

PALM BEACH COUNTY
BOARD OF COUNTY COMMISSIONERS

AGENDA ITEM SUMMARY

Meeting Date: June 19, 2018

Consent [X] Regular []
Public Hearing []

Department: Water Utilities Department

I. EXECUTIVE BRIEF

Motion and Title: Staff recommends motion to approve: Consultant Services Authorization (CSA) No. 3 for the Regional Reclaimed Water Master Plan (Project) with Brown and Caldwell (Corporation) (R2017-0813) for a fixed price amount of \$188,362.47.

Summary: On June 20, 2017, the Board of County Commissioners (BCC) approved the Contract for Consulting/Professional Services Wastewater Engineering Services (Contract) with Brown and Caldwell (Corporation) (R2017-0813).

CSA No. 3 under the referenced Contract provides for the professional/engineering services to create a regional reclaimed water master plan (RW-MP) for existing and proposed reclaimed water service areas over the next 20-year horizon. The RW-MP will develop conceptual strategies to address short-, medium- and long-term improvements and establish a high-level roadmap for the ultimate integration of all current supplies and future expansion opportunities into future long-term water supply planning efforts.

The Small Business Enterprise (SBE) participation goal established by the SBE Ordinance is 15%. The Contract with Brown and Caldwell (Corporation) provides for SBE participation of 26%. CSA No. 3 includes an SBE participation of 25.78%. The cumulative SBE participation under the Contract to date, including CSA No. 3, is 27.31%. Brown and Caldwell (Corporation) is headquartered in Walnut Creek, CA, but maintains an office in Palm Beach County from which the majority of the work under CSA No. 3 will be undertaken. The Project is included in the WUD FY18 budget. (WUD Project No. 18-043) District-Wide (MJ)

Continued on Page 3

Attachments:

1. Four (4) Originals of CSA No. #3
2. Location Map
3. Proof of Insurance from Insurance Tracking Service (ITS)

Recommended By: Jim Stiles 5-19-18
Department Director Date

Approved By: Nabel D. BenLam 6/8/18
Assistant County Administrator Date

II. FISCAL IMPACT ANALYSIS

A. Five Year Summary of Fiscal Impact:

Fiscal Years		2018	2019	2020	2021	2022
Capital Expenditures		<u>\$188,363</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>\$188,363</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 4001 Dept 720 Unit 2323 Object 3120					

Is Item Included in Current Budget? Yes X No

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

Reporting Category **N/A**


B. Recommended Sources of Funds/Summary of Fiscal Impact:

C. Department Fiscal Review: _____

III. REVIEW COMMENTS


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

Polym Bank \$/23
 OFMB (20) \$/23 QM 1/13 8/5/22

 5/31/18
Contract Development and Control

B. Legal Sufficiency:

Legal Sufficiency:

 6/6/18

Assistant County Attorney

C. Other Department Review:

Department Director

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

Background and Justification: The Water Utilities Department (WUD) currently owns and operates a regional reclaimed water system. WUD operates the Southern Region Water Reclamation Facility (SRWRF) and Central Region Reclaimed Water Facility to create 22 mgd and 3 mgd of reclaimed water, respectively. In addition, WUD receives approximately 27 mgd of reclaimed water from the East Central Regional Water Reclamation Facility (ECRWRF) operated by the City of West Palm Beach. WUD distributes reclaimed water to local golf courses, parks and residential lawns for irrigation, the Wakodahatchee Wetlands and Green Cay Wetlands for wildlife habitat, Florida Power & Light's West County Energy Center (WCEC) for cooling water and the City of West Palm Beach for the Ballpark of the Palm Beaches.

In April 2016, Palm Beach County and Broward County entered into an Interlocal Agreement (ILA) related to the construction, ownership, operation and maintenance of a Regional Reclaimed Water System (R2016-0470 and R2017-1052). The ILA allows Broward County Water and Wastewater Services (Broward) to meet Ocean Outfall legislation requirements by providing up to 10.5 mgd of reclaimed water to WUD by April 2028 and WUD to expand its provision of reclaimed water to additional customers in southern Palm Beach County.

All major elements of PBCWUD's reclaimed water system have historically been operated as separate sub-systems. To date, a master plan has not been prepared to define a long-term integrated plan for the combined system or establish a roadmap for the ultimate integration of reclaimed water supplies. This Project will develop an integrated plan to address short- to medium-term improvement needs, integrating the Broward County supply to meet the requirements of the ILA, and conceptual long-term strategies for integrating all sub-systems to provide a high-level roadmap for integrating reclaimed water expansion into WUD's long-term water supply plan. This Project will focus on system characterization and planning of demand development opportunities required to satisfy WUD's reclaimed water commitments.

CONSULTANT SERVICES AUTHORIZATION NO. 03

**Palm Beach County Water Utilities Department
Contract for Consulting/Professional Services - Wastewater Engineering Services
Resolution #: R2017-0813 Contract Dated: June 20, 2017**

Project Title: Regional Reclaimed Water Master Plan

WUD Project No.: 18-043

Consultant: Brown and Caldwell (Corporation)

Address: 1475 Centrepark Boulevard, Suite 210, West Palm Beach, Florida 33401

Budget Line Item No. 4001-720- 2323-3120

District No.: District-wide

This Consultant Service Authorization provides for: CONSULTANT to provide services to create a Regional Reclaimed Water Master Plan (RW-MP) for existing and proposed reclaimed water service areas over the next 20-year horizon. The RW- MP will develop conceptual strategies to address short, medium and long- term improvements and establish a high-level road map for the ultimate integration of all current supplies and future expansion opportunities into future long-term water supply planning efforts.

(See **ATTACHMENT A** for detailed scope of services)

The Contract provides for **26.00** % SBE participation. This Consultant Services Authorization includes **25.78** % overall participation. The cumulative SBE participation, including this authorization is **27.31** %.

1. Services completed by the Consultant to date:

See ATTACHMENT B.

2. Consultant shall begin work upon receipt of Notice to Proceed correspondence.
3. The compensation to be paid to the Consultant for providing the requested services shall be:
 - A. Computation of time charges plus expenses, not to exceed \$ N/A
 - B. Fixed price of \$ **188,362.47**
4. This Authorization 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.

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CONSULTANT SERVICES AUTHORIZATION NO. 03

**Palm Beach County Water Utilities Department
Contract for Consulting/Professional Services - Wastewater Engineering Services
Resolution #: R2017-0813 Contract Dated: June 20, 2017**

Project Title: Regional Reclaimed Water Master Plan

Project No. WUD: 18-043

5. SBE participation is included in **ATTACHMENT C** under this Authorization. The attached Schedule 1 defines the SBE applied to this Authorization and Schedule 2 establishes the SBE contribution from each Sub-Consultant (Letter of Intent to Perform as an SBE).
6. This Authorization does not amend, change, or modify the Contract dated **June 20, 2017** which remains in full force and effect.
7. All Attachments to this Authorization are incorporated herein and made a part of this Consultant Services Authorization.

Revised 4-20-18

CONSULTANT SERVICES AUTHORIZATION NO. 03

Palm Beach County Water Utilities Department
Contract for Consulting/Professional Services Wastewater Engineering Services
Resolution #: R2017-0813 Contract Dated: June 20, 2017

Project Title: Regional Reclaimed Water Master Plan

Project No. WUD: 18-043

IN WITNESS WHEREOF, this Authorization is accepted, subject to the terms, conditions and obligations of the aforementioned Contract.

PALM BEACH COUNTY, A POLITICAL SUBDIVISION OF THE STATE OF FLORIDA

Sharon R. Bock, Clerk & Comptroller,
Palm Beach County

Palm Beach County,
Board of County Commissioners

ATTEST:

Signed: _____

Signed: _____

Melissa McKinlay, Mayor *JCS*

Typed Name: _____

Deputy Clerk

Date

Approved as to Form and Legal
Sufficiency

CONSULTANT:

Signed: _____

[Signature]
(Signature)

Typed Name: _____

County Attorney

Albert Perez, Vice-President
(Name and Title)

4-24-18

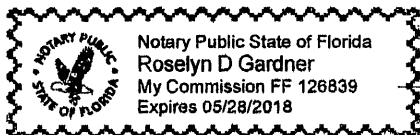
Date

STATE OF FLORIDA

COUNTY OF Palm Beach

The foregoing instrument was acknowledged before me this 24th day of April, 2018,
by Albert Perez as Vice President
for Brown and Caldwell

[Signature]
(Signature of Notary Public - State of Florida)



(Print, Type, or Stamp Commissioned Name of Notary Public)

Personally Known ☒ OR Produced Identification ☐ Type of Identification Produced _____

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CERTIFICATE OF ASSISTANT SECRETARY
OF
BROWN AND CALDWELL,
A CALIFORNIA CORPORATION

I, the undersigned, do hereby certify that:

1. I am the duly elected and acting Assistant Secretary of Brown and Caldwell, a California corporation, and am keeper of the corporate records and seal of said corporation.
2. At the annual meeting of the Board of Directors on February 2, 2017, the following resolution was adopted:

BE IT RESOLVED that appointment of the individuals, whose names appear on the attached list titled Brown and Caldwell Directors and Officers with Signature Authority – January 2017, to the offices indicated is approved and ratified effective January 1, 2017, unless otherwise indicated; and


BE IT FURTHER RESOLVED that said individuals are appointed to hold the office indicated at the pleasure of the Board of Directors of this corporation until the next annual meeting of the Board of Directors of this corporation or until his/her respective successor is elected or qualified, or until his/her earlier resignation; and

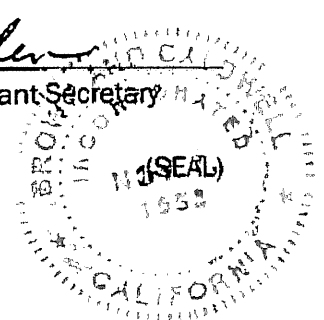
BE IT FURTHER RESOLVED that these individuals are authorized to financially commit the corporation in accordance with the Company procedures and policies within his/her respective area of responsibility or as stated in the Bylaws.

3. Albert L. Perez is a Vice President of Brown and Caldwell, is so identified in the February 2, 2017, resolution referenced above, and in that capacity, is duly authorized to financially commit the corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the Corporation this 23rd day of August, 2017.

SIGNED:


YOLANDA HARDEN, Assistant Secretary



LIST OF ATTACHMENTS

CONSULTANT SERVICES AUTHORIZATION NO. 03

**Palm Beach County Water Utilities Department
Contract for Consulting/Professional Services - Wastewater Engineering Services
Resolution #: R2017-0813 Contract Dated: June 20, 2017**

ATTACHMENT - A	Scope of Services
ATTACHMENT - B	Summary and Status of Authorizations
ATTACHMENT - C	SBE Schedule 1 and 2
ATTACHMENT - D	Project Schedule
ATTACHMENT - E	Budget Summary
ATTACHMENT - F	Summary of SBE/Minority Business Tracking
ATTACHMENT - G	Location Map

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ATTACHMENT A

SCOPE OF SERVICES

Project No. WUD 18-043

Project Title: Regional Reclaimed Water Master Plan

CONSULTANT shall perform:

INTRODUCTION

Palm Beach County (COUNTY) entered into an agreement entitled Contract for Consulting/ Professional Services – Wastewater Engineering Services Palm Beach County Utilities Department Project No. WUD 17-002 (CONTRACT) with Brown and Caldwell (CONSULTANT) to provide engineering services in support of its wastewater system (Reference Document R2017-0813). This Consultant Services Authorization (CSA) will be performed under that CONTRACT.

CONSULTANT to provide services to create a Regional Reclaimed Water Master Plan (RW-MP) for existing and proposed reclaimed water service areas over the next 20-year horizon. The RW-MP will develop conceptual strategies to address short, medium and long-term improvements and establish a high-level roadmap for the ultimate integration of all current supplies and future expansion opportunities into the future long-term water supply planning efforts.

BACKGROUND

Palm Beach County Water Utilities Department (PBCWUD) owns and operates a regional reclaimed water system. PBCWUD operates the Southern Region Water Reclamation Facility (SRWRF) and Central Region Reclaimed Water Facility to create 22 mgd and 3 mgd of reclaimed water, respectively. In addition, PBCWUD receives approximately 27 mgd of reclaimed water from the East Central Regional Water Reclamation Facility (ECRWF) operated by the City of West Palm Beach. PBCWUD distributes reclaimed water to local golf courses, parks and residential lawns for irrigation, the Wakodahatchee Wetlands and Green Cay Wetlands for wildlife habitat, Florida Power & Light's West County Energy Center (WCEC) for cooling water and the City of West Palm Beach for the Ballpark of the Palm Beaches.

In April 2016, Palm Beach County and Broward County entered into an Interlocal Agreement (ILA) related to the construction, ownership, operation and maintenance of a Regional Reclaimed Water System. The ILA allows Broward County Water and Wastewater Services (Broward) to meet Ocean Outfall legislation requirements by providing up to 10.5 mgd of reclaimed water to PBCWUD by April 2028 and PBCWUD to expand its provision of reclaimed water to additional customers in southern Palm Beach County.

All major elements of PBCWUD's reclaimed water system have historically been operated as separate sub-systems. To date, a master plan has not been prepared to define a long-term

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integrated plan for the combined system or establish a roadmap for the ultimate integration of reclaimed water supplies. This Regional Reclaimed Water Master Plan will develop an integrated plan to address short to medium term improvement needs, integrating the Broward County supply to meet the requirements of the ILA, and conceptual long-term strategies for integrating all sub-systems to provide a high-level roadmap for integrating reclaimed water expansion into PBCWUD's long-term water supply plan.

SCOPE OF SERVICES

The development of the RW-MP will include the following tasks that focus on system characterization and planning of demand development opportunities required to satisfy PBCWUD's reclaimed water commitments:

Task 1 - Project Management

Task Objective: Project management, administration and progress/review meetings. Other activities include:

1. Prepare and submit information request log within 5 days from Notice To Proceed. Coordination in support of information furnished. PBCWUD shall forward available information to CONSULTANT.
2. Prepare for and attend a project kickoff meeting.
3. General project coordination and administration activities including correspondence with PBCWUD, quality management, progress reporting and invoicing.
4. Prepare meeting agenda and notes for all project meetings.

Deliverable: Information request log. Initial information required is summarized in the subsequent tasks. CONSULTANT may update the list of requested information as need arises.

PBCWUD Responsibilities: In support of this task, PBCWUD shall:

- a. *Furnish compiled information requested in tasks below at the project Kickoff Meeting.*

Task 2 – Operational, Regulatory and Contractual Requirements

Task Objective: This task will identify and document system level of service requirements, operational criteria, and a summary of key regulatory and contractual requirements that pertain to the reclaimed water system. CONSULTANT shall research and develop a section of the RW-MP that summarizes the following:

1. Applicable level of service, water quality, and operating performance criteria for the existing and future reclaimed water system.
2. State and local regulations and statutes that pertain to the distribution and use of reclaimed water.

3. Regulatory requirements that govern the approval of consumptive water use offsets for reclaimed water applications that displace surficial withdrawals.
4. Key contractual requirements of the Interlocal Agreement between Broward County and Palm Beach County that may guide reclaimed water planning decisions.
5. Create a decision-making guide with criteria for new reclaimed water customers to be used in discussions with end users and developers.

Deliverable: Master Plan Section 1 – draft and final. Plan and conduct a draft deliverable review meeting.

PBCWUD Responsibilities: In support of this task, PBCWUD shall:

- a. *Furnish a copy of the executed ILA and subsequent amendments or modifications.*
- b. *Furnish a copy of the executed agreements with City of West Palm Beach, Florida Power & Light and Seminole Improvement District.*
- c. *Gather and furnish existing field measurements or test results, as needed, to compile actual information required to characterize system performance.*

Task 3 – Characterize Existing System and Document Planning Priorities

Task Objective: Prepare description of existing reclaimed water system and characteristics that will be relied upon for planning purposes. This task includes the following activities:

1. Prepare Description of Existing System - organize and document information that will be relied upon for planning purposes. The description shall include infrastructure, service area boundaries, and customer profiles by use, operational characteristics inclusive of equalization storage, system monitoring, and control practices will be summarized.
2. Existing user characteristics, historical reclaimed water use and monthly trends.
3. Identify existing challenges, improvement needs and applicable planned (approved) system modifications.
4. Vision, critical uncertainties and emerging considerations -identify and document guiding priorities and assumptions. Plan and conduct a workshop with PBCWUD staff.

Deliverable: Master Plan Section2 – draft and final. Plan and conduct a visioning workshop and draft deliverable review meeting.

PBCWUD Responsibilities: In support of this task, PBCWUD shall furnish the following:

- a. *GIS map(s) of existing RW service area that identifies existing transmission mains, customer connections, limits of area served by each customer, planned infrastructure, and future customers, and other information where available.*
- b. *GIS maps delineating wellfield protection areas.*
- c. *GIS map(s) of utility service area showing the boundary of mandatory reuse service area.*
- d. *Profiles of existing customers targeted for assessment with available pertinent information inclusive of historical RW utilization, name of development, and acres under irrigation.*

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- e. *Tabulated three years of historical monthly reclaimed water demand for top 10 reclaimed water customers.*
- f. *One year of records (flow and pressure) for RW distribution pumping at the SRWRF.*
- g. *Tabulated inventory of existing major reclaimed water system assets.*
- h. *Water quality characteristics associated with each reclaimed water source.*

Task 4 - Reclaimed Water Demand Development

Task Objective: This task will focus on identifying and estimating potential reclaimed water applications that may be developed to meet the delivery requirements defined in the ILA. The focus will be on demand that can potentially be developed in the Southern Palm Beach County area, as well as, supplemental demand that may be developed in the vicinity of the service area supplied by the Southern Region Water Reclamation Facility (SRWRF). This task will consider both existing and potential future customers in the noted target areas.

A secondary objective will be to estimate the potential system-wide forecasted buildout reclaimed water demand based on existing land use classifications that are irrigation intensive and would typically rely on surficial water supply. For future long-term applications that are not required to comply with the ILA, the estimated demand will be used primarily for high level assessment of potential hydraulic transmission capacity needs to meet potential future long-term demands. No attempt will be made to incrementally estimate the timing of future land development activities and its impact on phased expansion of transmission network.

Specific activities to be addressed in this task include the following:

1. Develop reclaimed water usage factors (e.g. gallons per acre) based on historical permitted irrigation uses for irrigation of residential and recreational fields. A representative number of customer accounts (up to 6) for HOA and golf course customers will be evaluated.
2. Develop monthly demand profiles for lake discharge irrigation applications and diurnal demand profile for direct connection applications. In the absence of operating data on which to determine profiles, assumptions will be made for each application.
3. Quantify acreage of land currently (as of 2018) available for development throughout PBCWUD's main service area.
4. Review existing water use permits for potential target communities to determine the expiration dates and estimated reclaimed water demand that could potentially become available. Of particular interest are permits that expire before 2027 (the year PBCWUD is required to achieve full compliance with ILA).
5. Potential reclaimed water demand will be estimated for target existing and potential future developments in the PBCWUD's existing reclaimed water service area as well as contiguous areas along corridors that may be developed.

Deliverable: Master Plan Section 3 – draft and final. Plan and conduct a draft deliverable review meeting.

PBCWUD Responsibilities: *In support of this task, PBCWUD shall furnish the following:*

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- a. *Land use zoning maps for utility-wide service area that highlights undeveloped areas zoned for residential and recreational uses.*
- b. *Past communication, estimates, updated transmission routes, and other available information that is pertinent to prospective customers targeted in the South County area.*

Task 5 - Hydraulic Model Setup, Planning Scenario and Future Transmission Concept Development

Task Objective: Update the existing hydraulic model to incorporate proposed supply from Broward County, piping configuration and prepare it for assessment of alternative system expansion and integration scenarios. This task includes the basic model development activities to prepare a tool that may be used for scenario evaluation and planning level decisions in subsequent tasks. Specific activities include:

1. Build a model of the proposed reclaimed water system in the southern Palm Beach County area that reflects full buildout of east and western alignments included in the ILA. Pumping and transmission infrastructure in Broward County shall be integrated to permit dynamic assessment of expansion and other operational requirements.
2. Conduct test runs and limited desktop calibration check of the existing model using available system operating flows and pressures to confirm observed conditions at the SRWRF pump station (RW) discharge are reasonably well approximated (+/-10%). Clarify questions that emerge and incorporate limited model refinements required to support subsequent analysis. Field monitoring of operating conditions will not be conducted.
3. The updated model will be run to validate its functionality and establish initial conditions that will serve as a baseline for subsequent scenario evaluations under Task 7. The proposed South County model shall be integrated with the existing model for the SRWRF service area with the following initial objectives:
 - a. Determine how far the Broward supply may be extended to fill lakes without booster pumping
 - b. Determine the feasibility of filling an above-ground storage tank at Morikami Park from the Broward supply without a pressure boost.
4. Develop and document specific planning scenarios to be modeled.

Deliverable: Model Set Up Technical Memorandum - draft and final. Plan and conduct draft deliverable review meeting.

PBCWUD Responsibilities: *In support of this task, PBCWUD shall furnish the following:*

- a. *All model files and supporting documentation, where available for existing reclaimed water hydraulic models.*
- b. *Drawings of the existing storage tank at Morikami Park that show piping arrangements and characteristics that are pertinent to the hydraulic modeling.*

Task 6 – Evaluation of Planning Scenarios

Task Objective: This task provides for hydraulic modeling of alternative scenarios for expanding and integrating PBCWUD's reclaimed water system while achieving system-wide operating performance criteria. Hydraulic modeling and planning scenario evaluation will be conducted for the following conditions:

1. Integrated Water Supply Planning Considerations
2. Short and Medium-Term Horizon (through 2027)
 - a. Alternatives for Integrating Broward County Supply (2 scenarios)
 - i. Piping extensions required to integrate systems
 - ii. Location/preliminary sizing of repump station, if required, and strategy to fill the existing Morikami tank
 - b. Development of Existing Central System (1 scenario)
 - c. Integration of Pressure (limited to existing) and Lake Discharge
 - d. Level of Service Improvement
3. Long Term (2027-2038)
 - a. Overview of Future Planning Considerations
 - b. Plan conceptual transmission corridors (conceptual) to facilitate future integration of connection of the SRWRF service area to the ECRWRF and Century Village systems.
 - c. Model conceptual system-wide Integration Scheme (1 scenario)
 - d. Demand Equalization and Repumping
4. Summary of identified improvements

Deliverable: Master Plan Section 4 – draft and final. Plan and conduct a draft deliverable review meeting.

PBCWUD Responsibilities: *In support of this task, PBCWUD shall furnish the following:*

- a. Supplemental data/input as need may emerge.*

Task 7 – Capital Improvement Program Development

Task Objective: This task will develop the Capital Improvement Program (CIP) required to support the progressive expansion of the reclaimed water system to address opportunities to meet supply commitments and improve the overall efficiency of system operations. The justification for each identified improvement will be identified together with anticipated implementation timeframe, triggering milestones, key uncertainties, and tradeoffs that should be considered prior to final implementation decision. The objective is a robust plan that ties incremental expansion investments to supporting/enabling conditions. Specific activities include:

1. Establish the basis for cost estimation. Where available, capital planning efforts will rely on historical construction costs.

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2. Provide budget level cost estimates (Class 5 estimates as defined by the American Association of Cost Engineers, AACE). The budget will be organized around the following projects:
 - a. Integration of Reclaimed Water Supply from Broward County
 - b. Equalization Storage/Repumping Improvements
 - c. System-wide Integration
 - d. Level of Service/Performance Improvements
3. Develop and document conditions that should guide implementation decisions.

Deliverable: Master Plan Section 5 – draft and final. This deliverable will be structured around a tabulated presentation of the recommended CIP and its supporting considerations. Plan and conduct a draft deliverable review meeting.

PBCWUD Responsibilities: In support of this task, PBCWUD shall furnish the following:

- a. Historical bid data and other available unit costs used by PBCWUD for planning purposes.

Task 8 – Final Master Plan Preparation and Presentation

Task Objective: This task will provide for the compilation of noted deliverables into a final Reclaimed Water MP and additionally include the preparation of an Executive Summary and high-level presentation of findings and recommendations. Specific activities include:

1. Prepare Executive Summary.
2. Prepare a PowerPoint presentation of key findings and recommendations. Plan and conduct one workshop with PBCWUD staff.
3. Compile final Master Plan – assembly and production of final RW-MP document. Submit 8 hard copies and one electronic copy to PBCWUD in PDF and native file format.
4. Turnover hydraulic model files to PBCWUD.

Deliverable: Regional Reclaimed Water Master Plan and Power Point presentation

ASSUMPTIONS

1. This reclaimed water master plan will not address potential applications in the Glades service area.
2. A 20-year planning horizon will be used for the Reclaimed Water-MP.
3. The priority for reclaimed water demand development is to address the contractual requirements with Broward County as documented in the executed Interlocal Agreement (ILA) between Broward County and Palm Beach County.
4. An evaluation of operating conditions potential challenges at PBCWUD's ECR WRF will not be conducted.
5. As the reclaimed water planning development progresses, the outline of each chapter may be reorganized to facilitate presentation and flow of information.
6. PBCWUD will provide known planned redevelopment of golf courses in areas that could be served by reclaimed water. The assessment of potential demand in Southern Palm

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Beach County will not consider the receptivity or likelihood of target customer agreeing to connect.

7. For infrastructure in the Southern Palm Beach County area, the proposed pipeline route developed under the ongoing Phase I design will be relied upon for planning purposes.
8. Future irrigation demand will be developed for target customers that have a permitted withdrawal allocation from the SFWMD. Consumption by single family residences either through direct connect or surficial withdrawal systems will not be considered.
9. The infrastructure expansion requirements will depend primarily on the scope, location and timing of planned development throughout PBCWUD's service area. The MP will not attempt to predict the progression of development, but rather provide for the basic transmission and supply infrastructure to meet potential future demand.
10. The MP will be developed in a progressive manner where each deliverable will build upon decisions documented in preceding deliverables. Consequently, once PBCWUD's comments are received on each deliverable, the resulting decisions will be frozen and subsequent comments received will be assumed to be limited to clarification of the original intent and relatively minor input that does not require substantial re-working of prior efforts.
11. An assessment of systemwide R&R needs will not be conducted.
12. An evaluation of existing treatment process improvement and expansion needs is not included based on the assumption that the supply from Broward County will be adequate to meet system expansion needs through the planning horizon. High-level expansion needs will be identified (e.g. booster pump station, need additional reclaimed water capacity to meet existing demand commitments). Permitted capacity of existing facilities will be used as basis for evaluation.
13. Wet weather disposal of reclaimed water will not be provided by PBCWUD.
14. All future reuse applications are assumed to be lake/canal discharge applications.
15. The scope does not include the performance of a business case analysis for reuse projects because the planning efforts will primarily focus on satisfying PBCWUDs obligations under the ILA. Long term expansion will map out a conceptual plan that may be implemented when future conditions, yet to be developed, occur that provide the necessary supporting feasibility justification.
16. The Master Plan will not consider the assessment and development of potential updates to existing design standards, rate setting, and/or pertinent Uniform Policies and Procedures.
17. Reclaimed water supply augmentation beyond the additional supply contracted to be received from Broward County will not be considered within the planning horizon.
18. Future transmission corridor for interconnection of existing and proposed reclaimed water service areas is a conceptual level placeholder and is not intended to be a definitive recommendation.

ATTACHMENT B

SUMMARY AND STATUS OF CONSULTANT AUTHORIZATIONS

[illegible]

ATTACHMENT C

SCHEDULE 1

LIST OF PROPOSED SBE-M/WBE PARTICIPATION

PROJECT NAME OR BID NAME: Regional Reclaimed Water Master Plan

PROJECT NO. OR BID NO.: WUD 18-043

NAME OF PRIME BIDDER: Brown and Caldwell

ADDRESS: 1475 Centrepark, Boulevard, Suite 210, West Palm Beach, Florida 33401

CONTACT PERSON: Albert Perez, P.E., Vice-President

PHONE NO.: 561-684-3456

FAX NO.: 561-684-9902

BID OPENING DATE: N/A

USER DEPARTMENT: Water Utilities Department

THIS DOCUMENT IS TO BE COMPLETED BY THE PRIME CONTRACTOR AND SUBMITTED WITH BID PACKET. PLEASE LIST THE NAME, CONTACT INFORMATION AND DOLLAR AMOUNT AND/OR PERCENTAGE OF WORK TO BE COMPLETED BY ALL SBE -M/WBE's ON THIS PROJECT. IF THE PRIME IS AN SBE-M/WBE, PLEASE ALSO LIST THE NAME, CONTACT INFORMATION AND DOLLAR AMOUNT AND/OR PERCENTAGE OF WORK TO BE COMPLETED BY THE PRIME ON THIS PROJECT. THE PRIME AFFIRMS THAT IT WILL MONITOR THE SBES LISTED TO ENSURE THE SBES PERFORM THE WORK WITH ITS OWN WORKFORCE.

Name, Address and Phone Number	(Check one or both Categories)		DOLLAR AMOUNT AND/OR PERCENTAGE OF WORK				
	M/WBE	SBE	Black	Hispanic	Women	Caucasian	Other (Please Specify)
	Minority Business	Small Business					
1. Tobon Engineering 5504 NW 86 th Way, Coral Springs, FL 33067 Tel: 954-371-0728	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	_____	\$48,575.00	_____	_____	_____
2.	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____	_____
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 \$48,575.00

Total Bid Price: \$ 188,362.47

Total SBE-M/WBE Participation Dollar Amount and/or Percentage of Work 25.78%

I hereby certify that the above information accurate to the best of my knowledge: _____
Signature ALBERT PEREZ Title Vice-President

- NOTE: 1. The amount listed on this form for a SBE-M/WBE Prime or SubCONSULTANT must be supported by price or percentage listed on the signed Schedule 2 or signed proposal in order to be counted toward goal attainment.
2. Firms may be certified by Palm Beach County as an SBE and/or M/WBE. If firms are certified as both an SBE and M/WBE, please indicate the dollar amount and/or percentage under the appropriate category.
3. M/WBE information is being collected for tracking purposes only.

OSBA SCHEDULE 2
LETTER OF INTENT TO PERFORM AS AN SBE-M/WBE

Date: 4/30/2018

ATTACHMENT - D

PROJECT SCHEDULE

The completion dates for this work will be as follows (starting from CONSULTANT'S receipt of Notice-to-Proceed).

<u>Engineering Services</u>	<u>Completion Date from Notice to Proceed (Calendar Days)</u>
Task 1: Kick-Off Meeting (Deliverable: Request for Information)	5
Task 2: Operational, Regulatory & Contractual Requirements (Deliverable: Draft Master Plan Section 1)	28
Task 3: Characterize Exist. System and Document Planning Priorities. (Deliverable: Draft Master Plan Section 2)	56
Task 4: Reclaimed Water Demand Development (Deliverable: Draft Master Plan Section 3)	84
Task 5: Hydraulic Model Setup Planning Scenario, and Future Transmission Concept Development (Deliverable: Draft Technical Memorandum)	112
Task 6: Evaluation of Planning Scenarios (Deliverable: Draft Master Plan Section 4)	140
Task 7: Capital Improvement Program Development (Deliverable: Draft Master Plan Section 5)	196
Task 8: Final Master Plan Preparation and Presentation (Deliverable: Reclaimed Water Master Plan)	240

ATTACHMENT - E BUDGET SUMMARY																						
Palm Beach County Water Utilities Department Contract for Consulting/Professional Services - Wastewater Engineering Services Construction Service Authorization: <u>03</u> Consultant: <u>Brown and Caldwell</u> Project Name: <u>Regional Reclaimed Water Master Plan</u> WUD Project No.: <u>18-043</u>																						
Resolution # <u>R2017-0813</u> Contract Date: <u>June 20, 2017</u>																						
BUDGET SUMMARY																						
Task Number	Task Description	Labor Classification and Hourly Rate																	Total Hours	Total BC Labor	Sub-Consultant Services	Total
		Vice- President	Supervising Engineer/Project Manager	Supervising Engineer	Senior Engineer	Engineer II	Engineer I	Cost Estimator	Vice-President/QA/QC	Project Administrator	Project Analyst	Engineer III	Principal Engineer	Chief Engineer	Senior Scientist	Sr. Health & Safety Risk Manager						
6	Evaluation of Planning Scenarios	41	23	0	132	0	50	0	3	0	0	0	0	0	0	0	0	249	\$40,312.59			
6.1	Integrated water supply planning considerations	10	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	18	\$4,256.28			
6.2	Short and Medium Term Horizon (through 2027)	9	8	0	40	0	10	0	0	0	0	0	0	0	0	0	0	67	\$10,633.38			
6.3	Long term (beyond 2028)	8	6	0	40	0	8	0	0	0	0	0	0	0	0	0	0	62	\$9,702.24			
6.4	Summary of identified improvements	2	3	0	4	0	8	0	0	0	0	0	0	0	0	0	0	17	\$2,514.12			
6.5	Section 4 - Draft and Final	12	6	0	40	0	24	0	3	0	0	0	0	0	0	0	0	85	\$13,206.57			
	(Subconsultant)																			\$3,850.00		
	Subtotal Task 6																				\$44,162.59	
7	Capital Improvement Program Development	22	26	0	0	0	28	19	3	4	0	0	0	0	0	0	0	100	\$18,879.72			
7.1	Establish basis of cost estimation	4	8	0	0	0	12	6	0	0	0	0	0	0	0	0	0	30	\$4,972.62			
7.2	Budget cost estimation for expansion plan	4	6	0	0	0	5	5	0	0	0	0	0	0	0	0	0	20	\$3,771.75			
7.3	Document conditions for implementation decisions	8	6	0	0	0	5	2	0	0	0	0	0	0	0	0	0	21	\$4,618.80			
7.4	Section 5 - Draft and Final	6	6	0	0	0	4	6	3	4	0	0	0	0	0	0	0	29	\$5,516.55			
	(Subconsultant)																					\$700.00
	Subtotal Task 7																				\$19,579.72	
8	Final Master Plan Preparation and Presentation	14	18	0	10	0	0	0	6	16	0	0	0	0	0	0	0	64	\$12,250.50			
8.1	Prepare Executive Summary	8	3	0	2	0	0	0	2	0	0	0	0	0	0	0	0	15	\$4,013.70			
8.2	Prepare Power Point Presentation	4	9	0	8	0	0	0	0	0	0	0	0	0	0	0	0	21	\$4,251.60			
8.3	Compile Final Master Plan	2	4	0	0	0	0	0	4	16	0	0	0	0	0	0	0	26	\$3,555.12			
8.4	Turn Over Hydraulic Model files to PBCWUD	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	\$430.08			
	(Subconsultant)																					\$525.00
	Subtotal Task 8																				\$12,775.50	
	Labor Subtotal Hours	151	181	0	164	78	84	19	20	38	22	0	0	0	0	0	0					
	Labor Raw Costs	\$ 107.78	\$ 71.68	\$ 71.68	\$ 42.62	\$ 36.86	\$ 29.62	\$ 49.59	\$ 87.69	\$ 20.75	\$ 30.74	\$ 36.06	\$ 54.63	\$ 76.33	\$ 44.30	\$ 62.53						
	Labor Multiplier	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00					
	Labor SubTotal	\$ 48,824.34	\$ 38,922.24	\$ -	\$ 20,969.04	\$ 8,625.24	\$ 7,464.24	\$ 2,826.63	\$ 5,261.40	\$ 2,365.50	\$ 2,028.84	\$ -	\$ -	\$ -	\$ -	\$ -						
	Labor Total																	\$137,287.47				
	Subconsultant Labor Sub Total																			\$47,075.00		
	Subconsultant Multiplier																			1.0		
	Subconsultant Labor Sub-Total																			\$47,075.00		
	Reimbursables Sub-Consultant																			\$1,500.00		
	Reimbursables BC																	\$2,500.00				
	Reimbursables Total																				\$4,000.00	
	Sub-Consultant Total (Labor + Reimbursables)																			\$48,575.00		
	BC Sub-Total (Labor + Reimbursables)																	\$139,787.47				
	PROJECT TOTAL																				\$188,362.47	

ATTACHMENT - E
BUDGET SUMMARY

Palm Beach County Water Utilities Department
Contract for Consulting/Professional Services - Wastewater Engineering Services
Construction Service Authorization: 03
Consultant: Brown and Caldwell
Project Name: Regional Reclaimed Water Master Plan
WUD Project No.: 18-043

Resolution # R2017-0813 Contract Date: June 20, 2017

BUDGET SUMMARY

Task Number	Task Description	Labor Classification and Hourly Rate																	Sub-Consultant Services	Total
		Vice- President	Supervising Engineer/Project Manager	Supervising Engineer	Senior Engineer	Engineer II	Engineer I	Cost Estimator	Vice-President/ QA/QC	Project Administrator	Project Analyst	Engineer III	Principal Engineer	Chief Engineer	Senior Scientist	Sr. Health & Safety Risk Manager	Total Hours	Total BC Labor		
1	Preliminary Activities and Project Management	6	46	0	0	8	0	0	0	0	22	0	0	0	0	0	82	\$14,745.36		
1.1	Monthly Invoicing, QM, Progress Reports, Coordination	0	18	0	0	0	0	0	0	0	22	0	0	0	0	0	40	\$5,899.56		
1.2	Request for Information	2	4	0	0	8	0	0	0	0	0	0	0	0	0	14	\$2,391.48			
1.3	Kick-off Meeting	4	6	0	0	0	0	0	0	0	0	0	0	0	0	10	\$2,583.60			
1.4	Prepare agenda and summary of deliverable review meetings	0	18	0	0	0	0	0	0	0	0	0	0	0	0	18	\$3,870.72			
	(Subconsultant)																		\$700.00	
	Subtotal Task 1																			\$15,445.36
2	Operations, Regulatory and Contractual Requirements	24	20	0	0	26	0	0	2	4	0	0	0	0	0	0	76	\$15,711.18		
2.1	Level of service, WQ, & operating performance and use of RW	2	2	0	0	4	0	0	0	0	0	0	0	0	0	8	\$1,519.08			
2.2	State and local regulation for distribution and use of RW	8	2	0	0	4	0	0	0	0	0	0	0	0	0	14	\$3,459.12			
2.3	Regulatory - consumptive water use offsets for RW applications	6	2	0	0	4	0	0	0	0	0	0	0	0	0	12	\$2,812.44			
2.4	Contractual requirement ILA that guide Planning Decisions	2	4	0	0	4	0	0	0	0	0	0	0	0	0	10	\$1,949.16			
2.5	Create a decision making guide fro new RW customers	0	2	0	0	4	0	0	0	0	0	0	0	0	0	6	\$872.40			
2.6	Section 1 - Draft and Final	6	8	0	0	6	0	0	2	4	0	0	0	0	0	26	\$5,098.98			
	(Subconsultant)																	\$1,750.00		
	Subtotal Task 2																			\$17,461.18
3	Characterize Existing System / Planning Priorities	18	22	0	0	44	0	0	2	8	0	0	0	0	0	0	94	\$16,440.66		
3.1	Prepare description of existing system	2	4	0	0	0	0	0	0	2	0	0	0	0	0	8	\$1,631.34			
3.2	Characterize historical usage trends	2	2	0	0	12	0	0	0	0	0	0	0	0	0	16	\$2,403.72			
3.3	Identify improvement needs & system modifications	2	2	0	0	4	0	0	0	0	0	0	0	0	0	8	\$1,519.08			
3.4	Emerging considerations / Workshop with PBCWUD staff	8	8	0	0	12	0	0	0	2	0	0	0	0	0	30	\$5,758.50			
3.5	Section 2 - Draft and Final	4	6	0	0	16	0	0	2	4	0	0	0	0	0	32	\$5,128.02			
	(Subconsultant)																	\$8,050.00		
	Subtotal Task 3																			\$24,490.66
4	Reclaimed Water Demand Development	12	18	0	12	0	8	0	2	3	0	0	0	0	0	0	55	\$10,708.89		
4.1	Develop RW Usage Factors	0	2	0	2	0	0	0	0	0	0	0	0	0	0	4	\$685.80			
4.2	Develop seasonal demand profiles	0	2	0	2	0	0	0	0	0	0	0	0	0	0	4	\$685.80			
4.3	Quantify land available for development	2	3	0	2	0	0	0	0	0	0	0	0	0	0	7	\$1,547.52			
4.4	Review existing water use permits expiring before 2027	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	\$645.12			
4.5	Estimate potential RW demand	4	2	0	2	0	4	0	0	0	0	0	0	0	0	12	\$2,334.60			
4.6	Section 3 - Draft and Final	6	6	0	4	0	4	0	2	3	0	0	0	0	0	25	\$4,810.05			
	(Subconsultant)																	\$13,300.00		
	Subtotal Task 4																			\$24,008.89
5	Hydraulic Model Set up & Future Transmission Concept Development	14	8	0	10	0	0	0	2	3	0	0	0	0	0	0	37	\$8,238.57		
5.1	Build a model of the South County area	2	1	0	2	0	0	0	0	0	0	0	0	0	0	5	\$1,117.44			
5.2	Conduct limited desktop calibration of model	2	1	0	2	0	0	0	0	0	0	0	0	0	0	5	\$1,117.44			
5.3	Validate model and establish initial conditions	2	1	0	2	0	0	0	0	0	0	0	0	0	0	5	\$1,117.44			
5.4	Develop & document specific planning scenarios to be modeled	2	1	0	2	0	0	0	0	0	0	0	0	0	0	5	\$1,117.44			
5.5	Tech Memo - Draft and Final	6	4	0	2	0	0	0	2	3	0	0	0	0	0	17	\$3,768.81			
	(Subconsultant)																	\$18,200.00		
	Subtotal Task 5																			\$26,438.57

ATTACHMENT - F

Palm Beach County Water Utilities Department
Contract for Consulting/Professional Services - Wastewater Engineering Services
Resolution #: R2017-0813 Contract Dated: June 20, 2017

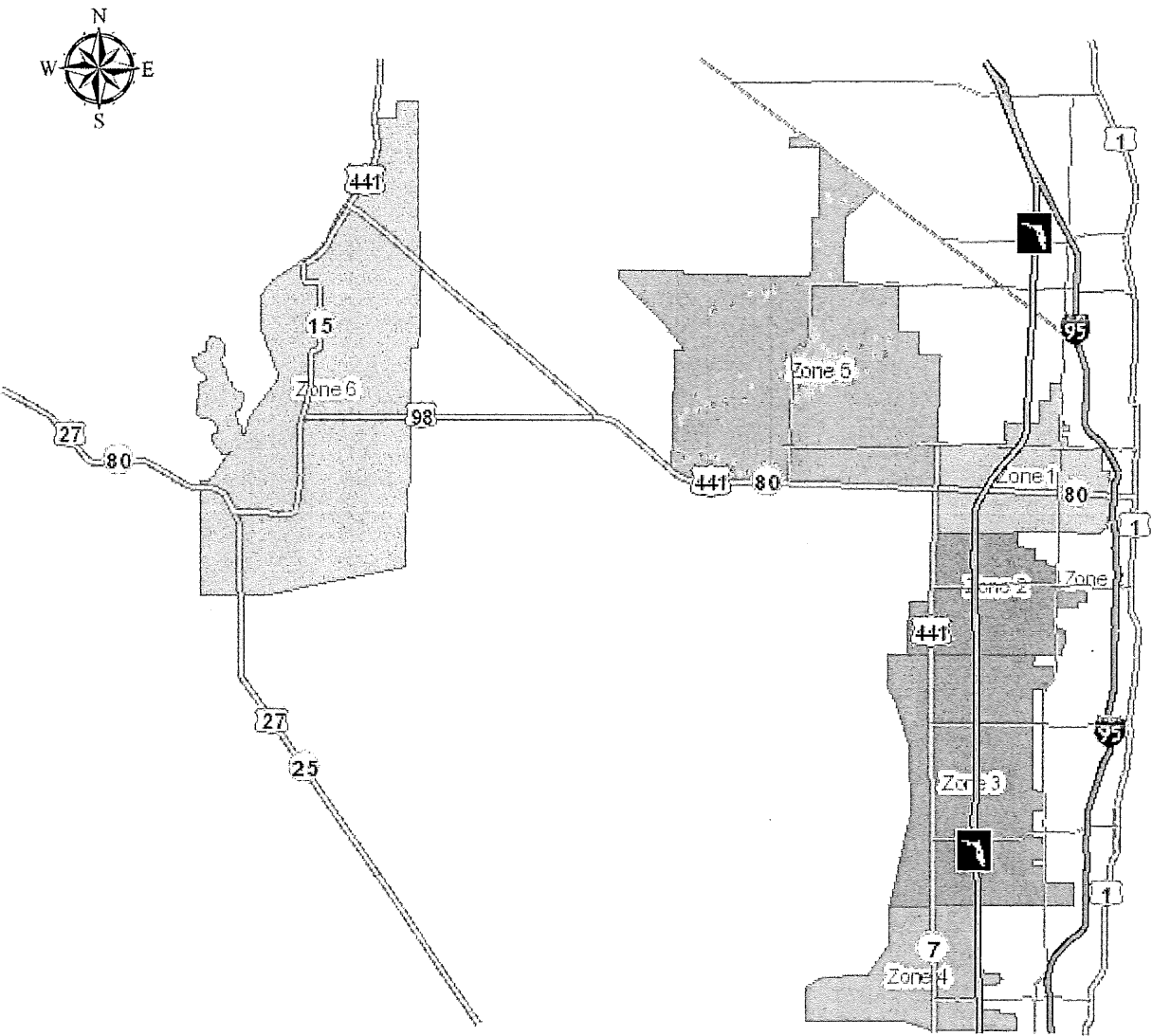
AUTHORIZATION STATUS REPORT

**SUMMARY OF
SBE-M/WBE MINORITY BUSINESS TRACKING**

Master Contract Goal: <u>26</u> (%)	SBE
Current Proposal	
Value of Authorization No. <u>03</u>	\$188,362.47
Value of SBE-M/WBE Letters of Intent	\$48,575.00
Actual Percentage	<u>25.78</u> %
Signed/Approved Authorizations	
Total Value of Authorizations	\$245,874.57
Total Value of SBE-M/WBE Signed Subcontracts	\$70,021.44
Actual Percentage	<u>28.47</u> %
Signed/Approved Authorizations Plus Current Proposal	
Total Value of Authorizations	\$434,237.04
Total Value of Subcontracts & Letters of Intent	\$118,596.44
Actual Percentage	<u>27.31</u> %

ATTACHMENT - G
Location Map

Project Location = District Wide





SCOPE OF SERVICES

Tobon Engineering referred to as (SUBCONSULTANT) shall perform the engineering Scope of Services as described herein.

INTRODUCTION

Palm Beach County (COUNTY) entered into an agreement entitled Contract for Engineering Professional Services Palm Beach County Utilities Department Project No. WUD 17-002 (CONTRACT) with Brown and Caldwell to provide engineering services in support of its wastewater system. This Scope of Services for the SUBCONSULTANT is to provide services related to a reclaimed water master plan (RW-MP) for existing and proposed reclaimed water service areas for Palm Beach County Water Utilities Department (PBCWUD).

SCOPE OF SERVICES

The development of the Reclaimed Water Master Plan (RW-MP) may be completed in two phases. It is anticipated that Phase 1 will include the following tasks that focus on system characterization and planning of demand development opportunities required to satisfy PBCWUD's commitments:

1. Project Management (Task 1)
2. Operational, Regulatory and Contractual Requirements (Task 2)
3. Characterize Existing System and Document Planning Priorities (Task 3)
4. Reclaimed Water Demand Development (Task 4)
5. Hydraulic Model Setup, Planning Scenario, and Future Transmission Concept Development (Task 5).

Phase 2 will consist of the following tasks:

1. Evaluation of Planning Scenarios (Task 6)
2. Capital Improvement Program Development (Task 7)
3. Final Master Plan Preparation and Presentation (Task 8)

Tobon Engineering shall provide the following scope of services in assisting Brown and Caldwell in the development of the RW-MP:



Task 1 Project Management

Task Objective: Kickoff meeting:

1. Prepare for and attend a project kickoff meeting.

Subtask hours 4, Fee \$700

Task 2 Operational, Regulatory and Contractual Requirements

Task Objective: This task will identify and document system level of service requirements, water quality and operational criteria. Research and assists with the development of a section of the RW-MP that summarizes the following:

1. Applicable level of service, water quality, and operating performance criteria for the existing and future reclaimed water system.

Subtask hours 10, Fee \$1,750

Task 3 Characterize Existing System and Document Planning Priorities

Task Objective: Prepare description of existing reclaimed water system and characteristics that will be relied upon for planning purposes. This task includes the following activities:

1. Prepare Description of Existing System - organize and document information that will be relied upon for planning purposes. The description shall include infrastructure, service area boundaries, and customer profiles by use, operational characteristics inclusive of equalization storage, system monitoring, and control practices will be summarized.
2. Existing user characteristics, historical reclaimed water use and monthly trends.
3. Identify existing challenges, improvement needs and applicable planned (approved) system modifications.
4. Vision, critical uncertainties and emerging considerations -identify and document guiding priorities and assumptions. Assist with planning and conducting a workshop with PBCWUD staff.
5. Prepare draft/final TM - contribute assigned elements

Subtask hours 46, Fee \$8,050

Task 4 Reclaimed Water Demand Development

Task Objective: This task will focus on identifying and estimating potential reclaimed water applications that may be developed to meet the delivery requirements defined in the ILA. The focus will be on demand that can potentially be developed in the Southern Palm Beach County area, as well as, supplemental demand that may be developed in the vicinity of the service area supplied by the



Southern Region Water Reclamation Facility (SRWRF). This task will consider both existing and potential future customers in the noted target areas.

A secondary objective will be to estimate the potential system-wide forecasted buildout reclaimed water demand based on existing land use classifications that are irrigation intensive and would typically rely on surficial water supply. For future long-term applications that are not required to comply with the ILA, the estimated demand will be used primarily for high level assessment of potential hydraulic transmission capacity needs to meet potential future long-term demands. No attempt will be made to incrementally estimate the timing of future land development activities and its impact on phased expansion of transmission network. Activities to be addressed in this task include the following:

1. Develop reclaimed water usage factors (e.g. gallons per acre) based on historical permitted irrigation uses for irrigation of residential and recreational fields. A representative number of customer accounts (up to 6) for HOA and golf course customers will be evaluated.
2. Develop monthly demand profiles for lake discharge irrigation applications and diurnal demand profile for direct connection applications. In the absence of operating data on which to determine profiles, assumptions will be made for each application.
3. Quantify acreage of land currently (as of 2018) available for development throughout PBCWUD's main service area.
4. Review existing water use permits for potential target communities to determine the expiration dates and estimated reclaimed water demand that could potentially become available. Of particular interest are permits that expire before 2027 (the year PBCWUD is required to achieve full compliance with ILA).
5. Potential reclaimed water demand will be estimated for target existing and potential future developments in the PBCWUD's existing reclaimed water service area as well as contiguous areas along corridors that may be developed.
6. Prepare draft/final TM - contribute assigned elements

Subtask hours 76, Fee \$ 13,300

Task 5 Hydraulic Model Setup, Planning Scenario and Future Transmission Concept Development

Task Objective: Update the existing hydraulic model to incorporate proposed supply from Broward County, piping configuration and prepare it for assessment of alternative system expansion and integration scenarios. This task includes the basic model development activities to prepare a tool that may be used for scenario evaluation and planning level decisions in subsequent tasks. Specific activities include:

1. Build a model of the proposed reclaimed water system in the southern Palm Beach County area that reflects full buildout of east and western alignments included in the ILA. Pumping



and transmission infrastructure in Broward County shall be integrated to permit dynamic assessment of expansion and other operational requirements.

2. Conduct test runs and limited desktop calibration check of the existing model using available system operating flows and pressures to confirm observed conditions at the SRWRF pump station (RW) discharge are reasonably well approximated (+/-10%). Clarify questions that emerge and incorporate limited model refinements required to support subsequent analysis. Field monitoring of operating conditions will not be conducted.
3. The updated model will be run to validate its functionality and establish initial conditions that will serve as a baseline for subsequent scenario evaluations under Task 6. The proposed South County model shall be integrated with the existing model for the SRWRF service area with the following initial objectives:
 - Determine how far the Broward supply may be extended to fill lakes without booster pumping
 - Determine the feasibility of filling the Morikami tank from the Broward supply without a pressure boost.
4. Develop and document specific planning scenarios to be modeled.
5. Prepare draft/final TM - contribute assigned elements

Subtask hours 104, Fee \$ 18,200

Task 6 Evaluation of Planning Scenarios

Task Objective: This task provides for hydraulic modeling of alternative scenarios for expanding and integrating PBCWUD's reclaimed water system while achieving system-wide operating performance criteria. Hydraulic modeling and planning scenario evaluation will be conducted for the following conditions:

1. Short and Medium-Term (through 2027)
2. Long Term (2027-2038)
3. Summary of identified improvements

Subtask hours 22, Fee \$3,850

Task 7 Capital Improvement Program Development

Task Objective: This task will develop the Capital Improvement Program (CIP) required to support the progressive expansion of the reclaimed water system to address opportunities to meet supply commitments and improve the overall efficiency of system operations. Specific activities include:

1. Develop and document conditions that should guide implementation decisions

Subtask hours 4, Fee \$700



Task 8 - Final Master Plan Preparation and Presentation

Task Objective: This task will provide for the compilation of noted deliverables into a final Reclaimed Water MP and additionally include the preparation of an Executive Summary and high-level presentation of findings and recommendations. Specific activities include:

1. Assist in preparation of Executive Summary.
2. Assist in preparation of a PowerPoint presentation of key findings and recommendations. Plan and attend one workshop with PBCWUD staff.

Subtask hours 3, Fee \$525

Total Subtask Fee	\$ 47,075
Reimbursable Expenses \$	1,500
Total Fee	\$ 48,575

ASSUMPTIONS

1. The priority for reclaimed water demand development is to address the contractual requirements with Broward County as documented in the executed Interlocal Agreement (ILA) between Broward County and Palm Beach County.
2. For infrastructure in the Southern Palm Beach County area, the proposed pipeline route developed under the ongoing Phase I design will be relied upon for planning purposes.
3. Future irrigation demand will be developed for target customers that have a permitted withdrawal allocation from the SFWMD. Consumption by single family residences either through direct connect or surficial withdrawal systems will not be considered.
4. The infrastructure expansion requirements will depend primarily on the scope, location and timing of planned development throughout PBCWUD's service area. The RW-MP will not attempt to predict the progression of development, but rather provide for the basic transmission and supply infrastructure to meet potential future demand.
5. The Master Plan will not consider the assessment and development of potential updates to existing design standards, rate setting, and/or pertinent Uniform Policies and Procedures.
6. Reclaimed water supply augmentation beyond the additional supply contracted to be received from Broward County will not be considered within the planning horizon.
7. Future transmission corridor for interconnection of existing and proposed reclaimed water service areas is a conceptual level placeholder and is not intended to be a definitive recommendation.
8. Meeting summaries shall be prepared by others.



Tobon Engineering

Engineering and Utility Management

9. Brown and Caldwell will be responsible for obtaining all data and GIS files needed for analysis and development of draft and final deliverables.

Tobon Engineering:

Signed: M/Tobon

Date: 4/23/18

Typed Name: Maurice Tobon, P.E.

Title: President

Brown and Caldwell

Signed: _____

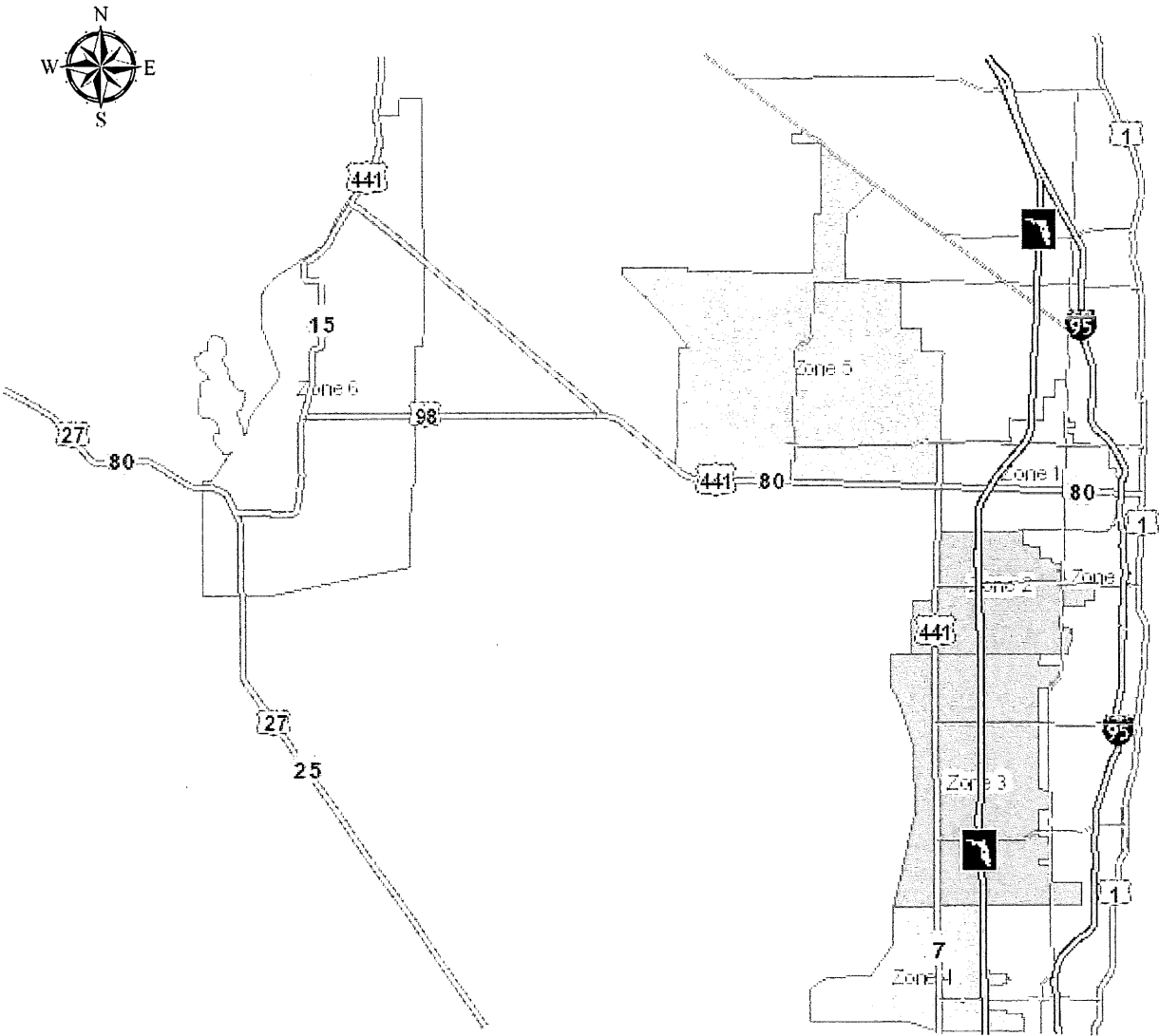
Date: _____

Typed Name: _____

Title: _____

ATTACHMENT 2
Location Map

Project Location = District Wide



ATTACHMENT 3 Proof of Insurance from ITS

Summary of Certificates

This report displays detailed Certificate of Insurance information for a selected Insured. Any items shown in red are deficient.

Friday, April 27, 2018

Simple View

Certificate Images

Documents

Insured:

Brown and Caldwell

Insured ID:

17-002-PBC

Status:

Compliant

ITS Account Number:

PLC2671

Project(s):

Palm Beach County - Water Utilities

Insurance Policy	Required	Provided	Override
<u>General Liability</u>			
Expiration: 5/31/2018			
General Aggregate:	\$500,000	\$2,000,000	
Products - Completed Operations Aggregate:	\$0	\$0	
Personal And Advertising Injury:	\$0	\$0	
Each Occurrence:	\$500,000	\$1,000,000	
Fire Damage:	\$0	\$0	
Medical Expense:	\$0	\$0	
<u>Automobile Liability</u>			
Expiration: 5/31/2018			
	All Owned Autos	Any Auto not provided	X
	Hired Autos	not provided	X
	Non-Owned Autos	not provided	X
Combined Single Limit:	\$500,000	\$1,000,000	
<u>Workers Compensation/Employers Liability</u>			
Expiration: 5/31/2018			
<u>Professional Liability</u>			
Expiration: 5/31/2018			
Each Occurrence:	\$3,000,000	\$3,000,000	
Aggregate Limit:	\$3,000,000	\$3,000,000	

Notifications

There were no deficiency letters issued.

Do you have an updated Certificate? Click the button below to submit a Certificate.

Certificate Submittal