Hydraulic Analysis	56	72	116	28	16	16	16	320	$57,871
Task 3 - Wastewater Transmission System Hydraulic Model	70	332	226	144	16	40	16	844	$158,596
Task 4 - Transmission System Condition Assessment	8	36	92	56	8	8	8	216	$33,616
Task 5 - Regulatory Compliance Overview	4	4	8	12	2	2	8	40	$5,909
Task 6 - Capital Improvements Program	12	32	56	88	8	8	16	220	$33,368
Task 7 - Administration, Coordination and Report Preparation	6	32	96	80	16	16	28	274	$39,550
Total Labor (Lump Sum)	**164**	**524**	**618**	**440**	**74**	**98**	**100**	**2,018**	**$345,104**
Subconsultants									
Water Rite Consulting, LLC									$13,500
Total Subconsultants (Lump Sum)									**$13,500**
Lump Sum Fee									**$358,604**
Reimbursable Budget									
Innovyze Inc. Training Allowance									$6,610
Communication and Reproduction									$350
									$6,960
Task 8 - Hydraulic Modeling Technical Assistance (Not-to-Exceed)									**$10,000**
Task 9 - Engineering Assistance Allowance (Not-to-Exceed)									**$100,000**
PROJECT TOTAL									**$475,564**
Maximum Hourly Raw Labor Rate*	$85.00	$80.00	$45.00	$40.00	$45.00	$38.00	$30.00		