

PALM BEACH COUNTY
BOARD OF COUNTY COMMISSIONERS

AGENDA ITEM SUMMARY

Meeting Date: December 19, 2017 Consent [X] Regular []
Public Hearing []

Department: Water Utilities Department

I. EXECUTIVE BRIEF

Motion and Title: Staff recommends motion to approve: a Contract for Professional Consulting/Engineering Services with Hazen and Sawyer, P.C., (Contract) for the Secondary Clarifier and Effluent Filtration Improvements Project (Project) at the Southern Region Water Reclamation Facility (SRWRF) in the amount of \$1,999,490.

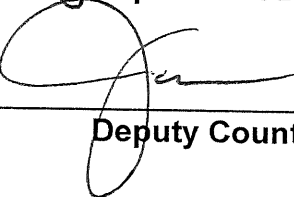
Summary: This Contract will provide professional services during the design, permitting, bidding and construction required to replace aging infrastructure at the SRWRF. The Project will focus on the rehabilitation and improvements to the secondary clarifiers, anaerobic digesters, biogas generators, effluent filters, transfer pumps and chemical storage. The Project will enhance operational efficiency by replacing or rehabilitating equipment which are reaching the end of their serviceable life. The procurement was undertaken pursuant to the requirements of Florida Statutes 287.055 (Consultants' Competitive Negotiation Act). The Contract has a term of four (4) years. The Small Business Enterprise (SBE) participation goal established by the SBE Ordinance is 15% overall. The Contract with Hazen and Sawyer, P.C., provides for a minimum SBE participation of 21%, however, Hazen and Sawyer, P.C. has committed to an SBE participation of 30.31% overall. Hazen and Sawyer, P.C., is headquartered in New York, New York, but maintains an office in Palm Beach County from which the majority of the work under the Contract will be undertaken. The Project is in the FY18 Capital Improvement Plan adopted by the Board of County Commissioners. (WUD Project No. 17-022) District 5 (MJ)

Background and Justification: The SRWRF was constructed in two phases with Phase I and Phase II completed between 1991 and 1997. The Project serves to enhance operational efficiency and reduce operational costs by replacing and rehabilitating aging equipment and systems that have reached the end of their serviceable life with more efficient infrastructure. In addition, the Project will improve operational safety by constructing elevated access platforms to enhance personnel safety when working at height, connecting the emergency showers and eyewashes to the plant SCADA system and allowing active monitoring. The Project will rehabilitate all eight (8) existing secondary clarifiers, construct scum collection manholes for each secondary clarifier, replace aging gas-fired boilers at the anaerobic digesters, replace the original sand effluent filters with cloth filters, replace reclaimed water transfer pumps and provide operational improvements to the biogas generators.

Attachments:

- 1. Four (4) Original Contracts
- 2. Location Map
- 3. Insurance Certificate(s)

Recommended By:  12-7-17
Department Director Date

Approved By:  12-12-17
Deputy County Administrator Date

II. FISCAL IMPACT ANALYSIS

A. Five Year Summary of Fiscal Impact:

Fiscal Years	2018	2019	2020	2021	2022
Capital Expenditures	<u>\$1,999,490</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Operating Costs	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
External Revenues	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Program Income (County)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
In-Kind Match County	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
NET FISCAL IMPACT	<u>\$1,999,490</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
# ADDITIONAL FTE					
POSITIONS (Cumulative)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Budget Account No.:	Fund <u>4011</u>	Dept <u>721</u>	Unit <u>W010</u>	Object <u>6545</u>	

Is Item Included in Current Budget? Yes X No

Does this item include the use of federal funds? Yes No **X**

Reporting Category	<u>N/A</u>
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B. Recommended Sources of Funds/Summary of Fiscal Impact:


One (1) time expenditure from user fees, connection fees, and balance brought forward.

C. Department Fiscal Review: h Ent

III. REVIEW COMMENTS


A. OFMB Fiscal and/or Contract Development and Control Comments:

 11/27/12
 OFMB ^{HP}
 11/22

 12/8/17
 Contract Development and Control
 12/8/17 @TW

B. Legal Sufficiency:

Legal Sufficiency:


Assistant County Attorney

12/11/17

C. Other Department Review:

Department Director

This summary is not to be used as a basis for payment.

**CONTRACT FOR CONSULTING/PROFESSIONAL SERVICES
SECONDARY CLARIFIER AND EFFLUENT FILTRATION IMPROVEMENTS
ENGINEERING SERVICES
PROJECT No. WUD 17-022**

This Contract is made as of the _____ day of _____, 20 __, by and between Palm Beach County, a Political Subdivision of the State of Florida, by and through its Board of Commissioners, hereinafter referred to as the COUNTY, and Hazen and Sawyer, P.C., a Foreign Profit Corporation authorized to do business in the State of Florida, hereinafter referred to as the CONSULTANT, whose Federal I.D. is 13-2904652.

In consideration of the mutual promises contained herein, the COUNTY and the CONSULTANT agree as follows:

ARTICLE 1 - SERVICES

The CONSULTANT's responsibility under this Contract is to provide professional consultation/engineering services for the required improvements at The Southern Region Water Reclamation (SRWRF) within Palm Beach County Water Utilities Department (PBCWUD) service area, as more specifically set forth in the Scope of Work detailed in Exhibit "A". The services shall be provided in accordance with Scope of Work detailed in **Exhibit A** and in accordance with the Proposal submitted by CONSULTANT in response to the Request for Proposal for **SECONDARY CLARIFIER AND EFFLUENT FILTRATION IMPROVEMENTS, PROJECT No. WUD 17-022**. A copy of said Proposal is on file with the Palm Beach County Water Utilities Department, 8100 Forest Hill Blvd., West Palm Beach, FL 33413.

The COUNTY'S representative/liaison during the performance of this Contract shall be ***Hassan Hadjimiry, P.E.***, telephone no. **561-493-6000**.

The CONSULTANT'S representative/liaison during the performance of this Contract shall be ***Albert Muniz, P.E.***, telephone no. **561-997-8070**.

ARTICLE 2 - SCHEDULE

This Contract for the above described services will commence upon the date of Board approval and shall remain in effect for a period of four (4) years from that date, unless otherwise terminated as provided herein.

Reports and other items shall be delivered or completed in accordance with the detailed schedule set forth in **Exhibit D**.

ARTICLE 3 - PAYMENTS TO CONSULTANT

- A. The total amount to be paid by the COUNTY under the CONTRACT is for all services, materials, and if applicable, "out-of-pocket" expenses (specified in paragraph D below) and shall not exceed the total compensation amount in the CONTRACT. The COUNTY agrees to pay the CONSULTANT under the CONTRACT a lump sum fee plus a not-to-exceed fee in the total compensation amount of one million, nine hundred ninety-nine thousand, four hundred ninety dollars and zero cents (\$1,999,490.00). This CONTRACT details an overall overhead and profit

factor of 3.00. The labor rates, overhead and profit factors may be subject to audit. Hourly raw labor rates shall not include any employer paid fringe benefits such as social security contributions, unemployment excise and payroll taxes, workers compensation etc. The scheduled range of hourly raw labor rates by labor category as set forth in **Exhibit B** is attached hereto and made a part hereof. These hourly raw labor rates may be adjusted after a period of one year from the effective date of the CONTRACT. The CONSULTANT will bill the COUNTY on a monthly basis, or as otherwise provided, at the amounts set forth in **Exhibit B** for services rendered toward the completion of the Scope of Work. Where incremental billings for partially completed items are permitted, the total billings shall not exceed the estimated percentage of completion as of the billing date.

The CONSULTANT shall notify the COUNTY's representative in writing when 90% of the lump sum fee has been reached. The CONSULTANT shall notify the COUNTY's representative in writing when 90% of the not-to-exceed fee has been reached. The CONSULTANT may invoice the COUNTY on a monthly basis for services rendered toward the completion of the Scope of Work. Invoices for partially completed items shall not exceed the estimated percentage of completion as of the invoice date. Partial payments for lump sum fees shall include description of work completed within the payment invoice period and the percentage completion of each sub-task as described in the Scope of Work Exhibit A.

- C. Invoices received from the CONSULTANT pursuant to this Contract will be reviewed and approved by the COUNTY's representative, to verify that services have been rendered in conformity with the CONTRACT. Approved invoices will then be sent to the Finance Department for payment. Invoices will normally be paid within thirty (30) days following the COUNTY representative's approval. Invoices for lump sum fees and not-to-exceed fees shall be supported by supporting documentation detailing descriptions of work completed within the payment period and include the percentage completion of each task and sub-task as described in **Exhibit B**. As appropriate, CONSULTANT shall submit, Small Business Enterprise (SBE) Schedules (Schedule 3(a) – Professional Services Activity Report and Schedule 4 – SBE-M/WBE Payment Certification) with each invoice.
- D. "Out-of-pocket" expenses will be reimbursed up to an amount not to exceed that approved in the CONTRACT, and in accordance with the list of the types and amounts of expenditures eligible for reimbursement. All requests for payment of "out-of-pocket" expenses eligible for reimbursement under the terms of this Contract shall include copies of paid receipts, invoices, or other documentation acceptable to the Palm Beach County Finance Department. Such documentation shall be sufficient to establish that the expense was actually incurred and necessary in the performance of the Scope of Work. Any travel, per diem, mileage, meals, or lodging expenses which may be reimbursable under the terms of this Contract will be paid in accordance with the rates and conditions set forth in Section 112.061, Florida Statutes.
- E. Final Invoice: In order for both parties herein to close their books and records, the CONSULTANT will clearly state "final invoice" on the CONSULTANT'S final/last billing to the COUNTY. This shall constitute CONSULTANT'S certification that all services have been properly performed and all charges and costs have been invoiced to Palm Beach County. Any other charges not properly included on this final invoice are waived by the CONSULTANT.

ARTICLE 4 - TRUTH-IN-NEGOTIATION CERTIFICATE

Signature of this Contract by the CONSULTANT shall also act as the execution of a truth-in-negotiation certificate certifying that the wage rates, over-head charges, and other costs used to determine the compensation provided for in this Contract are accurate, complete and current as of the date of the Contract and no higher than those charged the CONSULTANT's most favored customer for the same or substantially similar service.

Said rates and costs shall be adjusted to exclude any significant sums should the COUNTY determine that the rates and costs were increased due to inaccurate, incomplete or noncurrent wage rates or due to inaccurate representations of fees paid to outside consultants. The COUNTY shall exercise its rights under this Article 4 within three (3) years following final payment.

ARTICLE 5 - TERMINATION

This Contract may be terminated by the CONSULTANT upon sixty (60) days' prior written notice to the COUNTY's representative in the event of substantial failure by the COUNTY to perform in accordance with the terms of this Contract through no fault of the CONSULTANT. It may also be terminated, in whole or in part, by the COUNTY, with or without cause, immediately upon written notice to the CONSULTANT. Unless the CONSULTANT is in breach of this Contract, the CONSULTANT shall be paid for services rendered to the COUNTY'S satisfaction through the date of termination. After receipt of a Termination Notice and except as otherwise directed by the COUNTY the CONSULTANT shall:

- A. Stop work on the date and to the extent specified.
- B. Terminate and settle all orders and subcontracts relating to the performance of the terminated work.
- C. Transfer all work in process, completed work, and other materials related to the terminated work to the COUNTY.
- D. Continue and complete all parts of the work that have not been terminated.

ARTICLE 6 - PERSONNEL

The CONSULTANT represents that it has, or will secure at its own expense, all necessary personnel required to perform the services under this Contract. Such personnel shall not be employees of or have any contractual relationship with the COUNTY.

All of the services required herein shall be performed by the CONSULTANT or under its supervision, and all personnel engaged in performing the services shall be fully qualified and, if required, authorized or permitted under state and local law to perform such services.

Any changes or substitutions in the CONSULTANT's key personnel, as may be listed in Exhibit "B", must be made known to the COUNTY's representative and written approval must be granted by the COUNTY's representative before said change or substitution can become effective.

The CONSULTANT certifies that all services shall be performed by skilled and competent personnel to the highest professional standards in the field.

All of the CONSULTANT'S personnel (and all subcontractors and sub-consultants), while on COUNTY premises, will comply with all COUNTY requirements governing conduct, safety and security.

ARTICLE 7 - SUBCONTRACTING

The COUNTY reserves the right to accept the use of a subcontractor or to reject the selection of a particular subcontractor and to inspect all facilities of any subcontractors in order to make a determination as to the capability of the subcontractor to perform properly under this Contract. The CONSULTANT is encouraged to seek additional small business enterprises for participation in subcontracting opportunities. If the CONSULTANT uses any subcontractors on this project the following provisions of this Article shall apply:

If a subcontractor fails to perform or make progress, as required by this Contract, and it is necessary to replace the subcontractor to complete the work in a timely fashion, the CONSULTANT shall promptly do so, subject to acceptance of the new subcontractor by the COUNTY.

The Palm Beach County Board of County Commissioners has established a minimum goal for SBE participation of 15% on all County solicitations. **The CONSULTANT agrees to a minimum 21% SBE participation.**

The CONSULTANT agrees to abide by all provisions of the Palm Beach County Code establishing the SBE Program, as amended, and understands that failure to comply with any of the requirements will be considered a breach of contract.

The CONSULTANT understands that each SBE firm utilized on this Contract must be certified by Palm Beach County in order to be counted toward the SBE participation goal.

The CONSULTANT shall provide the COUNTY with a copy of the CONSULTANT's contract with any SBE subcontractor or any other related documentation upon request.

The CONSULTANT understands the requirements to comply with the tasks and proportionate dollar amounts throughout the term of this Contract as it relates to the use of SBE firms.

The CONSULTANT will only be permitted to replace a certified SBE subcontractor who is unwilling or unable to perform. Such substitutions must be done with another certified SBE in order to maintain the SBE percentages established in this Contract. Requests for substitutions of SBE's must be submitted to the COUNTY's representative and to the Office of Small Business Assistance.

The CONSULTANT shall be required to submit to the COUNTY Schedule 1 (Participation of SBE-M/WBE Contractors) and Schedule 2 (Letter of Intent) to further indicate the specific participation anticipated, for the CONTRACT.

The CONSULTANT agrees to maintain all relevant records and information necessary to document compliance with the Palm Beach County Code and will allow the COUNTY to inspect such records.

ARTICLE 8 - FEDERAL AND STATE TAX

The COUNTY is exempt from payment of Florida State Sales and Use Taxes. The COUNTY will sign an exemption certificate submitted by the CONSULTANT. The CONSULTANT shall not be exempted

from paying sales tax to its suppliers for materials used to fulfill contractual obligations with the COUNTY, nor is the CONSULTANT authorized to use the COUNTY's Tax Exemption Number in securing such materials.

The CONSULTANT shall be responsible for payment of its own and its share of its employees' payroll, payroll taxes, and benefits with respect to this contract.

ARTICLE 9 - AVAILABILITY OF FUNDS

The COUNTY's performance and obligation to pay under this contract for subsequent fiscal years are contingent upon annual appropriations for its purpose by the Board of County Commissioners.

ARTICLE 10 - INSURANCE

- A. CONSULTANT shall, at its sole expense, agree to maintain in full force and effect at all times during the life of this Contract, insurance coverages and limits (including endorsements), as described herein. CONSULTANT shall agree to provide the COUNTY with at least ten (10) day prior notice of any cancellation, non-renewal or material change to the insurance coverages. The requirements contained herein, as well as COUNTY's review or acceptance of insurance maintained by CONSULTANT are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by CONSULTANT under the contract.
- B. **Commercial General Liability** CONSULTANT shall maintain Commercial General Liability at a limit of liability not less than **\$500,000** Each Occurrence. Coverage shall not contain any endorsement excluding Contractual Liability or Cross Liability unless granted in writing by COUNTY's Risk Management Department. CONSULTANT shall provide this coverage on a primary basis.
- C. **Business Automobile Liability** CONSULTANT shall maintain Business Automobile Liability at a limit of liability not less than **\$500,000** Each Accident for all owned, non-owned and hired automobiles. In the event CONSULTANT doesn't own any automobiles, the Business Auto Liability requirement shall be amended allowing CONSULTANT to agree to maintain only Hired & Non-Owned Auto Liability. This amended requirement may be satisfied by way of endorsement to the Commercial General Liability, or separate Business Auto coverage form. CONSULTANT shall provide this coverage on a primary basis.
- D. **Worker's Compensation Insurance & Employers Liability** CONSULTANT shall maintain Worker's Compensation & Employers Liability in accordance with Florida Statute Chapter 440. CONSULTANT shall provide this coverage on a primary basis.
- E. **Professional Liability** CONSULTANT shall maintain Professional Liability or equivalent Errors & Omissions Liability at a limit of liability not less than **\$3,000,000** Each Claim. When a self-insured retention (SIR) or deductible exceeds **\$10,000**, COUNTY reserves the right, but not the obligation, to review and request a copy of CONSULTANT's most recent annual report or audited financial statement. For policies written on a "Claims-Made" basis, CONSULTANT shall maintain a Retroactive Date prior to or equal to the effective date of this Contract. The Certificate of Insurance providing evidence of the purchase of this coverage shall clearly indicate whether coverage is provided on an "occurrence" or "claims - made" form. If coverage is provided on a "claims - made" form the Certificate of Insurance must also clearly indicate the

“retroactive date” of coverage. In the event the policy is canceled, non-renewed, switched to an Occurrence Form, retroactive date advanced, or any other event triggering the right to purchase a Supplement Extended Reporting Period (SERP) during the life of this Contract, CONSULTANT shall purchase a SERP with a minimum reporting period not less than 3 years. CONSULTANT shall provide this coverage on a primary basis.

- F. **Additional Insured** CONSULTANT shall endorse the COUNTY as an Additional Insured with a CG 2026 Additional Insured - Designated Person or Organization endorsement, or its equivalent, to the Commercial General Liability. The Additional Insured endorsement shall read “Palm Beach County Board of County Commissioners, a Political Subdivision of the State of Florida, its Officers, Employees and Agents.” CONSULTANT shall provide the Additional Insured endorsements coverage on a primary basis.
- G. **Waiver of Subrogation** CONSULTANT hereby waives any and all rights of Subrogation against the County, its officers, employees and agents for each required policy. When required by the insurer, or should a policy condition not permit an insured to enter into a pre-loss agreement to waive subrogation without an endorsement to the policy, then CONSULTANT shall agree to notify the insurer and request the policy be endorsed with a Waiver of Transfer of rights of Recovery Against Others, or its equivalent. This Waiver of Subrogation requirement shall not apply to any policy, which specifically prohibits such an endorsement, or which voids coverage should CONSULTANT enter into such an agreement on a pre-loss basis.
- H. **Certificate(s) of Insurance** Prior to execution of this Contract, CONSULTANT shall deliver to the COUNTY’S representative as identified in Article 26, a Certificate(s) of Insurance evidencing that all types and amounts of insurance coverages required by this Contract have been obtained and are in full force and effect. Such Certificate(s) of Insurance shall include a minimum ten (10) day endeavor to notify due to cancellation or non-renewal of coverage. The certificate of insurance shall be issued to

Palm Beach County
Water Utilities Department
c/o Insurance Tracking Services, Inc. (ITS)
P.O. Box 20270
Long Beach, CA 90801

Email: pbcc@instracking.com
Fax: (562) 435-2999

- I. **Umbrella or Excess Liability** If necessary, CONSULTANT may satisfy the minimum limits required above for Commercial General Liability, Business Auto Liability, and Employer’s Liability coverage under Umbrella or Excess Liability. The Umbrella or Excess Liability shall have an Aggregate limit not less than the highest “Each Occurrence” limit for either Commercial General Liability, Business Auto Liability, or Employer’s Liability. The COUNTY shall be specifically endorsed as an “Additional Insured” on the Umbrella or Excess Liability, unless the Certificate of Insurance notes the Umbrella or Excess Liability provides coverage on a “Follow-Form” basis.
- J. **Right to Review** COUNTY, by and through its Risk Management Department, in cooperation

with the Contracting/Monitoring Department, reserves the right to review, modify, reject or accept any required policies of insurance, including limits, coverages, or endorsements, herein from time to time throughout the term of this CONTRACT. COUNTY reserves the right, but not the obligation, to review and reject any insurer providing coverage because of its poor financial condition or failure to operate legally.

ARTICLE 11 - INDEMNIFICATION

CONSULTANT shall indemnify and hold harmless the COUNTY, and its officers and employees, from liabilities, damages, losses, and costs, including, but not limited to, reasonable attorneys' fees, to the extent caused by the negligence, recklessness, or intentionally wrongful conduct of the CONSULTANT and other persons employed or utilized by the CONSULTANT in the performance of the Contract.

ARTICLE 12 - SUCCESSORS AND ASSIGNS

The COUNTY and the CONSULTANT each binds itself and its partners, successors, executors, administrators and assigns to the other party and to the partners, successors, executors, administrators and assigns of such other party, in respect to all covenants of this Contract. Except as above, neither the COUNTY nor the CONSULTANT shall assign, sublet, convey or transfer its interest in this Contract without the prior written consent of the other.

ARTICLE 13 - REMEDIES

This Contract shall be governed by the laws of the State of Florida. Any legal action necessary to enforce the Contract will be held in a court of competent jurisdiction located in Palm Beach County, Florida. No remedy herein conferred upon any party is intended to be exclusive of any other remedy, and each and every such remedy shall be cumulative and shall be in addition to every other remedy given hereunder or now or hereafter existing at law or in equity, by statute or otherwise. No single or partial exercise by any party of any right, power, or remedy hereunder shall preclude any other or further exercise thereof.

No provision of this Contract is intended to, or shall be construed to, create any third party beneficiary or to provide any rights to any person or entity not a party to this Contract, including but not limited to any citizen or employees of the COUNTY and/or CONSULTANT.

ARTICLE 14 - CONFLICT OF INTEREST

The CONSULTANT represents that it presently has no interest and shall acquire no interest, either direct or indirect, which would conflict in any manner with the performance of services required hereunder, as provided for in Chapter 112, Part III, Florida Statutes, and the Palm Beach County Code of Ethics. The CONSULTANT further represents that no person having any such conflict of interest shall be employed for said performance of services.

The CONSULTANT shall promptly notify the COUNTY's representative, in writing, by certified mail, of all potential conflicts of interest of any prospective business association, interest or other circumstance which may influence or appear to influence the CONSULTANT's judgement or quality of services being provided hereunder. Such written notification shall identify the prospective business association, interest or circumstance, the nature of work that the CONSULTANT may undertake and request an opinion of the COUNTY as to whether the association, interest or circumstance would, in the opinion of the COUNTY, constitute a conflict of interest if entered into by the CONSULTANT. The COUNTY agrees

to notify the CONSULTANT of its opinion by certified mail within thirty (30) days of receipt of notification by the CONSULTANT. If, in the opinion of the COUNTY, the prospective business association, interest or circumstance would not constitute a conflict of interest by the CONSULTANT, the COUNTY shall so state in the notification and the CONSULTANT shall, at its option, enter into said association, interest or circumstance and it shall be deemed not in conflict of interest with respect to services provided to the COUNTY by the CONSULTANT under the terms of this Contract.

ARTICLE 15 - EXCUSABLE DELAYS

The CONSULTANT shall not be considered in default by reason of any failure in performance if such failure arises out of causes reasonably beyond the control of the CONSULTANT or its subcontractors and without their fault or negligence. Such causes include, but are not limited to, acts of God, force majeure, natural or public health emergencies, labor disputes, freight embargoes, and abnormally severe and unusual weather conditions.

Upon the CONSULTANT's request, the COUNTY shall consider the facts and extent of any failure to perform the work and, if the CONSULTANT'S failure to perform was without it or its subcontractors fault or negligence, the Contract Schedule and/or any other affected provision of this Contract shall be revised accordingly, subject to the COUNTY's rights to change, terminate, or stop any or all of the work at any time.

ARTICLE 16 - ARREARS

The CONSULTANT shall not pledge the COUNTY's credit or make it a guarantor of payment or surety for any contract, debt, obligation, judgement, lien, or any form of indebtedness. The CONSULTANT further warrants and represents that it has no obligation or indebtedness that would impair its ability to fulfill the terms of this Contract.

ARTICLE 17 - DISCLOSURE AND OWNERSHIP OF DOCUMENTS

The CONSULTANT shall deliver to the COUNTY's representative for approval and acceptance, and before being eligible for final payment of any amounts due, all documents and materials prepared by and for the COUNTY under this Contract.

To the extent allowed by Chapter 119, Florida Statutes, all written and oral information not in the public domain or not previously known, and all information and data obtained, developed, or supplied by the COUNTY or at its expense will be kept confidential by the CONSULTANT and will not be disclosed to any other party, directly or indirectly, without the COUNTY's prior written consent unless required by a lawful court order. All drawings, maps, sketches, programs, data base, reports and other data developed, or purchased, under this Contract for or at the COUNTY'S expense shall be and remain the COUNTY's property and may be reproduced and reused at the discretion of the COUNTY.

All covenants, agreements, representations and warranties made herein, or otherwise made in writing by any party pursuant hereto, including but not limited to any representations made herein relating to disclosure or ownership of documents, shall survive the execution and delivery of this Contract and the consummation of the transactions contemplated hereby.

Notwithstanding any other provision in this Contract, all documents, records, reports and any other materials produced hereunder shall be subject to disclosure, inspection and audit, pursuant to the Palm Beach County Office of the Inspector General, Palm Beach County Code, Sections 2-421 - 2-440, as amended.

The CONSULTANT shall be allowed to retain a copy of its work for its record purposes.

ARTICLE 18 - INDEPENDENT CONTRACTOR RELATIONSHIP

The CONSULTANT is, and shall be, in the performance of all work services and activities under this Contract, an Independent Contractor, and not an employee, agent, or servant of the COUNTY. All persons engaged in any of the work or services performed pursuant to this Contract shall at all times, and in all places, be subject to the CONSULTANT's sole direction, supervision, and control. The CONSULTANT shall exercise control over the means and manner in which it and its employees perform the work, and in all respects the CONSULTANT's relationship and the relationship of its employees to the COUNTY shall be that of an Independent Contractor and not as employees or agents of the COUNTY.

The CONSULTANT does not have the power or authority to bind the COUNTY in any promise, agreement or representation.

ARTICLE 19 - CONTINGENT FEES

The CONSULTANT warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the CONSULTANT to solicit or secure this Contract and that it has not paid or agreed to pay any person, company, corporation, individual, or firm, other than a bona fide employee working solely for the CONSULTANT, any fee, commission, percentage, gift, or any other consideration contingent upon or resulting from the award or making of this Contract.

ARTICLE 20 - ACCESS AND AUDITS

The CONSULTANT shall maintain adequate records to justify all charges, expenses, and costs incurred in estimating and performing the work for at least three (3) years after completion or termination of this Contract. The COUNTY shall have access to such books, records, and documents as required in this section for the purpose of inspection or audit during normal business hours, at the CONSULTANT's place of business.

COUNTY has established the Office of the Inspector General in Palm Beach County Code, Section 2-421 - 2-440, as may be amended. The Inspector General's authority includes but is not limited to the power to review past, present and proposed COUNTY contracts, transactions, accounts and records, to require the production of records, and to audit, investigate, monitor, and inspect the activities of the CONSULTANT, its officers, agents, employees, and lobbyists in order to ensure compliance with contract requirements and detect corruption and fraud.

Failure to cooperate with the Inspector General or interfering with or impeding any investigation shall be in violation of Palm Beach County Code, Section 2-421 - 2-440, and punished pursuant to Section 125.69, Florida Statutes, in the same manner as a second degree misdemeanor.

ARTICLE 21 - NONDISCRIMINATION

The CONSULTANT warrants and represents that all of its employees are treated equally during employment without regard to race, color, religion, disability, sex, age, national origin, ancestry, marital status, familial status, sexual orientation, gender identity and expression, or genetic information.

CONSULTANT has submitted to COUNTY a copy of its non-discrimination policy which is consistent with the above paragraph, as contained in Resolution R-2014-1421, as amended, or in the alternative, if the CONSULTANT does not have a written non-discrimination policy or one that conforms to the COUNTY's policy, it has acknowledged through a signed statement provided to COUNTY that CONSULTANT will conform to the COUNTY's non-discrimination policy as provided in R-2014-1421, as amended.

ARTICLE 22 - AUTHORITY TO PRACTICE

The CONSULTANT hereby represents and warrants that it has and will continue to maintain all licenses and approvals required to conduct its business, and that it will at all times conduct its business activities in a reputable manner. Proof of such licenses and approvals shall be submitted to the COUNTY's representative upon request.

ARTICLE 23 - SEVERABILITY

If any term or provision of this Contract, or the application thereof to any person or circumstances shall, to any extent, be held invalid or unenforceable, the remainder of this Contract, or the application of such terms or provision, to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected, and every other term and provision of this Contract shall be deemed valid and enforceable to the extent permitted by law.

ARTICLE 24 - PUBLIC ENTITY CRIMES

As provided in F.S. 287.132-133, by entering into this contract or performing any work in furtherance hereof, the CONSULTANT certifies that it, its affiliates, suppliers, subcontractors and consultants who will perform hereunder, have not been placed on the convicted vendor list maintained by the State of Florida Department of Management Services within the 36 months immediately preceding the date hereof. This notice is required by F.S. 287.133(3)(a).

ARTICLE 25 - MODIFICATIONS OF WORK

The COUNTY reserves the right to make changes in the CONTRACT Scope of Work, including alterations, reductions therein or additions thereto. Upon receipt by the CONSULTANT of the COUNTY's notification of a contemplated change, the CONSULTANT shall, in writing: (1) provide a detailed estimate for the increase or decrease in cost due to the contemplated change, (2) notify the COUNTY of any estimated change in the completion date, and (3) advise the COUNTY if the contemplated change shall affect the CONSULTANT's ability to meet the completion dates or schedules of this Contract.

If the COUNTY so instructs in writing, the CONSULTANT shall suspend work on that portion of the Scope of Work affected by a contemplated change, pending the COUNTY's decision to proceed with the change.

The CONTRACT may be terminated by the COUNTY without cause or prior notice. In the event of termination not the fault of the CONSULTANT, the CONSULTANT shall be compensated for all services performed through the date of termination, together with reimbursable expenses (if applicable) then due.

ARTICLE 26 - NOTICE

All notices required in this Contract shall be sent by certified mail, return receipt requested, hand delivery or other delivery service requiring signed acceptance. If sent to the COUNTY, notices shall be addressed to:

Palm Beach County Water Utilities Department
c/o Hassan Hadjimiry, P.E.
8100 Forest Hill Blvd
West Palm Beach, FL 33413

With copy to:

Palm Beach County Attorney's Office
301 North Olive Ave.
West Palm Beach, Florida 33401

If sent to the CONSULTANT, notices shall be addressed to:

Albert Muniz, P.E. / Vice President
Hazen and Sawyer, P.C.
2101 NW Corporate Boulevard, Suite 301
Boca Raton, FL 33431-7343
(561) 997-8040 Business
(561) 997-8159 Fax
amuniz@hazenandsawyer

ARTICLE 27 - ENTIRETY OF CONTRACTUAL AGREEMENT

COUNTY and the CONSULTANT agree that this Contract, issued hereunder, sets forth the entire agreement between the parties, and that there are no promises or understandings other than those stated herein and therein. None of the provisions, terms and conditions contained in this Contract may be added to, modified, superseded or otherwise altered, except by written instrument executed by the parties hereto in accordance with Article 25- Modifications of Work.

ARTICLE 28 - CRIMINAL HISTORY RECORDS CHECK

If CONSULTANT’s employees or subcontractors are required under this contract to enter a “critical facility,” as identified in Resolution R-2003-1274, the CONSULTANT shall comply with the provisions of Chapter 2, Article IX of the Palm Beach County Code (“Criminal History Records Check” section). The CONSULTANT acknowledges and agrees that all employees and subcontractors who are to enter a “critical facility” will be subject to a fingerprint based criminal history records check. Although COUNTY agrees to pay for all applicable FDLE/FBI fees required for criminal history record checks, the CONSULTANT shall be solely responsible for the financial, schedule, and staffing implications associated in complying with this section of the Palm Beach County Code.

ARTICLE 29 - REGULATIONS; LICENSING REQUIREMENTS

The CONSULTANT shall comply with all laws, ordinances and regulations applicable to the services contemplated herein, to include those applicable to conflict of interest and collusion. CONSULTANT is presumed to be familiar with all federal, state and local laws, ordinances, codes and regulations that may in any way affect the services offered.

ARTICLE 30 - SCRUTINIZED COMPANIES (when contract value is greater than \$1 million)

As provided in F.S. 287.135, by entering into this Contract or performing any work in furtherance hereof, the CONSULTANT certifies that it, its affiliates, suppliers, subcontractors and consultants who will perform hereunder, have not been placed on the Scrutinized Companies With Activities in Sudan List or Scrutinized Companies With Activities in The Iran Petroleum Energy Sector List created pursuant to F.S. 215.473, or on the Scrutinized Companies that boycott Israel List, or is engaged in a boycott of Israel, pursuant to F.S. 215.4725, or is engaged in business operations in Cuba or Syria.

If the COUNTY determines, using credible information available to the public, that a false certification has been submitted by CONSULTANT, this CONTRACT may be terminated and a civil penalty equal to the greater of \$2 million or twice the amount of this Contract shall be imposed, pursuant to F.S. 287.135.

ARTICLE 31 - PUBLIC RECORDS

Notwithstanding anything contained herein, as provided under Section 119.0701, F.S., if the CONSULTANT: (i) provides a service; and (ii) acts on behalf of the COUNTY as provided under Section 119.011(2) F.S., the CONSULTANT shall comply with the requirements of Section 119.0701, Florida Statutes, as it may be amended from time to time. The CONSULTANT is specifically required to:

- A. Keep and maintain public records required by the COUNTY to perform services as provided under this Contract.
- B. Upon request from the COUNTY’s Custodian of Public Records, provide the County with a copy of the 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 or as otherwise provided by law. The CONSULTANT further agrees that all fees, charges and expenses shall be determined in accordance with Palm Beach County PPM CW-F-002, Fees Associated with Public Records Requests, as it may be amended or replaced from time to time.

- C. 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 the contract term and following completion of the CONTRACT, if the CONSULTANT does not transfer the records to the public agency.
- D. Upon completion of the CONTRACT the CONSULTANT shall transfer, at no cost to the COUNTY, all public records in possession of the CONSULTANT unless notified by COUNTY's representative/liaison, on behalf of the COUNTY's Custodian of Public Records, to keep and maintain public records required by the COUNTY to perform the service. If the CONSULTANT transfers all public records to the COUNTY upon completion of the CONTRACT, the CONSULTANT shall destroy any duplicate public records that are exempt, or confidential and exempt from public records disclosure requirements. If the CONSULTANT keeps and maintains public records upon completion of the CONTRACT, the CONSULTANT shall meet all applicable requirements for retaining public records. All records stored electronically by the CONSULTANT must be provided to COUNTY, upon request of the COUNTY's Custodian of Public Records, in a format that is compatible with the information technology systems of COUNTY, at no cost to COUNTY.

Failure of the CONSULTANT to comply with the requirements of this article shall be a material breach of this CONTRACT. COUNTY shall have the right to exercise any and all remedies available to it, including but not limited to, the right to terminate for cause. CONSULTANT acknowledges that it has familiarized itself with the requirements of Chapter 119, F.S., and other requirements of state law applicable to public records not specifically set forth herein.

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 CONTRACT, PLEASE CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT RECORDS REQUEST, PALM BEACH COUNTY PUBLIC AFFAIRS DEPARTMENT, 301 N. OLIVE AVENUE, WEST PALM BEACH, FL 33401, BY E-MAIL AT RECORDSREQUEST@PBCGOV.ORG OR BY TELEPHONE AT 561-355-6680.

ARTICLE 32 – STANDARD OF CARE

CONSULTANT has, during the selection and negotiation process which has preceded this Contract, represented to COUNTY that the CONSULTANT is possessed of a superior level of skill, knowledge, experience and expertise as compared to that of other professionals in CONSULTANT's area of practice. CONSULTANT acknowledges that COUNTY has relied on CONSULTANT's representations of skill, knowledge, experience and expertise. By executing this Contract, CONSULTANT agrees that CONSULTANT will exercise that degree of care, knowledge, skill and ability as other professionals possessing the degree of skill, knowledge, experience and expertise which CONSULTANT has claimed. CONSULTANT shall perform such duties as may be assigned without neglect. CONSULTANT accepts the relationship of trust and confidence established by

this Contract, and covenants with COUNTY to cooperate with COUNTY and to utilize CONSULTANT's best skill, efforts and judgment in furthering the interests of the COUNTY. CONSULTANT agrees to perform in the best, most efficient and economical manner consistent with the COUNTY's interests.

CONSULTANT further contracts with COUNTY to furnish its professional skill and judgment with due care in accordance with applicable Federal, State and local laws, codes and regulations as amended and supplemented which are in effect on the date of this Contract first written. It is specifically understood that the Accessibility provisions of the Americans with Disabilities Act (ADA) shall be complied with and incorporated into the project.

While CONSULTANT may submit drawings, calculations, or other documents to the COUNTY for the COUNTY's review, said review is limited to the design intent and does not constitute a detailed check of calculations or other parameters within the scope of CONSULTANT's skill, knowledge, experience, and expertise. CONSULTANT shall not be relieved of any professional liability for mistakes or flaws in items submitted to and approved by the COUNTY.

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**CONTRACT FOR
SOUTHERN REGION WATER RECLAMATION FACILITY ENGINEERING SERVICES
FOR SECONDARY CLARIFIER AND EFFLUENT FILTRATION IMPROVEMENTS
PROJECT No. WUD 17-022**

IN WITNESS WHEREOF, the Board of County Commissioners of Palm Beach County, Florida has made and executed this Contract on behalf of the COUNTY and CONSULTANT has hereunto set its hand the day and year above written.

ATTEST:
SHARON R. BOCK
CLERK AND COMPTROLLER

PALM BEACH COUNTY
BOARD OF COUNTY COMMISSIONERS:

By: _____
Deputy Clerk

By: _____
Melissa McKinlay, Mayor

WITNESS:

Signature

Patricia A. Carney, P.E.

Name (type or print)

Signature

J. Philip Cooke, P.E.

Name (type or print)

CONSULTANT:
HAZEN AND SAWYER

Company Name

Signature

Robert B. Taylor, Jr., P.E.

Typed Name

Vice President

Title

**APPROVED AS TO FORM
AND LEGAL SUFFICIENCY**

By _____
County Attorney

**APPROVED AS TO TERMS
AND CONDITIONS**

By _____
Department Director



**CONTRACT FOR CONSULTING/PROFESSIONAL SERVICES
SOUTH COUNTY RECLAIMED WATER TRANSMISSION PIPELINE – PHASE 1
PROJECT No. WUD 17-022**

LIST OF EXHIBITS

EXHIBITS	DESCRIPTION
A	Scope of Work
B	Budget Summary
C	Contract Schedule
D	SBE Schedules: Schedule 1 – List of Proposed SBE-M/WBE Consultant/Subconsultants Schedule 2 – Letter of Intent to Perform As An SBE-M/WBE Consultant/Subconsultant Schedule 3(a) – Professional Services Activity Report Schedule 4 – SBE-M/WBE Payment Certification
E	List of Drawings
F	Sub-Consultant Proposals

EXHIBIT "A"

SCOPE OF WORK

Southern Region Water Reclamation Facility Engineering Services for Secondary Clarifier and Effluent Filtration Improvements (Project No. WUD 17-022)

INTRODUCTION

Palm Beach County (COUNTY) entered into an agreement entitled contract for Engineering Services for Secondary Clarifier and Effluent Filtration Improvements – Palm Beach County Water Utilities Project No. WUD 17-022 (CONTRACT) with Hazen and Sawyer (Hazen) to provide engineering services for design, permitting assistance, bidding support and construction services.

BACKGROUND

The above referenced professional services are related to Palm Beach County Water Utility Department's Southern Region Water Reclamation Facility (SRWRF). The project aims to enhance operational efficiency by replacing aging infrastructure. The scope for this project includes, but is not limited to upgrades and the improvements to the reclaimed water production facilities, upgrades and improvements to the secondary clarifiers and sludge pump stations, additional secondary clarifier scum manholes, modifications/expansion to bulk hypochlorite storage, and other miscellaneous aspects as presented herein that are associated with the anaerobic digesters and biogas system.

SCOPE OF SERVICES

Facilities included in the Secondary Clarifier and Effluent Filtration Improvements Project (i.e., Project No. 17-022) will consist of various elements as identified in the TR08 SRWRF Phase II Improvements Planning Level Validation Final Technical Memorandum (August 2016 - Hazen) as well as additional elements as generally summarized below:

Secondary Clarifier Rehabilitation

1. Rehabilitation of eight existing secondary clarifiers and addition of 360 degrees perimeter access walkway/grating to effluent trough. Incorporation of a fall protection system, automated multi-layer sludge blanket detection measurement and reporting, continuous clarifier effluent TSS measurement and reporting on each clarifier. Rehabilitate the surface of the existing concrete effluent launders and provide an appropriate protective coating. Replacement of scum piping within the secondary clarifiers. Evaluate and incorporate the appropriate scum box configurations (existing versus full radius). Replacement of existing clarifier control panels, raceway and wiring. Investigate and implement a feasible wash-down system on each clarifier (i.e. tank and launder). Evaluate materials of construction alternatives (316 stainless steel, 304 stainless steel, galvanized steel, painted steel) for clarifier center column and rake arms.

2. Incorporate electronic or physical devices for wildlife (duck) control within the scum box areas of each secondary clarifier
3. Incorporate a 360 degrees perimeter walkway covering the surface of each clarifier from the clarifier wall to the effluent launders for safe access to launders.

Scum Manholes and Piping

1. Installation of four additional scum manholes that result in each clarifier being equipped with a scum manhole. Scum manholes will be the same size and configuration as existing units installed at the SRWRF.
2. Reconfiguration/modifications to the existing scum piping from the clarifiers to the new scum manholes.

Sludge Pump Stations

1. Perform an evaluation into the cost effectiveness of rehabilitation of the RAS pumps versus replacement with higher efficiency units. Consideration of dry pit submersibles will be included in evaluation. Replace the existing RAS pump variable frequency drives.

Reclaimed Water Facilities

1. Replacement of existing cloth disk filter main PLC panel, local control panels of each existing cloth disk filter unit, local power distribution panel and exposed electrical and instrumentation conduit. Replace electrical wiring from each disk filter local panel to motors, and instruments.
2. Replacement of existing and installation of additional piping and valves between existing disk filters and filtered effluent transfer pump station wet well to eliminate hydraulic bottleneck and increase gravity flow capacity between filters and wet well to build-out requirements.
3. Decommissioning and removal of the internal components for the existing two (2) Dynasand filters. Existing concrete structure will remain in place and will be converted into an effluent clearwell. Interior walls of filter structure will be cleaned and re-coated. New clearwell will be covered with aluminum plates.
4. Installation of two additional AquaDisk filters to replace the treatment capacity of the existing Dynasand filters and meet the required peak production capacity of 40 mgd. Each AquaDisk filter will be designed to have a maximum treatment capacity of 6 mgd.
5. Installation of two additional filtered effluent vertical turbine transfer pumps within the same vicinity of existing FTP 54005 and FTP 54006 to increase production and transfer capabilities to 40 mgd to meet the existing filter combined peak flow capacity (6 mgd of Dynasand filter production and 34 mgd of AquaDisk filter production).
6. Replacement of the existing four (4) horizontal centrifugal filtered effluent transfer pumps and VFDs with four (4) vertical turbine pumps and new VFDs. Capacity for the new four (4) pumps will be maximized based on available electrical load (i.e. horsepower). As a minimum, the pumps will be designed to provide a firm pumping

capacity equal to the peak filter production capacity of 40 mgd. Final location of the new four (4) filtered effluent transfer pumps will be evaluated as part of the technical memorandum to minimize impacts on normal plant operation.

7. Replacement of existing filter system turbidity meters with new turbidity meters.
8. Improve access and safety by incorporating additional elevated walkway to increase access to areas of existing filter units.
9. Installation of aluminum framework and roofing system to provide cover over the existing main elevated walkway and local filter panel areas throughout the disk filter unit area of the reclaimed water production facility. Additional lightning protection and grounding/bonding to address the covered walkway.
10. Design one power feed from existing Chlorine Building and eliminate second feed from Effluent Pump Station to maintain redundancy but improve reliability.
11. Structural analysis of clearwell top slab for mounting of new four (4) vertical turbine pumps.
12. Replacement of the power cables for the six (6) existing filtered effluent transfer pumps and associated VFDs.
13. Replacement and relocation of filtered effluent transfer pumps disconnects.

Additional Sodium Hypochlorite Storage Tanks

1. Replacement of two existing brine tanks with bulk hypochlorite storage tanks equal in size and capacity to the two existing exterior bulk hypochlorite storage tanks. Replace existing level transmitters and interface with plant SCADA.
2. Incorporation of a filling station with automatic monitoring and indication along with motorized valve controls to facilitate unloading of bulk hypochlorite from a tanker truck and filling of any of the two existing and two proposed exterior bulk hypochlorite storage tanks.
3. Addition metal canopy over the storage area with lightning protection for the two existing and two proposed exterior bulk hypochlorite storage area. Installation of fire sprinkler system within the covered area to comply with local fire marshal requirements for covered bulk hypochlorite storage. The fire sprinkler system will interface with the existing fire alarm system in the Chlorine Building.

Biogas System Improvements

1. Installation of generator inlet air temperature probe (on both generators) for monitoring in plant PLC.
2. Interface County installed generator temperature monitoring panel for each generator back to SCADA for engine temperature monitoring.
3. Install a metal roof and aluminum framed cover over biogas skid for shade and additional safety.

4. Installation of an additional exhaust fan in each generator cubical.
5. Paint (powder coat - white) the PLC/Electrical panel to reduce the heat. Also, move/add HMI interface panel or cover the panel so that the operators can see it.
6. Paint or install insulation on piping into the gas skid and generator cubicles.
7. Add HMI screens in generator cubicles that connect to the gas-conditioning skid for operator remote monitoring and control of the system during testing and maintenance.
8. Evaluate the installation of new Air/Fuel control modules.
9. Addition of an aboveground conditioned digester gas bypass line to allow bypassing the generators and direct digester gas to the existing waste gas burner.
10. New power meters on the feeder circuits for each generator enclosure from the main electrical building to track power consumed versus power generated.
11. Modify air intake to generators such that air is furnished from outside air source in lieu of within existing interior of cubicle/enclosure. Install additional air filtration and other items to ensure air quality is in compliance with generator inlet requirements.

Additional SRWRF Improvements

1. Anaerobic Digester Boiler Replacement
 - a. Replace existing digester boilers, in Group 1 and 2 digesters, with current equivalent “in-kind” units. Replacement of wiring and raceway from each boiler to existing power and signal locations.
2. Influent Wastewater Dissolved Sulfides Sampling Stations
 - a. Installation of two plant influent sample pumps and piping (sample stations) for inline measurement of influent wastewater dissolved sulfides concentration. The two sample stations shall be located at the southeastern and southwestern limits of the SRWRF property. Sample pump will draw from the plant influent line and discharge pump back into the same influent line a minimum of ten feet downstream of the pump suction draw-off location.
 - b. Installation of a pre-engineered housing for location of analyzer, instrumentation, and compressor.
 - c. Sampling station will be connected to SRWRF SCADA.
3. Improvements to Secondary Effluent Sampling Location
 - a. Installation of baffled wall within the common influent channel of the Effluent Pump Station to create blended combined secondary effluent from Group 1 and Group 2 secondary clarifiers.
4. Safety and Security Improvements/Additions
 - a. Install power and controls to flow switches on recently installed emergency shower/eye-wash stations throughout SRWRF.

Task 1 – Preliminary Design

CONSULTANT will prepare individual technical memoranda for the proposed improvements to the following areas/facilities of the SRWRF:

1. Secondary clarifiers and scum manholes (TM-1)
2. Filtered Effluent Transfer Pumping Evaluation (TM-2)
3. Influent Dissolved Sulfides Sampling Stations (TM-3)
4. Sludge Pump Condition Assessment and Replacement Evaluation (TM-4)

Technical memoranda No. 1 (TM-1) will include the following design criteria elements for each of the areas/facilities identified above unless otherwise identified below:

1. Overall design concept overview and description including associated disciplines
2. Design and performance criteria for specific unit process equipment
3. Reliability and redundancy criteria applicable to the process design
4. Preliminary process flow diagram
5. Preliminary mechanical and process general arrangement drawings (conceptual plan and sections)
6. Features incorporated into the proposed improvements for safe operations and maintenances
7. A preliminary cost estimate for the proposed improvements
8. A cost benefit analysis to evaluate the following secondary clarifier alternatives being considered:
 - a. Center column piping and rake arm materials of construction
 - b. Sludge withdrawal configurations (draft tube versus spiral scrapers versus uni-tube suction technology)
 - c. Energy dissipating inlets

As part of the Filtered Effluent Transfer Pumping Evaluation (TM-2) the CONSULTANT will evaluate alternatives for installation of new filtered effluent transfer pumps to allow minimum impact on operations.

CONSULTANT will conduct a kickoff meeting with the COUNTY to review the objectives of the all tasks included in this Contract and gather available information and data related to the project.

Monthly progress meetings will be held during the duration of developing the technical memoranda. Monthly progress meetings will include the following topics:

1. Technical memorandum progress

2. Individual item considerations and decision discussions
3. Decision log review and update
4. Project schedule

Six hard copies and one PDF copy of each draft technical memoranda will be submitted to the COUNTY for review. A draft submittal review meeting will be held with COUNTY staff to discuss the information presented in each of the technical memoranda within two weeks of submittal of each draft technical memorandum. Written comments from the COUNTY will be documented in meeting minutes and incorporated in the final technical memorandum. The final technical memorandum will be submitted within two weeks of the review meeting.

After submittal of each final technical memorandum, CONSULTANT will combine the technical memoranda into a single consolidated document with an executive summary including, at a minimum, the recommended improvements from each technical memorandum along with the associated benefits and capital costs for each of the five proposed improvements.

Task 2 – Final Design

Task 2.1 – Prepare 60% Contract Documents

Upon completion of the final technical memoranda developed under Task 1.1, CONSULTANT shall prepare 60% design stage contract documents (i.e., drawings and technical specifications). The documents will be prepared for the project to be bid as one project. Content of the 60 percent drawings and specifications shall meet the following criteria:

Process / Mechanical:

1. Detailed mechanical drawings, including layouts and dimensions for major equipment and piping (ancillary equipment and support piping will not be included until 90% submittal)
2. Size control valves and other valves and piping; select all valve types
3. Process equipment sizing and selection
4. Final pipeline sizing
5. Select all piping materials
6. Specifications for major process equipment (clarifier mechanisms, pumps, sodium hypochlorite bulk storage tanks, boilers, and MCC) are substantially complete
7. Equipment schedule

Civil / Site:

1. Preliminary site layout, including horizontal locations of major structures and buildings, roadways, parking areas, construction staging areas, and stormwater retention areas
2. Preliminary paving, grading and drainage drawings

3. Preliminary staking and paving drawings
4. Preliminary yard piping drawings showing major process piping; odor ductwork between facilities; electrical duct-banks and manholes; and sanitary drain piping and manholes

Structural:

1. Develop foundation design based on geotechnical report
2. Develop subgrade preparation specifications in Division 2 (i.e., sitework) based on recommendations from geotechnical report
3. Structural plans and sections showing slab and wall dimensions and thicknesses, column and beam layouts, column cross-section dimensions, beam depths and widths; and preliminary detailing of major steel reinforcement

Architectural:

1. Building floor plans/elevations/major sections
2. Exterior elevations
3. Select roof and wall systems
4. Verify building designs comply with building, fire code, and ADA requirements

HVAC:

1. Develop sizing calculations for equipment
2. Identify routing for major duct runs
3. Develop HVAC system block diagram
4. Verify size of mechanical equipment rooms
5. Develop location and sizing for louver openings and coordinate with structural and architectural drawings

Electrical:

1. Develop project specific single-line diagrams of power distribution systems with equipment elevations as appropriate.
2. Plan view drawings of process areas and electrical rooms indicating locations of electrical equipment (transformers, motor control centers, switchgear, PLC panels, etc.) and process equipment energized by the electrical power distribution system
3. Electrical Site Plan
4. Schematic diagrams
5. Schedules

6. Riser diagrams
7. Details

Instrumentation and Control:

1. Control system block diagram
2. Network and communications system block diagram
3. Equipment/instrument tagging, naming, and abbreviation conventions
4. Preliminary control strategies
5. P&ID drawings, including loop numbers, instrumentation, and I/O signals
6. Instruments
7. Instrument schedule
8. Sizing of control panels, control system enclosures, and uninterruptible power supplies as appropriate
9. Locate control panels, PLC panels and instruments on mechanical and electrical drawings as appropriate

Plumbing:

1. Develop potable water system supply lines into each building or facility
2. Develop sanitary and stormwater drain lines leaving each building or facility

Prepare a 60% design completion stage cost estimate for the COUNTY that represents an up to date progress estimate of projected probable construction costs. The level of accuracy for the 60 percent design opinion of probable cost will be a Class 3 estimate in accordance with the Association for the Advancement of Cost Estimating (AACE).

Prepare and submit a 60% construction schedule that includes critical lead times and construction constraints.

Monthly progress meetings will be held during the duration of developing 60% design completion documents. Monthly progress meetings will include discussions related to the following topics:

1. Design progress
2. Individual item considerations and decisions
3. Decision log review and update
4. Action items
5. Permitting
6. Project schedule

Discussions and comments will be documented in meeting minutes prepared by CONSULTANT and distributed to meeting attendees.

A one-day review meeting/workshop attended by CONSULTANT and COUNTY staff shall be held to receive input at the 60% design completion stage. Based on comments received CONSULTANT will make subsequent revisions to the documents. Comments from the review meeting will be documented in meeting minutes and incorporated into the final design. Meeting minutes will include a comment log with accepted resolution resulting from workshop.

Task 2.2 – Prepare 90% Contract Documents

Upon resolution of COUNTY staff 60 percent design review meeting/workshop comments and the accepted value engineering recommendations, the CONSULTANT shall prepare 90 percent design drawings, specifications and an estimate of probable construction cost. Key specific elements for each discipline are as follows:

Process / Mechanical:

1. Final mechanical plans, sections and details
2. Final specifications for process equipment, piping, valves and other mechanical items
3. Equipment schedule/list

Civil / Site:

1. Final site plans, including limits of site demolition and construction staging areas
2. Final paving, grading and drainage plans, including horizontal and vertical alignment of sanitary and storm drain system and final proposed grading contours
3. Final staking and paving plans, including coordinates for proposed buildings and structures, coordinates for roads and roadway sections and profiles
4. Final yard piping plans, including horizontal and vertical alignment of utility systems in plan view
5. Soft digs and design of yard piping and electrical duct-bank conflicts

Structural:

1. Final foundation plans, floor plans, intermediate plans, roof framing plans, roof plans, sections, details, beam schedules and column schedules
2. Final specifications

Architectural:

1. Final floor plans, roof plans, ceiling plans, building elevations, sections and details, and architectural schedules
2. Final specifications

HVAC:

1. Final HVAC layout and corridors
2. Final HVAC equipment schedules
3. Final HVAC equipment selection and sizing and louver sizing

Fire

1. Smoke detectors
2. Fire sprinklers

Electrical:

1. Final project specific single-line diagrams of power distribution systems with equipment elevations as appropriate. Determine if air compressor and potable water wells should be relocated to other building(s)
2. Final Plan view drawings of process areas and electrical rooms indicating locations of electrical equipment (transformers, motor control centers, switchgear, PLC panels, etc.) and process equipment energized by the electrical power distribution system
3. Access control for new or relocated doors
4. CCTV cameras with riser
5. Final Electrical Site Plan
6. Final Schematic diagrams
7. Final Riser diagrams
8. Final Schedules
9. Final Details

Instrumentation and Control:

1. Final control system block diagram
2. Final network and communications system block diagram
3. Final equipment/instrument tagging, naming, and abbreviation conventions
4. Final control strategies
5. Final P&ID drawings, including loop numbers, instrumentation, and I/O signals
6. Final instruments
7. Final schedules (instruments and I/O)

8. Final sizing of control panels, control system enclosures, and uninterruptible power supplies as appropriate
9. Final locations of control panels, PLC panels and instruments on mechanical and electrical drawings as appropriate

Plumbing:

1. Final plumbing layout
2. Plumbing riser diagrams
3. Final equipment sizes

Prepare a 90% design completion stage cost estimate for the COUNTY that represents an up to date progress estimate of projected probable construction costs. The level of accuracy for the 90 percent design opinion of probable cost will be a Class 2 estimate in accordance with the Association for the Advancement of Cost Estimating (AACE).

Prepare and submit an updated (90%) construction schedule that includes critical lead times and construction constraints.

Monthly progress meetings will be held during the duration of developing 90% design completion documents. Monthly progress meetings will include discussions related to the following topics:

1. Design progress
2. Individual item considerations and decisions
3. Decision log review and update
4. Action items
5. Permitting
6. Project schedule

Discussions and comments will be documented in meeting minutes prepared by CONSULTANT and distributed to meeting attendees.

A one-day review meeting/workshop attended by CONSULTANT and COUNTY staff shall be held to receive input at the 90% design completion stage. Based on comments received CONSULTANT will make subsequent revisions to the documents. Comments from the review meeting will be documented in meeting minutes and incorporated into the final design. Meeting minutes will include a comment log with accepted resolution resulting from workshop.

Task 2.3 – Prepare 100% Contract Documents

Upon receiving written acceptance of the 90 percent design workshop comments spreadsheet from COUNTY and the required revisions from the permitting agencies identified in Task 4 of this Task Order, the CONSULTANT shall prepare 100 percent (Issued for Bidding) design drawings,

specifications and estimate of probable construction cost. The level of accuracy for the 100 percent design opinion of probable construction cost ranges between -10% to +15% for a Class 1 estimate in accordance with the Association for the Advancement of Cost Estimating (AACE).

Submit a final (100%) construction schedule that includes critical lead times and construction constraints.

Task 3 – Permitting

Coordinate and attend one (1) meeting with each of the following regulatory agencies to discuss the requirements for acquiring pre-bid construction permits for this project:

1. Application for the Florida Department of Environmental Protection (FDEP) Wastewater Construction / Operation for repair and replacement modifications and proposed improvements
2. FDEP Environmental Resource Permit (ERP)
3. Palm Beach County Building Department (Construction Permit Pre-application)

Coordinate contact with these agencies through the CONSULTANT project manager. Prepare permit applications required for the construction of the new facilities. It is assumed that a Right-of-Way permit is not required as facilities were previously located on the property. Based upon the extent of the improvements/modifications included in this scope of work, it is assumed that an application for an ERP permit will not be required as adequate on-site stormwater storage volume exists.

Prepare up to two (2) written responses to each regulatory agency's request for additional information (RAI) regarding the respective permit application referenced above.

Task 4 – Construction Bid Services

CONSULTANT will furnish bidding services as described below:

1. Issue copies of the bidding documents and maintain records of plan holders. CONSULTANT will furnish Contract Documents to a maximum of three plan rooms, as designated by the COUNTY.
2. Respond to bidders' inquiries and prepare addenda necessary to clarify the bidding documents and distribute to plan holders of record.
3. Attend one pre-bid conference and prepare meeting minutes. This task also includes conducting up to two additional visits to the site of the work with prospective bidders.
4. Attend one bid opening.
5. Attend meeting(s) with COUNTY to review the acceptability of subcontractors, suppliers, equipment and other information submitted by the apparent low bidder.

6. Review the submittals of the apparent low bidders and establish list of bidders who are responsive and responsible.
7. Evaluate and provide written recommendations to the COUNTY for award of a construction contract.
8. Provide a set of conformed set of construction documents (specification and drawings) to the County.

Task 5 – Construction Contract Administration

The CONSULTANT will provide services for the management of engineering tasks throughout the duration of the project's 24-month construction phase. Such management activities will include project coordination with COUNTY, general coordination with the Contractor, scheduling, and general correspondence with COUNTY and the Contractor.

5.1 – Pre-Construction and Monthly Progress Meetings

CONSULTANT will attend meetings with COUNTY and the Contractor. As a minimum, one representative of CONSULTANT will attend the project progress meetings (i.e., the Project Manager) together with the RPR to discuss the project progress. CONSULTANT will chair the progress meeting and prepare and issue meeting minutes. Additional CONSULTANT or sub-consultant team members will attend periodically to address specific subject matter as issues arise during the course of the construction work. It is assumed that these project progress meetings will be held monthly during the 22 months of the construction period; and one project pre-construction conference meeting for a total of 23 meetings.

5.2 – Submittals

CONSULTANT will consult with the COUNTY concerning the acceptability of substitute materials and equipment proposed by the apparent low bidder. CONSULTANT will review shop drawings, diagrams, illustrations, catalog data, schedules and samples, equipment O&M manuals, the results of laboratory tests and inspections, equipment factory test certifications, equipment manufacturer certificates of proper installation, and other data that Contractors are required to submit for conformance with the design concept of the Project and compliance with the provisions of the Contract Documents. In addition, CONSULTANT will receive and review items to be delivered by the Contractor(s) pursuant to the Contract Documents, including but not limited to maintenance and operating instructions, schedules, guarantees, warranties, bonds and certificates of inspection, tests and approvals. CONSULTANT will provide written comments and recommendations concerning their completeness under the Contract Document.

A total of 145 shop drawings and O&M manuals are assumed with an effort of 5 hours per submittal anticipated.

5.3 – Interpretations, Clarifications and Change Orders

CONSULTANT will issue interpretations and clarifications of Contract Documents during construction, and evaluate requests for substitutions or deviations from the Contractor Documents.

CONSULTANT will notify COUNTY of any such requested deviations or substitutions, and when reasonably necessary, provide COUNTY with a recommendation concerning same. CONSULTANT will negotiate with the Contractor the scope and cost of contract change orders using as a basis for such negotiations data or other information, emanating from the Contract Documents, including but not limited to the construction contract, general and special conditions, bid sheet, technical specifications, plans, shop drawings, material specifications, and proposed material and labor costs. CONSULTANT will prepare, recommend and submit for COUNTY's approval such change orders or work change directives.

A total of 50 request for information (RFI) are assumed with an effort of 4 hours per RFI anticipated.

A total of 8 change orders are assumed with an effort of 8 hours per change order anticipated.

5.4 – Pay Requests

The Resident Project Representative (RPR) will review the Contractor's monthly applications for payment and accompanying data and recommend approval of payments due to the Contractor. CONSULTANT's recommendation of any payment requested in an application for payment will constitute a representation by CONSULTANT that based on CONSULTANT's on-site observations of construction in progress; that, to the best of CONSULTANT's knowledge and belief, that construction has progressed to the point indicated and that the quality of construction is in general accordance with the Contract Documents; subject to an evaluation of construction upon substantial completion, to the results of any subsequent tests called for in the Contract Documents and any qualifications stated in the recommendation; that the Contractor is therefore due the amount recommended. However, by recommending any such payment, CONSULTANT will not thereby be deemed to have represented that any examination has been made to ascertain how or for what purpose the Contractor has used the monies paid or to be paid or that total 24 reviews accounting for monthly payment requests, release of retainage request, and a final adjusting change order are assumed during the construction period.

Task 6 – Resident Project Representative

The CONSULTANT will provide a RPR as described herein for the duration of the construction project to observe construction and monitor work. The RPR will be approved by the COUNTY.

6.1 – Resident Project Representative

CONSULTANT will provide a RPR for field observation of the construction to help determine whether the general provisions of the Contract Documents are being fulfilled and to reasonably protect COUNTY against defects and deficiencies in the work of the Contractor. Resident project representation will be performed over the construction activities for 21 months equating to a total of 2,100 hours. In addition:

1. CONSULTANT, working principally through the Contractor's Superintendent, will assist the Contractor in the understanding the intent of the Contract Documents; and will assist COUNTY staff in serving as COUNTY's liaison with the Contractor.

2. Based on available information, the CONSULTANT will verify that tests, equipment and system startup are conducted in the presence of appropriate personnel and that the Contractor maintains adequate records thereof; and observe, record, and report appropriate details relative to the test procedures and start-up to COUNTY and appropriate regulatory agencies. Based upon available information, CONSULTANT will verify and certify to COUNTY that the constructed facilities properly operate and are in general conformance with the contract documents and specifications.
3. CONSULTANT will keep a diary or log book, recording date relative to questions of Work Directive Changes, Change Orders, or changed conditions, and observations in general.
4. CONSULTANT will prepare a daily report for each day the RPR is on site, and submit said reports in electronic PDF format to the COUNTY on a weekly basis.
5. CONSULTANT will notify COUNTY and CONTRACTOR in writing when unsafe working conditions or safety violations are observed.

6.2 – Discipline Specific Inspections

CONSULTANT will furnish the services of discipline specific (instrumentation, electrical, and structural) inspectors for construction of the project to supplement the RPR throughout the duration of the construction period. The following estimated hours are assumed for discipline specific inspections over the duration of construction including specialty inspection meetings:

- | | |
|---|-----------|
| 1. Structural: | 120 hours |
| 2. Electrical, Instrumentation and Control: | 650 hours |

Structural and electrical inspection services associated with Building Department Special Inspection requirements anticipated for this project and limited to the list of items and/or areas identified below are being furnished by the ENGINEER as part of the discipline specific inspections:

1. Precast concrete units and their attachments to structures
2. Reinforced masonry
3. Bolted Structural (metal) connections
4. Cast in place concrete and steel reinforcement
5. Electrical duct-bank and conduit
6. Electrical grounding
7. Electric building slab
8. Lighting

9. Electrical equipment
10. Cable insulation testing
11. National Electric Code compliance

CONSULTANT will prepare an inspection report for Special Inspections required by the Building Department associated with the items and/or areas identified above and will submit the Special Inspection reports to the Building Department on a weekly basis. Additional inspections beyond the items and/or areas and effort identified above but required at the discretion of the Building Official will be provided by CONSULTANT as an amendment to this task order.

6.3 – Startup Services and Operator Training

Provide specialist(s) experienced in wastewater treatment plant equipment startups to oversee the equipment and system startup activities as required in the Contract Documents. It is assumed that the Contractor has performed all of the preliminary testing required to trouble-shoot any and all systems prior to the field start-up of equipment, and the installation of the equipment has been reviewed for conformance with the contract documents by the CONSULTANT. CONSULTANT will coordinate with the Contractor operator training to be provided by all the equipment suppliers. In-plant training will be conducted by the Contractor with plant operations staff to review the function of new equipment and local controls for the equipment furnished under this project.

6.4 – Substantial and Final Construction Completion

Upon receiving notice from the Contractor advising CONSULTANT that the Project is substantially complete, CONSULTANT will schedule and, in conjunction with COUNTY, conduct a review of the Project, develop a list of items needing completion or correction, forward said list to the Contractor and provide written recommendations to COUNTY concerning the acceptability of work done and the use of the Project. Also, CONSULTANT will perform final inspection in conjunction with COUNTY, and assist COUNTY in closing out construction contract. These services will include providing recommendations concerning acceptance of Project, and preparing necessary documents such as lien waivers, Contractor's final affidavit, close-out change order, final payment application, permitting certifications, and warranty letters from Contractor, subcontractor and equipment suppliers.

6.5 – Preparation of Record Drawings

CONSULTANT will monitor monthly required project records and construction reports. CONSULTANT will prepare and submit to COUNTY upon completion of construction of Project, two (2) sets of signed and sealed record drawings, four (4) sets of unsigned record drawings, and electronically in PDF format and in AutoCAD, including those changes made during the construction process, using CONSULTANT's site survey of the installed items, information supplied by the Contractor and other data which can reasonably be verified by CONSULTANT's personnel. Record drawings shall include State Plane Coordinates for underground utility features and building footprint modifications installed as part of this project.

Task 7 – Operations and Maintenance Manual Update

CONSULTANT will prepare Standard Operating Procedures (SOPs) for the following O&M activities associated with the anaerobic digestion system:

1. Placing a primary digester into service without taking an operating primary digester out of service (adding a primary tank)
2. Placing a new primary digester into service and concurrently taking an operating primary digester out of service (switching primary tanks)
3. Taking a primary digester out of service (subtracting a primary tank)
4. Placing a secondary digester into service without taking an operating secondary digester out of service (adding a secondary tank)
5. Placing a new secondary digester into service and concurrently taking an operating secondary digester out of service (switching secondary tanks)
6. Taking a secondary digester out of service (subtracting a secondary tank)
7. Removing and re-installing a mechanical mixer from a primary digester
8. Removing and re-installing a mechanical mixer from a secondary digester
9. Integration of startup and shutdown of the cogeneration system as it relates to digester gas management

Each of the new SOPs will address operational practices and considerations to minimize exposure of O&M staff to un-flared/explosive digester gas based on management of the following parameters:

1. Digester liquid levels
2. Digester cover positions
3. Digester gas pressures at fixed covers, floating covers, cogeneration facility and waste gas burners
4. Digester sludge feed rates
5. Time of year, sludge production rates, required digester operating capacities
6. Potential operational impacts to sludge dewatering and cake hauling to the SWAPBC Biosolids Pelletization Facility

CONSULTANT will update and enhance the existing SRWRF Operations and Maintenance manual for the facilities as presented below:

1. Secondary Clarifiers and Scum Manholes
2. Sludge Pump Stations

3. Reclaimed Water Production Facilities (Filters, Piping and Filtered Effluent Transfer Pumps)
4. Bulk Sodium Hypochlorite Storage
5. Biogas System
6. Anaerobic Digester Boiler Replacement and incorporation of SOP's identified above
7. Influent Dissolved Sulfides Sampling Stations
8. Effluent Pump Station Sampling Improvements

CONSULTANT will conduct an initial onsite workshop with SRWRF O&M staff to review and document past and current practices related to technical content of chapter updates listed in the scope of services. CONSULTANT will prepare and distribute workshop minutes.

CONSULTANT will submit a draft chapter update to SRWRF O&M staff for review and comments. Supporting process calculations and documentation will be included in appendices as applicable.

CONSULTANT will conduct a second workshop to present the draft chapter update and discuss SRWRF review comments.

Task 8 – Project Management

Throughout the duration of the project (i.e., design through construction), CONSULTANT will provide project controls and management services to continually monitor the project for proper staff utilization, schedule, and design coordination. CONSULTANT will provide monthly reports to the COUNTY's project manager within the first 7 calendar days of every month, a status update including:

1. Narrative of work accomplished during the previous month compared to the last month's projection and anticipated work for upcoming month
2. Progress chart
3. Change log
4. Schedule milestones
5. Schedule Gant chart

The design schedule will mirror the contract scope to allow monitoring of the design tasks. Tasks related to the COUNTY's decisions shall be incorporated into the design schedule with adjustments. As noted above, the design schedule will be updated monthly with milestones depicted for:

1. Notice-to-Proceed
2. Design criteria technical memoranda submittals

3. 60 percent submittal
4. 90 percent submittal
5. 100 percent submittal
6. Design reviews
7. Workshops
8. Permitting submittals

ASSUMPTIONS

The following assumptions were made in preparation of the above scope:

1. COUNTY will provide CONSULTANT with electronic (AutoCadd format) record drawings of existing SRWRF facilities.
2. COUNTY provides written comments to CONSULTANT within 15 calendar days of receipt of transmittal and / or at least three business days prior to review workshop / meeting
3. Additions to fire alarm system in the Chlorine Building will require full investigation of the existing system to determine if there is available capacity in the system to add appliances. For permitting purposes, the existing system will have to be depicted and presented, with proposed modifications, to determine system battery capacity calculations and circuit voltage drops.
4. COUNTY will provide CONSULTANT a report summarizing the condition assessment findings for the existing RAS pumps. This report shall also include recommendations for pump rehabilitation and associated costs.
5. COUNTY pays all permit fees
6. COUNTY will distribute all bid set documents
7. County will provide one-year (last 12 months) of historical data including plant and RAS flows, mixed liquor and RAS suspended solids concentrations, SVI, sludge blankets, secondary clarifier surface overflow rate (or timeline of units in service) and secondary effluent TSS.
8. No equipment pre-purchase bid documents will be prepared under this contract
9. All PLC programming will be performed under separate contract by others
10. Updates to the facility's existing short circuit, device coordination and arc flash study are not included
11. Incidental lighting to any building expansions is included in this proposal; no redesign of existing lighting systems is included

12. Attendance at factory and/or shop acceptance tests is not included
13. Efforts associated with Site Plan Revision approval (including a site boundary survey, if necessary) will be performed / provided by COUNTY
14. Construction phase services under Tasks 5 and 6 are based upon a construction duration of 22 months from contractor's notice to proceed to substantial completion and 24 months from contractor's notice to proceed to final completion
15. 60, 90 and 100% completion submittals (technical specifications, engineering drawings, cost estimate, and project schedules) will be submitted to the COUNTY electronically in PDF format and one hard copy with 11" x 17" plans
16. Services associated with CONSULTANT attendance at factory and/or shop witness tests is not included.
17. Specifications divisions for this project will generally follow the CSI Masterformat 1995 standard that has been used on past Palm Beach County Water Utilities Department projects.
18. For the purpose of performing SOP generation for the anaerobic digester section of the O& M manual, COUNTY will provide electronic copies of the following existing documentation within 10 days after receipt of CONSULTANT's request:
 - a. Most recent 12 months of available operational data (SCADA, Hach Wims and laboratory analysis) associated with the anaerobic digestors and sludge dewatering.
 - b. Operating schedule for sludge dewatering and cake hauling
 - c. Manufacturer's O&M manual for all major mechanical equipment within the digester complex.
 - d. Manufacturer's O&M manual for the waste gas burners
 - e. Manufacturer's O&M manual for the fixed and floating digester covers
 - f. Applicable design criteria related to digester gas usage at the cogeneration facility
19. COUNTY shall provide electronic copies of existing SRWRF O&M chapters to be updated. It is assumed that the existing SRWRF O&M chapters reflect current facility equipment and piping operation and configurations.

DELIVERABLES

A list of deliverables for the scope of services provided is presented below:

- A. Attendance at and preparation of minutes from meeting to kick-off project
- B. Attendance at and preparation of minutes from monthly progress meetings
- C. Draft preliminary design technical memoranda

- D. Final preliminary design technical memoranda
- E. Combined preliminary design technical memoranda with executive summary
- F. 60% complete set of technical specifications, engineering drawings, cost estimate, and project schedule
- G. Attendance at and preparation of minutes from 60% review workshop
- H. 90% complete set of technical specifications, engineering drawings, cost estimate, and project schedule
- I. Attendance at and preparation of minutes from 90% review workshop
- J. Bid Set Contract Documents (i.e., 100% complete set of technical specifications and engineering drawings) along with final cost estimate and project schedule. Provide one set of signed and sealed documents
- K. Building Department Construction Permit Pre-application and responses to RAI(s)
- L. FDEP Minor Revision to Wastewater Facility Permit application with signed and sealed documents, and responses to RAI(s)
- M. ERP permit application with signed and sealed documents, and responses to RAI(s)
- N. Responses to bidder questions as applicable
- O. Bid evaluation / recommendation letter
- P. FDEP Notification of Completion of Construction of Facilities
- Q. FDEP Notification of Availability of Record Drawings and Final Operation and Maintenance Manuals
- R. Close-out of permits
- S. Meeting minutes (pre-construction and progress meetings)
- T. Training (startup and operations)
- U. Certificate of Substantial Completion
- V. Certificate of Final Completion
- W. Record drawings including field survey of exterior yard electrical and piping
- X. Draft chapter updates to SRWRF O&M staff for review and comments.
- Y. Final chapter updates in PDF and hard copy originals.
- Z. Monthly Project Control progress reports (46 are assumed)

EXHIBIT "B"

BUDGET SUMMARY
Southern Region Water Reclamation Facility
Engineering Services for Secondary Clarifier and Effluent Filtration Improvements
(Project No. WUD 17-022)

The Scope of Work to be completed by CONSULTANT as defined in Exhibit "A" consists of specific completion phases which shall be clearly identified on a phase-by-phase basis upon submission to the COUNTY of certain "deliverables"* as expressly indicated below. County is responsible for payment in each phase. County reserves the sole option to require a continuation to each phase, as needed. There is no obligation by the County to pay for a phase, unless County opts to require said work. Compensation for the work tasks stated herein shall be in accordance with the following Schedule of Payments:

PHASE 1 – Design through Bidding

Task(s) to be completed:

Task 1 – Preliminary Design	\$ 83,160.00
Task 2 – Final Design	\$896,139.00
Task 3 – Permitting	\$ 18,844.00
Task 4 – Construction Bid Services	\$ 24,092.00
Task 8 – Project Management	\$125,922.00

Completion Time: 16 months for design and 47 months for project management from receipt of Notice-to-Proceed

Compensation for Phase 1: \$1,148,157.00 based on lump sum method of payment

Deliverable(s) Required: Listed in Exhibit A

PHASE 2 – Construction

Task(s) to be completed:

Task 5 – Construction Contract Administration	\$275,219.00
Task 6 – Resident Project Representative	\$523,542.00
Task 7 – Update Operations and Maintenance Manual Chapters	\$ 52,572.00

Completion Time: 47 months from receipt of Notice-to-Proceed

Compensation for Phase 2: \$851,333.00 based on time and materials method of payment

Deliverable(s) Required: Listed in Exhibit A

"Deliverables" shall be defined as progress reports, prepared maps, bid documents, completed drawings, specific reports, work plans, documentation of meetings attended, assessment study reports, analysis reports, summary reports, recommendation reports and related draft reports and verifiable deliverables.

Palm Beach County Water Utilities Department
Secondary Clarifier and Effluent Filtration Improvements
Project No.: WUD 17-022

EXHIBIT B - Budget Summary

Task	Description	Hours											SUB-CONSULTANTS			PROJECT TOTALS
		Vice President	Senior Associate	Associate	Senior Principal	Principal Engineer	Engineer	Principal Designer	Designer	Office Support	Total Hours	Hazen Fee	HEE Fee	CSPI Fee	Total Sub-consultants	
1.0	Preliminary Design	16	84	50	110	0	90	48	0	40	438	\$66,054	\$17,106		\$17,106	\$83,160
2.0	Final Design															
	2.1 - Prepare 60% Submittal	20	323	218	595	0	210	648	351	32	2,397	\$339,285	\$151,210		\$151,210	\$490,495
	2.2 - Prepare 90% Submittal	10	162	109	298	0	105	324	176	16	1,200	\$169,870	\$118,030		\$118,030	\$287,900
	2.3 - Prepare 100% Submittal	2	53	35	98	0	35	108	57	4	392	\$55,416	\$62,328		\$62,328	\$117,744
3.0	Permitting	2	12	4	30	0	16	16	4	4	88	\$12,764	\$6,080		\$6,080	\$18,844
4.0	Construction Bid Services	8	32	4	32	0	0	24	0	20	120	\$18,588	\$5,504		\$5,504	\$24,092
5.0	Construction Contract Administration															
	5.1 - Preconstruction Meeting & Progress Meetings															
	5.1.1 - Preconstruction Meeting (1)	6	4	4	2	0	0	0	0	0	16	\$3,240	\$5,928		\$5,928	\$9,168
	5.1.2 - Monthly Progress Meetings (24)	17	48	48	48	0	0	0	0	0	161	\$29,991				\$29,991
	5.1.3 - Specialty Meetings (10)	16	32	38	60	0	0	0	0	0	146	\$26,586				\$26,586
	5.2 - Submittals	0	48	148	142	0	104	0	0	0	442	\$70,254	\$45,700	\$19,440	\$65,140	\$135,394
	5.3 - Interpretation, Clarifications and Change Order												\$20,894		\$20,894	\$20,894
	5.3.1 - Request for Information (30)	0	38	60	30	0	0	0	0	0	128	\$23,256		\$4,320	\$4,320	\$27,576
	5.3.2 - Change Orders (6)	8	18	6	16	0	0	0	0	4	52	\$9,468		\$2,646	\$2,646	\$12,114
	5.4 - Pay Requests	6	24	24	0	0	0	0	0	0	54	\$10,602		\$2,894	\$2,894	\$13,496
6.0	Resident Project Representative															
	6.1 - Resident Project Representative	0	140	0	0	2,100	0	0	0	0	2,240	\$306,180				\$306,180
	6.2 - Discipline Specific Inspections	0	40	32	120	0	0	0	0	0	192	\$33,024	\$77,570		\$77,570	\$110,594
	6.3 - Startup Services and Operator Training	2	48	8	32	0	12	0	0	0	102	\$18,234	\$24,560		\$24,560	\$42,794
	6.4 - Substantial / Final Completion	2	24	16	40	0	0	0	0	0	82	\$14,622	\$14,420		\$14,420	\$29,042
	6.5 - Preparation of Record Drawings	0	4	8	16	0	24	0	0	0	52	\$7,452	\$27,480		\$27,480	\$34,932
7.0	Operation and Maintenance Manual Update	10	40	0	80	0	210	40	0	16	396	\$52,572				\$52,572
8.0	Project Manager	160	210	0	268	0	0	0	0	40	678	\$125,922				\$125,922
	SUB-TOTAL Hours	285	1,384	812	2,017	2,100	806	1,208	588	176	9,376	\$1,393,380	\$576,810	\$29,300	\$606,110	\$1,999,490
	Raw rate	\$77.00	\$69.00	\$59.00	\$53.00	\$44.00	\$37.00	\$40.00	\$29.67	\$24.00						
	Multiplier	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0						
	Labor rate	\$231	\$207	\$177	\$159	\$132	\$111	\$120	\$89	\$72						
	Labor Sub-Total	\$65,835	\$286,488	\$143,724	\$320,703	\$277,200	\$89,466	\$144,960	\$52,332	\$12,672		\$1,393,380				

EXHIBIT "C"

CONTRACT SCHEDULE
Southern Region Water Reclamation Facility
Engineering Services for Secondary Clarifier and Effluent Filtration Improvements
(Project No. WUD 17-022)

The durations of the major tasks are summarized below:

Description	Estimated Task Duration ⁽¹⁾	Completion from Notice-to-Proceed⁽²⁾
Task 1 – Preliminary Design	4 months	4 months
Task 2 – Final Design	12 months	16 months
Task 3 – Permitting	6 months	16 months
Task 4 – Construction Bid Services	6 months	22 months
Task 5 – Construction Contract Administration	24 months	46 months
Task 6 – Resident Project Representative	21 months	46 months
Task 7 – O&M Manual Update	4 months	46 months
Task 8 – Project Management	47 months	47 months
Project Completion	N / A	47 months

⁽¹⁾ *Tasks may overlap*

⁽²⁾ *Estimated*

Palm Beach County Water Utilities Department

Secondary Clarifier and Effluent Filtration Improvements (PBCWUD Project No. WUD 17-022)

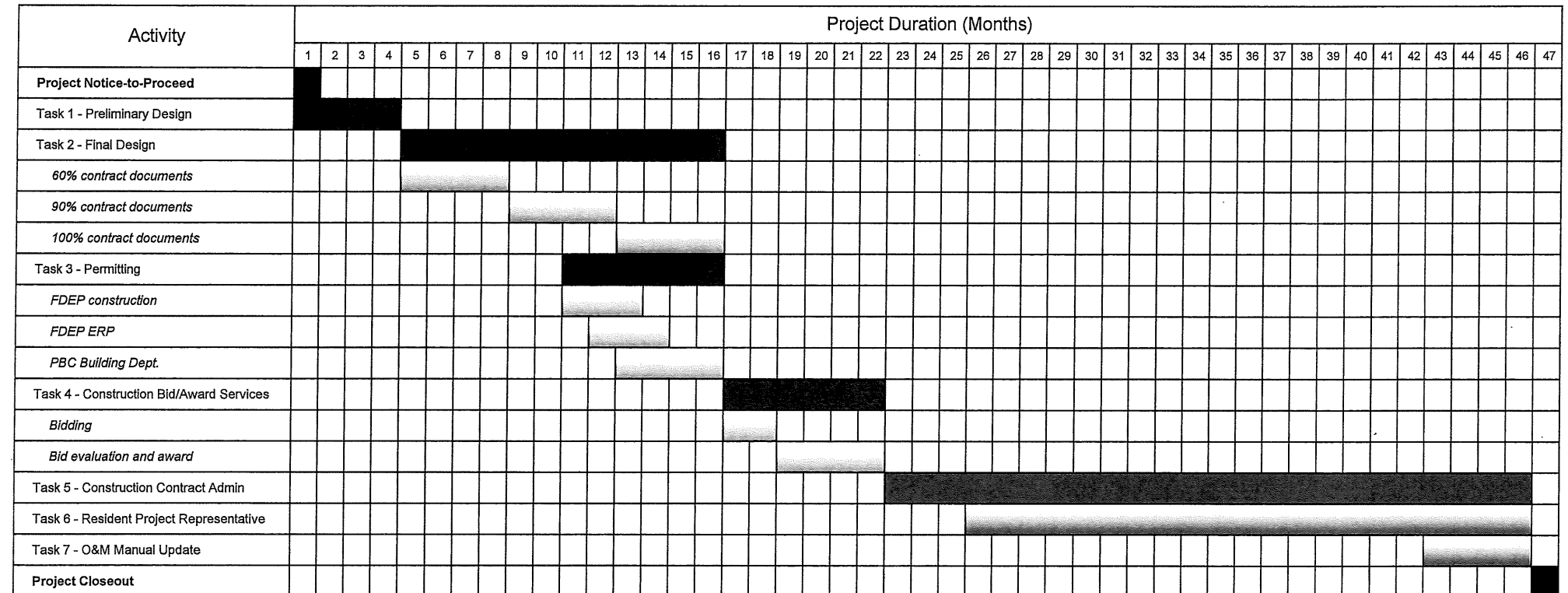


EXHIBIT "D"

SBE SCHEDULES

**Southern Region Water Reclamation Facility
Engineering Services for Secondary Clarifier and Effluent Filtration Improvements
(Project No. WUD 17-022)**

Schedule 1 – List of Proposed SBE-M/WBE Consultant/Subconsultants

Schedule 2 – Letter of Intent to Perform as an SBE-M/WBE Consultant/Subconsultant

Schedule 3(a) – Professional Services Activity Report

Schedule 4 – SBE-M/WBE Payment Certification

Schedule 1
LIST OF PROPOSED SBE-M/WBE CONSULTANT/SUB-CONSULTANTS

PROJECT NAME: SRWRF-Secondary Clarifier and Effluent Filtration Improvements PROJECT NO.: WUD 17-022
NAME OF PRIME CONSULTANT: Hazen and Sawyer, P.C. ADDRESS: 2101 NW Corporate Blvd., Suite 301, Boca Raton, FL 33431
CONTACT PERSON: Albert Muniz, P.E. / Vice President Phone No: (561) 997-8070 Fax No.: (561) 997-8129
DESCRIPTION OF SERVICES: Design, permitting, bidding and construction management services

PLEASE LIST THE DOLLAR AMOUNT AND PERCENTAGE OF WORK TO BE COMPLETED BY THE PRIME ON THIS PROJECT.
PLEASE ALSO LIST THE DOLLAR AMOUNT AND PERCENTAGE OF WORK TO BE COMPLETED BY ALL SUB-CONSULTANTS ON THIS PROJECT. IDENTIFY ALL APPLICABLE CATEGORIES OF CONSULTANT/SUBCONSULTANTS

Name, Address and Phone Number	(Check one or both Categories)		Consultant / Sub-consultant Dollar Amount and Percentage of Services				
	<u>M/WBE</u>	<u>SBE</u>	Black	Hispanic	Women	Caucasian	Other (Please Specify)
	Minority Business	Small Business					
1. Hillers Electrical Engineering (561) 451-9165 23257 SR 7, Suite 100, Boca Raton, FL 33428	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		\$576,810			
1. Corp. Project Services (954) 602-3040 8451 SW 27 St. Unit 105, Miramar, FL 33025	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			\$29,300		
3.	<input type="checkbox"/>	<input type="checkbox"/>					
4.	<input type="checkbox"/>	<input type="checkbox"/>					
5.	<input type="checkbox"/>	<input type="checkbox"/>					

(Please use additional sheets if necessary)

Total \$576,810 \$29,300

Total SBE-M/WBE Participation 30.31 %

NOTE: 1. The percentages listed on this form must be supported by the sub-consultant included on Schedule 2 in order to be counted toward goal attainment.
2. Firms may be certified by Palm Beach County as an SBE and/or M/WBE

SCHEDULE 2

LETTER OF INTENT TO PERFORM AS AN SBE OR M/WBE SUBCONSULTANT

PROJECT NO. WUD 17-022

PROJECT NAME: SRWRF Secondary Clarifier and Effluent
Filtration Improvement

TO: Hazen and Sawyer
(Name of Prime Bidder)

The undersigned is certified by Palm Beach County as a(n) – (check one or more, as applicable):

Small Business Enterprise ☒ Minority Business Enterprise ☐

Black ☐ Hispanic ☐ Women ☐ Caucasian ☐ Other (Please Specify) ☐

Date of Palm Beach County Certification: October 17, 2015

The undersigned is prepared to perform the following described work in connection with the above project
(Specify in detail, particular work items or parts thereof to be performed):

Line Item/Lot No.	Item Description	Qty / Units	Unit Price	Total Price
<u>1</u>	<u>Clarifier & Filtration. – Electrical</u>	<u>1</u>	<u>N/A</u>	<u>\$576,810.00</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
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at the following price

\$ 576,810.00
(Sub-consultant's Quote)

And will enter into a formal agreement for work with you conditioned upon your execution of a contract with Palm Beach County.

If undersigned intends to sub-subcontract any portion of this subcontract to a non-certified SBE sub-consultant, the amount of any such subcontract must be stated: \$ 0.00

The undersigned subcontractor understands that the provision of this form to prime bidder does not prevent subcontractor from providing quotations to other bidders

Hillers Electrical Engineering, Inc.
(Print Name of SBE-M/WBE Sub-consultant)

By: 
(Signature)

Paul Hillers / President
(Print name/title of person executing on
behalf of SBE-M/WBE Sub-consultant)

Date: 11/20/2017

SCHEDULE 2

LETTER OF INTENT TO PERFORM AS AN SBE OR M/WBE SUBCONSULTANT

PROJECT NO. WUD 17-022

PROJECT NAME: SRWRF Secondary Clarifier and Effluent
Filtration Improvement

TO: Hazen and Sawyer
(Name of Prime Bidder)

The undersigned is certified by Palm Beach County as a(n) – (check one or more, as applicable):

Small Business Enterprise ☒

Minority Business Enterprise ☒

Black ☒ Hispanic ☐ Women ☒ Caucasian ☐ Other (Please Specify)

Date of Palm Beach County Certification:

The undersigned is prepared to perform the following described work in connection with the above project
(Specify in detail, particular work items or parts thereof to be performed):

Line Item/Lot No.	Item Description	Qty / Units	Unit Price	Total Price
<u>1</u>	<u>Clarifier & Filtration. – Constr.</u>	<u>1</u>	<u>N/A</u>	<u>\$29,300.00</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
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<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

at the following price
\$ 29,300.00
(Sub-consultant's Quote)

And will enter into a formal agreement for work with you conditioned upon your execution of a contract with Palm Beach County.

If undersigned intends to sub-subcontract any portion of this subcontract to a non-certified SBE sub-consultant, the amount of any such subcontract must be stated: \$ 0.00.

The undersigned subcontractor understands that the provision of this form to prime bidder does not prevent subcontractor from providing quotations to other bidders

Corporate Project Services, Inc.
(Print Name of SBE-M/WBE Sub-consultant)

By: 
(Signature)

Esther Lambart / President
(Print name/title of person executing on
behalf of SBE-M/WBE Sub-consultant)

Date: 11/20/2017

OSBA Schedule 3(A)
PROFESSIONAL SERVICES ACTIVITY REPORT

Project No.: WUD 17-022
Task Authorization No.: _____

REPORTING PERIOD: _____

Prime Consultant Address: _____
City / State _____ Zip _____
Contact Person: _____ Phone # _____
Contract Name: _____
Contract Term: _____ Contract Amount: _____
Total Percentage performed by Prime's Firm: _____ SBE-M/WBE Firm: _____
Service Type: Architectural _____ Engineering _____ Surveying _____
Other (Specify) _____
Have Sub-Consultants completed work with its own workforce for this application?
Yes _____ No _____

Note: If yes, complete below:

SUB-CONSULTANTS

1.

Firm's Name: _____
Address / Tel: _____
Estimated Start Date: _____ Contract Amount: _____
SCOPE OF WORK: _____
Percentage / Hrs Completed: _____ Amount Paid to Date: _____
2.

Firm's Name: _____
Address / Tel: _____
Estimated Start Date: _____ Contract Amount: _____
SCOPE OF WORK: _____
Percentage / Hrs Completed: _____ Amount Paid to Date: _____ \$
3.

Firm's Name: _____
Address / Tel: _____
Estimated Start Date: _____ Contract Amount: _____
SCOPE OF WORK: _____
Percentage / Hrs Completed: _____ Amount Paid to Date: _____ \$

I certify that the above is true to the best of my knowledge

Signature / Title

OSBA SCHEDULE 4 – SBE-M/WBE PAYMENT CERTIFICATION

The Prime Contractor is to submit Schedule 4 with its Monthly Payment Request to Palm Beach County to reflect actual payments made to the SBE-M/WBE Sub-contractor. The Prime Contractor is not to request signature from an SBE-M/WBE Sub-contractor unless it has made a payment to the SBE-M/WBE Sub-contractor. The SBE-M/WBE Sub-contractor is not to complete and sign this form unless it has received a payment from the Prime Contractor for services actually performed by the SBE-M/WBE Sub-contractor. A separate Schedule 4 is required for each SBE-M/WBE Sub-contractor payment.

This is to certify that _____ received
(SBE or M/WBE Sub-contractor Name)

(Monthly) or (Final) payment of \$0.00

On ____ - ____ - 2015 from _____
MM DD YYYY (Prime Contractor Name)

For labor and/or material used on _____ / _____
(Project Name) (Work Order)

DEPT.: WUD PROJECT NO.: _____

PRIME CONTRACTOR VENDOR CODE: _____
SBE OR M/WBE SUB-CONTRACTOR VENDOR CODE: _____

If the SBE Sub-contractor intends to disburse any funds associated with this payment to any Sub-contractor for labor provided on this project, please provide the following information:

*Sub-contractor Name: _____ Amount to be paid: _____

*Note: If the sub-contractor listed in this section is an SBE or M/WBE a separate Schedule 4 is required to verify payment.

By: _____
(Signature of Sub-contractor) (Print Name & Title of Person executing on behalf of Subcontractor)

STATE OF FLORIDA
COUNTY OF
Sworn to and subscribed before me this _____ day of _____ 2015
By: _____

Notary Public, State of Florida

Print, Type or Stamp Commissioned Name of Notary

Personally Known _____ OR Produced Identification _____ Type of Identification _____

EXHIBIT "E"

LIST OF DRAWINGS

**Southern Region Water Reclamation Facility
Engineering Services for Secondary Clarifier and Effluent Filtration Improvements
(Project No. WUD 17-022)**

PALM BEACH COUNTY WATER UTILITIES DEPARTMENT
Souther Region Water Reclamation Facility
Headworks and Effluent Transfer Pumping Improvements

Sheet	Drawing Number	Drawing Title
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GENERAL

1	G1	Cover Sheet
2	G2	List of Drawings
3	G3	Symbols
4	G4	Abbreviations
5	G5	Hydraulic Profile
6	G6	Process Flow diagram

CIVIL

7	C1	Existing Site Plan and Contractor Staging Area
8	C2	Final Site Plan
9	C3	Yard Piping - Sheet 1
10	C4	Yard Piping - Sheet 2
11	C5	Yard Piping - Sheet 3
12	C6	Yard Piping - Sheet 4
13	C7	Paving, Grading and Drainage - Sheet 1
14	C8	Paving, Grading and Drainage - Sheet 2
15	CD1	Civil Details - Sheet 1
16	CD2	Civil Details - Sheet 2

MECHANICAL

17	M1	Clarifiers - Demolition - Plan
18	M2	Clarifiers - Demolition - Sections
19	M3	Clarifiers - Demolition - Details Sheet 1
20	M4	Clarifiers - Demolition - Details Sheet 2
21	M5	Clarifiers - Improvements - Plan Sheet 1
22	M6	Clarifiers - Improvements - Plan Sheet 2
23	M7	Clarifiers - Improvements - Sections & Details Sheet 1
24	M8	Clarifiers - Improvements - Sections & Details Sheet 2
25	M9	Clarifiers - Improvements - Sections & Details Sheet 3
26	M13	Reclaim Facility - Demolition - Plan Sheet 1
27	M14	Reclaim Facility - Demolition - Plan Sheet 2
28	M15	Reclaim Facility - Demolition - Section and Details Sheet 1
29	M17	Reclaim Facility - Improvements - Plan Sheet 1
30	M18	Reclaim Facility - Improvements - Plan Sheet 2
31	M19	Reclaim Facility - Improvements - Plan Sheet 3
32	M21	Reclaim Facility - Improvements - Sections Sheet 1
33	M22	Reclaim Facility - Improvements - Sections Sheet 2
34	M20	Reclaim Facility - Improvements - Sections Sheet 3
35	M23	Reclaim Facility - Improvements - Details Sheet 1

PALM BEACH COUNTY WATER UTILITIES DEPARTMENT
Souther Region Water Reclamation Facility
Headworks and Effluent Transfer Pumping Improvements

Sheet	Drawing Number	Drawing Title
36	M24	Reclaim Facility - Improvements - Details Sheet 2
37	M25	Reclaim Facility - Improvements - Details Sheet 3
38	M26	Reclaim Facility - Improvements - Details Sheet 4
39	M27	Sodium Hypochlorite Storage - Improvements - Plan
40	M28	Sodium Hypochlorite Storage - Improvements - Sections
41	M29	Sodium Hypochlorite Storage - Improvements - Details Sheet 1
42	M30	Sodium Hypochlorite Storage - Improvements - Details Sheet 2
43	M31	Biogas System - Improvements - Overall Plan
44	M32	Biogas System - Improvements - Partial Plan Sheet 1
45	M33	Biogas System - Improvements - Sections Sheet 1
46	M34	Biogas System - Improvements - Details Sheet 1
47	M35	Biogas System - Improvements - Details Sheet 2
48	M36	Boiler - Demolition - Plan
49	M37	Boiler - Demolition - Section and Details
50	M38	Boiler - Improvements - Plan
51	M39	Boiler - Improvements - Sections Sheet 1
52	M40	Boiler - Improvements - Sections Sheet 2
53	M41	Boiler - Improvements - Details Sheet 1
54	M42	Influent Sampling Station - Improvements - Plan
55	M43	Influent Sampling Station - Improvements - Sections
56	M44	Influent Sampling Station - Improvements - Details
57	M45	Secondary Effluent - Improvements - Plan, Section, and Details
58	MD1	Mechanical Details - Sheet 1
59	MD2	Mechanical Details - Sheet 2
60	MD3	Mechanical Details - Sheet 3
61	MD4	Mechanical Details - Sheet 4
62	MD5	Mechanical Details - Sheet 5

INSTRUMENTATION

63	I1	Instrumentation Legend and Symbols
64	I2	Control System Block Diagram Clarifier
65	I3	Clarifier Group 1 Demolition P&ID Clarifier Group
66	I4	Clarifier Group 1 Modifications P&ID
67	I5	Sludge Pump Station No.1 Demolition P&ID
68	I6	Sludge Pump Station No.1 Modified P&ID
69	I7	Clarifier Group 2 Demolition P&ID
70	I8	Clarifier Group 2 Modifications P&ID
71	I9	Sludge Pump Station No.2 Demolition P&ID
72	I10	Sludge Pump Station No.2 Modified P&ID
73	I11	Effluent Filters Demolition P&ID Sheet 1

PALM BEACH COUNTY WATER UTILITIES DEPARTMENT
Souther Region Water Reclamation Facility
Headworks and Effluent Transfer Pumping Improvements

Sheet	Drawing Number	Drawing Title
74	I12	Effluent Filters Demolition P&ID Sheet 2
75	I13	Effluent Filters Demolition P&ID Sheet 3
76	I14	Effluent Filters Modification P&ID Sheet 1
77	I15	Effluent Filters Modification P&ID Sheet 2
78	I16	Effluent Filters Modification P&ID Sheet 3
79	I17	Effluent Filters Modification P&ID Sheet 4
80	I18	Chlorine Building Demolition P&ID
81	I19	Chlorine Building Modification P&ID
82	I20	BioGas System Modifications P&ID Sheet 1
83	I21	BioGas System Modifications P&ID Sheet 2
84	I22	BioGas Heat Recovery System Sheet 1
85	I23	BioGas Heat Recovery System Sheet 2
86	I24	Anaerobic Digester Group 1 Boilers Demolition P&ID
87	I25	Anaerobic Digester Group 1 New Boilers P&ID
88	I26	Anaerobic Digester Group 2 Boilers Demolition P&ID
89	I27	Anaerobic Digester Group 2 New Boilers P&ID
90	I28	Dissolved Sulfides Sampling Stations P&ID
91	ID1	Details Sheet 1
92	ID2	Details Sheet 2

STRUCTURAL

93	S1	Structural General Notes
94	S2	Secondary Clarifiers - Demolition Plan
94	S3	Secondary Clarifiers - Access Walkway/Grating Plan
95	S4	Secondary Clarifiers - Access Walkway/Grating Sections Sheet 1
96	S5	Secondary Clarifiers - Access Walkway/Grating Sections Sheet 2
97	S6	Secondary Clarifiers - Access Walkway/Grating Details Sheet 1
98	S7	Secondary Clarifiers - Access Walkway/Grating Details Sheet 2
99	S8	Reclaim Facility - Demolition Plan Sheet 1
100	S9	Reclaim Facility - Demolition Plan Sheet 2
101	S10	Reclaim Facility - Demolition - Section & Details
102	S11	Reclaim Facility - Improvements - Framework and Roof Plan - Sheet 1
103	S12	Reclaim Facility - Improvements - Framework and Roof Plan - Sheet 2
104	S13	Reclaim Facility - Improvements - Framework and Roof Sections
105	S14	Reclaim Facility - Improvements - Framework and Roof Details - Sheet 1
106	S15	Reclaim Facility - Improvements - Framework and Roof Details - Sheet 2
107	S16	Reclaimed Facility - New Filters Plan - Sheet 1
108	S17	Reclaimed Facility - New Filters Plan - Sheet 2
109	S18	Reclaimed Facility - New Filters Sections - Sheet 1
110	S19	Reclaimed Facility - New Filters Sections - Sheet 2

PALM BEACH COUNTY WATER UTILITIES DEPARTMENT
Souther Region Water Reclamation Facility
Headworks and Effluent Transfer Pumping Improvements

Sheet	Drawing Number	Drawing Title
111	S20	Reclaimed Facility - New Filters Details
112	S21	Reclaimed Facility - Clearwell Top Slab Improvements Plan
113	S22	Reclaimed Facility - Clearwell Top Slab Improvements Sections
114	S23	Reclaimed Facility - Clearwell Top Slab Improvements Details
115	S24	Sodium Hypochlorite Storage - Improvements - Plan
116	S25	Sodium Hypochlorite Storage - Improvements - Sections
117	S26	Sodium Hypochlorite Storage - Improvements - Details
118	S27	Biogas System Piping - Improvements - Plan
119	S28	Biogas System Piping - Improvements - Section
120	S29	Biogas System - Improvements - Details
121	SD1	Structural Details - Sheet 1
122	SD2	Structural Details - Sheet 2
123	SD3	Structural Details - Sheet 3
124	SD4	Structural Details - Sheet 4

ELECTRICAL

125	E1	Electrical Legend and Symbols
126	E2	General Notes and Specifications
127	E3	Electrical Site Plan-General Arrangement
128	E4	Electrical Site Plan-Sludge Pump Station No.1 and Group 1 Clarifiers Nos.1 through 4
129	E5	Clarifier Group 1 Typical Electrical Modification Plan
130	E6	Sludge Pump Station No.1 Upper Floor Demolition Plan
131	E7	Sludge Pump Station No.1 Upper Floor Modification Plan
132	E8	One Line Diagram-Sludge Pump Station No.1 Demolition
133	E9	One Line Diagram-Sludge Pump Station No.1 Modified
134	E10	Schematics-Sludge Pump Station No.1 and Group 1 Clarifiers Nos. 1 through 4
135	E11	Riser Diagrams-Sludge Pump Station No.1 and Group 1 Clarifiers Nos. 1 through 4
136	E12	Schedules-Sludge Pump Station No.1 and Group 1 Clarifiers Nos. 1 through 4
137	E13	Electrical Site Plan-Sludge Pump Station No.2 and Group 2 Clarifiers Nos.1 through 4
138	E14	Clarifier Group 2 Typical Modification Plan
139	E15	Sludge Pump Station No.2 Upper Floor Demolition Plan
140	E16	Sludge Pump Station No.2 Upper Floor Modification Plan
141	E17	One Line Diagram-Sludge Pump Station No.2 Demolition
142	E18	Line Diagram-Sludge Pump Station No.2 Modified
143	E19	Schematics-Sludge Pump Station No.2 and Group 2 Clarifiers Nos. 1 through 4 Riser
144	E20	Diagrams-Sludge Pump Station No.2 and Group 2 Clarifiers Nos. 1 through 4
145	E21	Schedules-Sludge Pump Station No.2 and Group 2 Clarifiers Nos. 1 through 4
146	E22	Electrical Site Plan-Existing Effluent Filters
147	E23	Effluent Filters Modification Plans Sheet 1
148	E24	Effluent Filters Modification Plans Sheet 2

PALM BEACH COUNTY WATER UTILITIES DEPARTMENT
Souther Region Water Reclamation Facility
Headworks and Effluent Transfer Pumping Improvements

Sheet	Drawing Number	Drawing Title
149	E25	Effluent Filters Modification Plans Sheet 3
150	E26	Effluent Filters Modification Plans Sheet 4
151	E27	Effluent Filters Grounding Plans Sheet 1
152	E28	Effluent Filters Grounding Plans Sheet 2
153	E29	Effluent Filters Grounding Plans Sheet 3
154	E30	Effluent Filters One Line Diagram-Demolition Sheet 1
155	E31	Effluent Filters One Line Diagram-Demolition Sheet 2
156	E32	Effluent Filters One Line Diagram-Modified
157	E33	Effluent Filters Schematic Diagrams
158	E34	Effluent Filters Riser Diagrams
159	E35	Effluent Filters Schedules
160	E36	Effluent Pump Station Demolition Plan
161	E37	Effluent Pump Station Modification Plan
162	E38	Effluent Pump Station One Line Diagram-Demolition
163	E39	Effluent Pump Station One Line Diagram-Modified
164	E40	Effluent Pump Station Riser Diagram
165	E41	Chlorine Building Demolition Plan
166	E42	Chlorine Building Modified Plan
167	E43	Chlorine Building Grounding Plan
168	E44	Chlorine Building One Line Diagram-Demolition
169	E45	Chlorine Building One Line Diagram-Modified
170	E46	Chlorine Building Riser Diagrams
171	E47	Chlorine Building Schedules
172	E48	BioGas System Electrical Site Plan
173	E49	BioGas Generator No.1 Enclosure Modified Plan
174	E50	BioGas Generator No.1 Heat Recovery System
175	E51	BioGas Generator No.2 Enclosure Modified Plan
176	E52	BioGas Generator No.2 Heat Recovery System
177	E53	BioGas Conditioning Skid Modified Plan
178	E54	System One Line Diagram-Modified
179	E55	Anaerobic Digester Group 1 First Floor Demolition Plan
180	E56	Anaerobic Digester Group 1 First Floor Modification Plan
181	E57	Anaerobic Digester Group 1 Second Floor Electrical Plan
182	E58	Anaerobic Digester Group 1 One Line Diagram-Demolition
183	E59	Anaerobic Digester Group 1 One Line Diagram-Modified
184	E60	Anaerobic Digester Group 2 First Floor Demolition Plan
185	E61	Anaerobic Digester Group 2 First Floor Modification Plan
186	E62	Anaerobic Digester Group 2 Second Floor Electrical Plan
187	E63	Anaerobic Digester Group 2 One Line Diagram-Demolition
188	E64	Anaerobic Digester Group 2 One Line Diagram-Modified

PALM BEACH COUNTY WATER UTILITIES DEPARTMENT
Souther Region Water Reclamation Facility
Headworks and Effluent Transfer Pumping Improvements

Sheet	Drawing Number	Drawing Title
189	E65	Anaerobic Digester Riser Diagrams
190	E66	Anaerobic Digester Schedules
191	E67	Miscellaneous Electrical Drawings for Eye Wash Stations Sheet 1
192	E68	Miscellaneous Electrical Drawings for Eye Wash Stations Sheet 2
193	E69	Miscellaneous Electrical Drawings for Eye Wash Stations Sheet 3
194	E70	Dissolved Sulfides Sampling Station No.1 Electrical Plan
195	E71	Dissolved Sulfides Sampling Station No.1 One Line/Riser Diagrams
196	E72	Dissolved Sulfides Sampling Station No.2 Electrical Plan
197	E73	Dissolved Sulfides Sampling Station No.2 One Line/Riser Diagrams
198	ED1	Details Sheet 1
199	ED2	Details Sheet 2
200	ED3	Details Sheet 3
201	ED4	Details Sheet 4
202	FA1	Chlorine Building Fire Alarm Legend and General Notes
203	FA2	Chlorine Building Fire Alarm Plans
204	FA3	Chlorine Building Fire Alarm Riser Diagram
205	FA4	Building Fire Alarm Schedules and Notes

EXHIBIT "F"

SUBCONSULTANT PROPOSALS
Southern Region Water Reclamation Facility
Engineering Services for Secondary Clarifier and Effluent Filtration Improvements
(Project No. WUD 17-022)

H E E

HILLERS ELECTRICAL ENGINEERING, INC.

October 19, 2017

Mr. John Koroshec, PE
Senior Associate
Hazen and Sawyer, PC
2101 Corporate Blvd
Boca Raton, FL. 33431

Subject: Southern Regional Water Reclamation Facility Secondary Clarifier and Effluent Filtration Improvements.

Dear John:

Hillers Electrical Engineering, Inc. (HEE) is pleased to provide Hazen and Sawyer, PC (H&S) this revised proposal for electrical, instrumentation and control systems design services for the above referenced project.

Our proposal is based upon Scope Of Work "Southern Region Water Reclamation Facility Engineering Services for Secondary Clarifier and Effluent Filtration Improvements" (Project WUD 17-022) between H&S and Palm Beach County Water Utilities (County). The County has identified improvements to the existing secondary clarifiers, effluent filtration system and miscellaneous other plant improvements including new electrical infrastructure for the effluent filtration system and replacement of variable frequency drives in the sludge pump stations. The following are in our scope of services:

Perform electrical, instrumentation and control design to support the following tasks:

- Secondary Clarifiers/Sludge Pump Stations:
 - Rehabilitation of eight (8) existing secondary clarifiers including addition of sludge blanket level detection and total suspended solids (TSS) meters to each clarifier. Modifications include new clarifier control panels; disconnect switches; lighting; raceway and wiring.
 - Replacement of the existing RAS Pump variable frequency drives (VFDS).
- Reclaimed Water Facilities:
 - Replacement the cloth disk filter main PLC control panel and associated individual filter control panels.
 - New wire and raceway from control panels to end use devices and to master PLC.
 - Replace existing filter power distribution panel.
 - Replace existing power wiring and raceway from power distribution panel to associated loads.
 - Design one power feed from existing Chlorine Building and eliminate second feed from Effluent Pump Station to maintain redundancy but improve reliability.
 - Replacement of existing turbidity meters with new units.

- Addition of new grounding and lightning protection systems to new filters and walkway covers where appropriate.
- Addition of two cloth disk filters including electrical instrumentation and control.
- Replace four (4) existing 50HP Filtered Effluent Pumps, wiring and variable frequency drives with four new 100 HP units.
- Sodium Hypochlorite System:
 - New level transmitters on new storage tanks to replace the existing brine tanks.
 - New local tank monitoring and control station for use during filling of the tanks.
 - Interface of possible sprinkler system flow and tamper switches with existing fire alarm system in the chlorine building.
 - New lighting, grounding/bonding and lightning protection for new canopy over new hypochlorite storage tanks.
- Biogas Generation System:
 - New generator inlet air temperature probe for monitoring in plant PLC.
 - Interface County installed generator temperature monitoring panel with existing plant SCADA for remote monitoring.
 - Design electrical to support addition of an exhaust fan to each generator cubicle (total of 2 fans).
 - Add HMI screens in generator cubicles that connect to the gas conditioning skid for operator remote monitoring and control of the system during testing and maintenance.
 - Heat mitigating measures for the gas conditioning skid control panel in the form of white powder coat paint.
 - New power meters on the feeder circuits for each generator enclosure from the main electrical building to track power consumed versus power generated.
 - Possible implementation of a heat recovery system for use in the Anaerobic Digester Groups.
- Anaerobic Digester Boiler Replacement
 - Replace two (2) existing boilers in Anaerobic Digesters 1 and 2 in kind. Design electrical and control system interfaces to support the new boiler units.
- Influent Wastewater Dissolved Sulfides Sampling Station: Addition of two (2) sampling stations with sample pump and dissolved sulfides meter for the east and west influent pipes that enter the plant site. Sample station to generally consist of a fiberglass enclosure containing the sample pump, meter, electrical and controls. Power and control will interface at the closest process building practical to the sample station location.
- Interface existing emergency eyewash/shower flow switches with closest plant control system PLC. Provide power to eyewash/shower flow switch/local alarm light as appropriate. Modify the existing SCADA system to display and record flow switch alarms.

Task 1: Preliminary Design

Task 1.1: Technical Memoranda

- HEE will attend kick-off meeting with H&S and County.
- HEE will attend monthly progress meetings with H&C and County during preliminary design phase.
- Prepare electrical, instrumentation and control systems input to Technical Memoranda for the following:
 - Secondary clarifiers, Sludge Pump Stations 1 and 2 RAS pump VFDS, and scum manholes (TM-1)
 - Biogas System Improvements (TM-2)
- HEE will attend, with H&S, draft TM review meetings for each Technical Memorandum (total of 4 meetings) and address comments related to electrical, instrumentation and control for the final TM documents.

Task 2: Final Design

Task 2.1 Prepare 60% Contract Documents

- Attend monthly progress meetings with H&S and County.
- Prepare 60% drawings and technical specifications for submittal to the County.
- Prepare 60% cost estimate.
- Attend review meeting/workshop with H&S and County to receive comments on the 60% design documents.

Task 2.2: Prepare 90% Contract Documents

- Attend monthly progress meetings with H&S and County.
- Incorporate comments from the 60% review workshop and prepare 90% drawings and technical specifications for submittal to the County.
- Prepare 90% cost estimate.
- Attend review meeting/workshop with H&S and County to receive comments on the 90% design documents.

Task 2.3: Prepare 100% Contract Documents

- Attend monthly progress meetings with H&S and County.
- Incorporate comments from the 90% review workshop and prepare 100% drawings and technical specifications for submittal to the County.
- Prepare 100% cost estimate.

- Attend review meeting/workshop with H&S and County to receive comments on the 100% design documents.

Task 3 – Permitting

HEE will prepare electrical, instrumentation and control permitting sets for Florida Department of Environmental Protection and Palm Beach County Building Department. HEE will incorporate comments from the permitting agencies into bidding documents.

Task 4 – Construction Bid Services

HEE will provide bidding assistance for:

- Responding to bidder questions
- Attendance at pre-bid meeting.
- Issuance of addenda.
- Assisting H&S in evaluating bids where necessary.

Task 5 – Construction Contract Administration

Task 5.1: Pre-Construction and Monthly Progress Meetings

- HEE will attend pre-construction meeting.
- HEE will attend up to 12 construction progress meetings.

Task 5.2: Submittals

- O&M manuals for electrical, instrumentation and control.
- HEE will review shop drawings related to electrical, instrumentation and control, as well as, mechanical equipment shop drawings for coordination with electrical, instrumentation and control systems.

Task 5.3: Interpretations, Clarifications and Change Orders

- Issue contract interpretations/clarifications related to electrical, instrumentation and control systems.
- Prepare change orders related to electrical, instrumentation and control systems.
- Issue responses to RFI'S related to electrical, instrumentation and control systems.

Task 5.4: Pay Requests

- HEE anticipates no involvement with this scope element.

Task 6 – Resident Project Representative

Task 6.1: Resident Project Representative (RPR)

- HEE anticipates RPR services will be furnished by H&S and HEE will provide specialty inspections only.

Task 6.2: Discipline Specific Inspections

- HEE will perform specialty inspections related to electrical, instrumentation and control systems.

Task 6.3: Start-Up Services

- HEE will assist H&S with overseeing equipment start-ups from an electrical, instrumentation and control perspective.

Task 6.4: Substantial and Final Construction Completion

- HEE will perform substantial and final completion inspections and prepare a list of outstanding items for each.

Task 6.5: Preparation of Record Drawings

- HEE will review contractor red-line mark-ups of actual field installed conditions and prepare signed and sealed record drawings.

Task 7 – Operations and Maintenance Manual Update

- HEE anticipates the work of this task to be performed by H&S.

Assumptions

- All background drawings will be furnished by H&S in AutoCAD format, including new and existing building plans and new or existing site plans.
- No update to the plant's existing short circuit, device coordination and arc flash study is included in this proposal.
- Demolition of electrical work associated with the clarifiers and the sand filters will be shown on mechanical drawings. No demolition drawings will be provided in the electrical discipline for the clarifiers and sand filters.
- One typical clarifier electrical drawing will be produced for each clarifier group. Drawings of each individual clarifier are not included in this proposal.
- Additions to fire alarm system in the Chlorine Building will require full investigation of the existing system to determine if there is available capacity in the system to add appliances. For permitting purposes, the existing system will have to be depicted and presented, with proposed modifications, to determine system battery capacity calculations and circuit voltage drops.
- Incidental lighting to any building expansions is included in this proposal; no redesign of existing lighting systems is included.
- The existing video surveillance system has adequate capacity to accept new surveillance cameras added as part of this project. This proposal does not include re-engineering the existing video surveillance system.

- Up to 65 shop drawing submittal reviews are anticipated with an average review time of 5 hours including re-submittals.
- Anticipated task durations
 - Task 1: Four (4) months.
 - Task 2: Ten (10) months
 - Task 3: six (6) months.
 - Task 4: six (6) months.
 - Tasks 5 & 6: twenty-four (24) months

Anticipated drawings:

Electrical:

Electrical Legend and Symbols (1 sheet)
General Notes and Specifications (1 sheet)
Electrical Site Plan-General Arrangement (1 sheet)

Electrical Site Plan-Sludge Pump Station No.1 and Group 1 Clarifiers Nos.1 through 4 (1 sheet)
Clarifier Group 1 Typical Electrical Modification Plan (1 sheet)
Sludge Pump Station No.1 Upper Floor Demolition Plan (1 sheet)
Sludge Pump Station No.1 Upper Floor Modification Plan (1 sheet)
One Line Diagram-Sludge Pump Station No.1 Demolition (1 sheet)
One Line Diagram-Sludge Pump Station No.1 Modified (1 sheet)
Schematics-Sludge Pump Station No.1 and Group 1 Clarifiers Nos. 1 through 4 (1 sheet)
Riser Diagrams-Sludge Pump Station No.1 and Group 1 Clarifiers Nos. 1 through 4 (1 sheet)
Schedules-Sludge Pump Station No.1 and Group 1 Clarifiers Nos. 1 through 4 (1 sheet)

Electrical Site Plan-Sludge Pump Station No.2 and Group 2 Clarifiers Nos.1 through 4 (1 sheet)
Clarifier Group 2 Typical Modification Plan (1 sheet)
Sludge Pump Station No.2 Upper Floor Demolition Plan (1 sheet)
Sludge Pump Station No.2 Upper Floor Modification Plan (1 sheet)
One Line Diagram-Sludge Pump Station No.2 Demolition (1 sheet)
One Line Diagram-Sludge Pump Station No.2 Modified (1 sheet)
Schematics-Sludge Pump Station No.2 and Group 2 Clarifiers Nos. 1 through 4 (1 sheet)
Riser Diagrams-Sludge Pump Station No.2 and Group 2 Clarifiers Nos. 1 through 4 (1 sheet)
Schedules-Sludge Pump Station No.2 and Group 2 Clarifiers Nos. 1 through 4 (1 sheet)

Electrical Site Plan-Existing Effluent Filters (1 sheet)
Effluent Filters Modification Plans (4 sheets)
Effluent Filters Grounding Plans (3 sheets)
Effluent Filters One Line Diagram-Demolition (2 sheet)
Effluent Filters One Line Diagram-Modified (1 sheet)
Effluent Filters Schematic Diagrams (1 sheet)
Effluent Filters Riser Diagrams (1 sheet)
Effluent Filters Schedules (1 sheet)

Effluent Pump Station Demolition Plan (1 sheet)
Effluent Pump Station Modification Plan (1 sheet)
Effluent Pump Station One Line Diagram-Demolition (1 sheet)

Effluent Pump Station One Line Diagram-Modified (1 sheet)

Effluent Pump Station Riser Diagram (1 sheet)

Chlorine Building Demolition Plan (1 sheet)-

Chlorine Building Modified Plan (1 sheet)

Chlorine Building Grounding Plan (1 sheet)

Chlorine Building One Line Diagram-Demolition (1 sheet)

Chlorine Building One Line Diagram-Modified (1 sheet)

Chlorine Building Riser Diagrams (1 sheet)

Chlorine Building Schedules (1 sheet)

BioGas System Electrical Site Plan (1 sheet)

BioGas Generator No.1 Enclosure Modified Plan (1 sheet)

BioGas Generator No.1 Heat Recovery System (1 sheet)

BioGas Generator No.2 Enclosure Modified Plan (1 sheet)

BioGas Generator No.2 Heat Recovery System (1 sheet)

BioGas Conditioning Skid Modified Plan (1 sheet)

BioGas System One Line Diagram-Modified (1 sheet)

Anaerobic Digester Group 1 First Floor Demolition Plan (1 sheet)

Anaerobic Digester Group 1 First Floor Modification Plan (1 sheet)

Anaerobic Digester Group 1 Second Floor Electrical Plan (1 sheet)

Anaerobic Digester Group 1 One Line Diagram-Demolition (1 sheet)

Anaerobic Digester Group 1 One Line Diagram-Modified (1 sheet)

Anaerobic Digester Group 2 First Floor Demolition Plan (1 sheet)

Anaerobic Digester Group 2 First Floor Modification Plan (1 sheet)

Anaerobic Digester Group 2 Second Floor Electrical Plan (1 sheet)

Anaerobic Digester Group 2 One Line Diagram-Demolition (1 sheet)

Anaerobic Digester Group 2 One Line Diagram-Modified (1 sheet)

Anaerobic Digester Riser Diagrams (1 sheet)

Anaerobic Digester Schedules (1 sheet)

Miscellaneous Electrical Drawings for Eye Wash Stations (3 sheets)

Dissolved Sulfides Sampling Station No.1 Electrical Plan (1 sheet)

Dissolved Sulfides Sampling Station No.1 One Line/Riser Diagrams (1 sheet)

Dissolved Sulfides Sampling Station No.2 Electrical Plan (1 sheet)

Dissolved Sulfides Sampling Station No.2 One Line/Riser Diagrams (1 sheet)

Details (4 sheets)

Chlorine Building Fire Alarm Legend and General Notes (1 sheet)

Chlorine Building Fire Alarm Plans (1 sheet)

Chlorine Building Fire Alarm Riser Diagram (1 sheet)

Chlorine Building Fire Alarm Schedules and Notes (1 sheet)

Instrumentation:

- Instrumentation Legend and Symbols (1 sheet)
- Control System Block Diagram (1 sheet)
- Clarifier Group 1 Demolition P&ID (1 sheet)
- Clarifier Group 1 Modifications P&ID (1 sheet)
- Sludge Pump Station No.1 Demolition P&ID (1 sheet)
- Sludge Pump Station No.1 Modified P&ID (1 sheet)
- Clarifier Group 2 Demolition P&ID (1 sheet)
- Clarifier Group 2 Modifications P&ID (1 sheet)
- Sludge Pump Station No.2 Demolition P&ID (1 sheet)
- Sludge Pump Station No.2 Modified P&ID (1 sheet)
- Effluent Filters Demolition P&ID (3 sheets)
- Effluent Filters Modification P&ID (4 sheets)
- Chlorine Building Demolition P&ID (1 sheet)
- Chlorine Building Modification P&ID (1 sheet)
- BioGas System Modifications P&ID (2 sheets)
- BioGas Heat Recovery System (2 sheets)
- Anaerobic Digester Group 1 Boilers Demolition P&ID (1 sheet)
- Anaerobic Digester Group 1 New Boilers P&ID (1 sheet)
- Anaerobic Digester Group 2 Boilers Demolition P&ID (1 sheet)
- Anaerobic Digester Group 2 New Boilers P&ID (1 sheet)
- Dissolved Sulfides Sampling Stations P&ID (1 sheet)
- Details (2 sheets)

Total number of anticipated drawing sheets: 111

Our proposed lump sum Task 1 fee is:	Refer to Accompanying Fee Summary
Our proposed lump sum Task 2 fee is:	Refer to Accompanying Fee Summary
Our proposed lump sum Task 3 fee is:	Refer to Accompanying Fee Summary
Our proposed T&M Task 4 fee is:	Refer to Accompanying Fee Summary
Our proposed T&M Task 5 fee is:	Refer to Accompanying Fee Summary
Our proposed T&M Task 6 fee is:	Refer to Accompanying Fee Summary
Total:	Refer to Accompanying Fee Summary

HEE wishes to thank Hazen and Sawyer for the opportunity to assist with this project. Please do not hesitate to call me if you have any questions regarding this proposal or any other related matter.

Sincerely,



Mark E. Luther, PE
MEL/mel

Palm Beach County Water Utilities Department
Secondary Clarifier and Effluent Filtration Improvements
Project No.: WUD 17-022

EXHIBIT F - Summary Hillers Electrical Engineering, Inc. (HEE)

Task	Description	Hours								TOTAL COST
		Project Manager	Professional Engineer	Engineer	Constr. Coordinator	Cadd	Drafting	Secretarial	Total Hours	
1.0	Preliminary Design	28	46	36					110	\$17,106.00
2.0	Final Design									
	2.1 - Prepare 60% Submittal	150	325	280		390			1,145	\$151,210.00
	2.2 - Prepare 90% Submittal	110	255	200		340			905	\$118,030.00
	2.3 - Prepare 100% Submittal	46	139	105		200			490	\$62,328.00
3.0	Permitting	8	16			20			44	\$6,080.00
4.0	Construction Bid Services	6	20			12			38	\$5,504.00
5.0	Construction Contract Administration									
	5.1 - Preconstruction Meeting & Progress Meetings	0								
	5.1.1 - Preconstruction Meeting (1)				52				52	\$5,928.00
	5.1.2 - Monthly Progress Meetings (24)									
	5.1.3 - Specialty Meetings (10)									
	5.2 - Submittals	80	120		90				290	\$45,700.00
	5.3 - Interpretation, Clarifications and Change Order	28	39		28	60			155	\$20,894.00
	5.3.1 - Request for Information (30)									
	5.3.2 - Change Orders (6)									
	5.4 - Pay Requests									
6.0	Resident Project Representative									
	6.1 - Resident Project Representative									
	6.2 - Discipline Specific Inspections	40	60		525				625	\$77,570.00
	6.3 - Startup Services and Operator Training	15	50		120				185	\$24,560.00
	6.4 - Substantial / Final Completion	8	16		90				114	\$14,420.00
	6.5 - Preparation of Record Drawings	24	60		48	80			212	\$27,480.00
7.0	Operation and Maintenance Manual Update									
8.0	Project Manager									
	SUB-TOTAL Hours	543	1,146	621	953	1,102	0	0	4,365	\$576,810.00
	Rate	\$212.00	\$154.00	\$114.00	\$114.00	\$96.00	\$85.00	\$63.00		

SCOPE OF SERVICES

Southern Region Water Reclamation Facility

Secondary Clarifier and Effluent Filtration Improvements

(Project No. WUD 17-022)

The scope of work to be provided by Corporate Project Services, Inc. (**CONSULTANT**) includes professional services for construction administration as detailed below.

TASK 1 - Project Controls

CONSULTANT shall provide construction administration services during the Project, including:

Project Controls Assistance – **CONSULTANT** shall provide necessary project controls assistance services during the construction phase of the Project. Activities shall include assistance with logging and tracking of requests for information (RFIs), construction contractor change orders (CO's), permits, requests for proposals (RFP's), contractor payment requests, shop drawings, contractor construction schedules, contractor work plans, other submittals and documents. This Scope of Services is based upon providing part-time (6 hours per week) project control specialist for up to 80 weeks.

TIME OF COMPLETION

Task 1 shall be completed within 80 weeks.

COMPENSATION

Hazen and Sawyer shall pay **CONSULTANT** as full compensation, for the services identified under Scope of Services, the amount(s) listed below. Compensation shall be on a not-to-exceed basis.

TASK NAME	AMOUNT
Task 1 – Project Controls Services	\$29,300
TOTAL	\$29,300

Fee Breakdown

Task No.	Description	BUDGET SUMMARY	
		Project Control Specialist	Total Labor
4.0	Construction Administration		
	4.1 - Preconstruction Meeting & Progress Meetings	0	0
	4.1.1 - Preconstruction Meeting (1)	0	
	4.1.2 - Monthly Progress Meetings (24)	0	
	4.1.3 - Specialty Meetings (10)	0	
	4.2 - Submittals	318	318
	4.3 - Interpretation, Clarifications and Change Order	102	102
	4.3.1 - Request for Information (30)	90	
	4.3.2 - Change Orders (6)	12	
	4.4 - Pay Requests	60	60
	TOTAL Hours		480
	Labor Rate	\$ 61.05	
	Sub-consultant Total		\$ 29,300

Fixed Rate Table

Title	Fixed Hourly Rate (\$/hr)
Project Control Specialist	\$ 61.05