

**PALM BEACH COUNTY
BOARD OF COUNTY COMMISSIONERS
AGENDA ITEM SUMMARY**

Meeting Date:	October 18, 2011	Consent [X]	Regular []
		Public Hearing []	
Submitted By:	Water Utilities Department		
Submitted For:	Water Utilities Department		

I. EXECUTIVE BRIEF

Motion and Title: Staff recommends motion to approve: Consultant Services Authorization No. 3 to the Wastewater Consulting Services with Hazen and Sawyer, P.C. (R2011-0631) for a Wastewater Master Plan Update Report in the amount of \$245,114.

Summary: On May 3, 2011, the Board of County Commissioners approved the continuing Contract for Wastewater Consulting Services with Hazen and Sawyer, P.C. (R2011-0631) to obtain engineering/professional service for utility related projects. This Consultant Services Authorization will provide an update to the County Wastewater Master Plan which includes updates to wastewater demand projections, biological loads at the wastewater treatment plant, process equipment capacity evaluation, and development of a Capital Improvements Program for the County's wastewater system. The Small Business Enterprise (SBE) participation goal established by the SBE Ordinance (R2002-0064) is 15% overall. The contract with Hazen and Sawyer, P.C. provides for SBE participation of 20% overall. This authorization includes 14.97% overall participation. The cumulative SBE participation, including this Consultant Services Authorization is 13.57% overall. Hazen and Sawyer, P.C. is a local Palm Beach County Company. (WUD Project No. WUD 11-143) Districts 1,2,3,5 & 6 (JM)

Background and Justification: The County's most recent Wastewater Master Plan was completed in 2008. Since 2008, major changes in population projections have occurred and the lower East Coast water supply plan is being revised by April of 2012, therefore an update to the Wastewater Master Plan is needed. Consultant Service Authorization No. 3 will provide an update to the Wastewater Master Plan which covers the next 20 years of growth. The Master Plan will contain an evaluation of the wastewater treatment facility, equipment and capacity optimization, review of impending regulatory regulations that may impact the reclaimed water system and development of a Capital Improvements Program for the wastewater system. An update hydraulic wastewater model will be created by County staff and used in conjunction with the information from the Master Plan to determine the adequacy of the wastewater system to handle projected peak wastewater water demands for the next 20 years.

Attachments:

1. Location Map
2. Two (2) Original Consultant Service Authorization No. 3

Recommended By:	 Department Director	<u>10/4/2011</u> Date
Approved By:	 Assistant County Administrator	<u>10/4/2011</u> Date

II. FISCAL IMPACT ANALYSIS

A. Five Year Summary of Fiscal Impact:

Fiscal Years	2012	2013	2014	2015	2016
Capital Expenditures	<u>\$245,114.00</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>\$245,114.00</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 2322 Object 3120

Is Item Included in Current Budget? Yes X No _____

Reporting Category N/A

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

One (1) time operating expenditure from the user fees and balance brought forward

C. Department Fiscal Review: Delra m west

III. REVIEW COMMENTS

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

[Signature] 9/20/11
OFMB

[Signature] 9/19/11

[Signature] 9/16/11

[Signature] 10/14/11
Contract Development and Control
10-4-11 J. Wheeler

B. Legal Sufficiency:

[Signature] 10/6/11
Assistant County Attorney

This item complies with current County policies.

C. Other Department Review:

Department Director

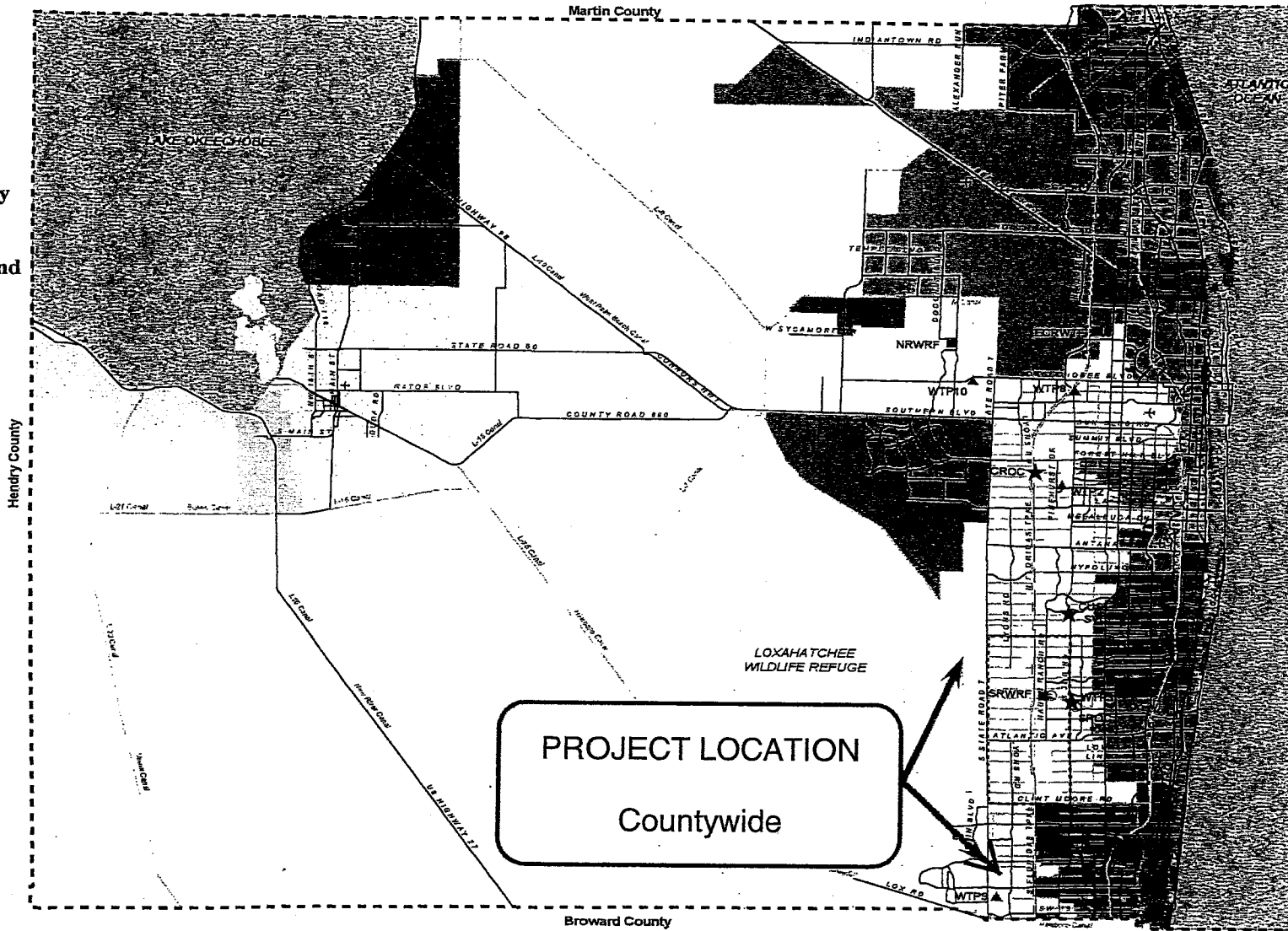
This summary is not to be used as a basis for payment.



Palm Beach County Water Utilities Department Service Area (SA) and Major Facilities

Legend

- P.B.C.W.U.D. SA
- Mandatory Reclaimed SA
- - - - - Palm Beach County Limits
- ★ Administration
- Water Reclamation Facility
- ▲ Water Treatment Facility
- ⊙ Wetlands



CONSULTANT SERVICES AUTHORIZATION NO. 3

Project No. WUD 11-143

Budget Line Item No. 4001-720-2322-3120

Project Title: Wastewater Master Plan

District No. 1,2,3,5 & 6

THIS AUTHORIZATION # 3 to the Contract for Consulting / Professional Services dated 5/3/2011 with an effective date of 6/3/2011 (Resolution / Document R2011-60630), by and between Palm Beach County and the Consultant identified herein, is for the Consultant Services described in item 3 of this Authorization. The Contract provides for 15% SBE participation overall. This Consultant Services Authorization includes 14.97% overall. The cumulative SBE participation, including this authorization is 13.57% overall. Additional authorization will be utilized to meet or exceed the stated overall participation goal.

1. CONSULTANT: Hazen and Sawyer, P.C.
2. ADDRESS: 2101 NW Corporate Boulevard, Suite 301, Boca Raton, FL 33431
3. Description of Services to be provided by the Consultant:

Prepare a County Wastewater Master Plan, including updates to wastewater flow and load projections, evaluation of collection system capacity, infiltration and inflow assessment, regulatory overview, and evaluation of overall water reclamation system treatment process. Results of above will include a Capital Improvement Program for the County's wastewater system.

See Exhibit "A" for additional details

4. Services completed by the Consultant to date:
See Exhibit "B" and "C"
5. Consultant shall begin work promptly on the requested services.
6. The compensation
 - A. Computation of time charges plus expenses, not to exceed \$ n/a
 - B. Lump sum of \$245,114

7. This Authorization may be terminated by the County without cause or prior notice. If the termination is 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.

8. EXCEPT AS HEREBY AMENDED, CHANGED OR MODIFIED, all other terms, conditions and obligations of the Contract dated 5/3/2011 with an effective date of 6/3/2011 remain in full force and effect.

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

CONSULTANT:

PALM BEACH COUNTY:

FIRM: Hazen and Sawyer, P.C.

Signed: *Albert Muniz*

Typed Name: Albert Muniz, P.E.

Title: Vice President

Date: 8/30/11

Signed: *Robert B. Taylor*

Typed Name: Robert B. Taylor, P.E.

Title: Vice President

Date: 8/30/11

Signed: _____

Typed Name: Karen T. Marcus

Title: Chair, Palm Beach County
Board of County Commissioners

Date: _____

ATTEST:

Teresa McNally
(Signed)

NOTARY PUBLIC-STATE OF FLORIDA
Teresa McNally
Commission #DD720018
Expires: OCT. 09, 2011
BONDED THRU ATLANTIC BONDING CO., INC.

EXHIBIT A

CONSULTANT SERVICES AUTHORIZATION NO. 3

PALM BEACH COUNTY WATER UTILITIES DEPARTMENT ENGINEERING / PROFESSIONAL SERVICES

INTRODUCTION

On May 3, 2011 Palm Beach County (COUNTY) entered into an agreement entitled Contract for Engineering / Professional Services – Palm Beach County Water Utilities Department Project No. WUD 11-143 (CONTRACT) with The CONSULTANT, P.C. (CONSULTANT) to provide engineering services for various general activities. This Consultant Service Authorization will be performed under that CONTRACT.

This Consultant Service Authorization encompasses preparation of a Wastewater Master Plan for the Palm Beach County southern and central service areas as a lump sum.

BACKGROUND

CONSULTANT has been asked to prepare a Wastewater Master Plan to be undertaken as part of the formulation of the Capital Improvement Program for the County. Hence, a scope of work has been prepared based on CONSULTANT's understanding of the project, knowledge of the COUNTY's utility and its operation, utility industry standards, and information and discussions with the COUNTY staff. The scope of work has been developed with the intent of determining the requirements for future utilities infrastructure and an implementation plan for the resultant Capital Improvement Program, including scheduling and financing, to match the pace of utility system development. The identified time period for this plan is through 2030.

The CONSULTANT will prepare a 2030 Wastewater Master Plan to be used primarily as a guide for capital improvements planning and implementation. The Master Plan will address the following areas, some of which will be prepared by the COUNTY as discussed in the scope of work:

- Wastewater service area, including areas currently without wastewater service
- Inter-local agreements
- Population projections
- Wastewater flow and load estimates
- Collection / transmission system hydraulic modeling and calibration
- Collection system capacity and reliability analysis
- Infiltration and inflow assessment
- Regulatory driven improvements
- Wastewater treatment plant evaluation, including effluent disposal and reuse

- Telemetry / SCADA
- Capital improvement plan and implementation schedule

SCOPE OF SERVICES

Task 1 – Project Kick-off Meeting

The CONSULTANT will organize and lead a kick-off meeting with the COUNTY staff and key members of the project team. During this meeting, the overall work plan and schedule will be discussed, lines of communication will be established, and data needs will be assessed.

The COUNTY will provide the CONSULTANT with required data within the first four weeks of project start. Data that are expected to be required include, but are not limited to, the following:

- a. Service area maps, water/sewer atlases and reference maps (paper/electronic)
- b. SCADA data for wastewater collection, transmission and treatment systems
- c. Existing Capital Improvements Plan, previous master plans and copies of other relevant reports
- d. Record drawings of existing facilities and infrastructure
- e. Shop drawings and/or vendor O&M manuals of existing equipment
- f. Infiltration / inflow program documentation
- g. Review of current operating practices
- h. Asset management data
- i. Operating permits and discharge permits for the Southern Region Water Reclamation Facility (SRWRF) and other facilities of interest
- j. Monthly operating reports for SRWRF and other facilities of interest

Key elements such as data collection, planning period, planning area, population projection methodology, modeling, COUNTY objectives, and future wastewater service goals will be discussed during the kick off meeting. Kick-off meeting minutes will be prepared and distributed.

Deliverable(s):

- 1.1 – Minutes from project kick-off meeting

Task 2 – Assessment of Advanced Wastewater Treatment at the Southern Region Water Reclamation Facility

The CONSULTANT will prepare a technical memorandum describing the general requirements to convert the existing treatment facilities at the SRWRF into an advanced wastewater treatment (AWT) facility. The purpose of this task is to evaluate enhancements needed for the COUNTY to comply with potential regulations associated with the United States Environmental Protection Agency (USEPA) proposed numeric nutrient criteria (NNC) rule. Included in the technical memorandum will be sketches and description of facilities required to modify current treatment process. A planning level cost estimate will also be prepared.

A draft of the technical memorandum will be prepared and submitted to the COUNTY for review. A review meeting will be held within two weeks of submission of the draft document to discuss comments on the technical memorandum. The COUNTY will provide written comments at the meeting. Comments from the meeting will be documented in meeting minutes and incorporated as applicable in the final version of the technical memorandum within two weeks of the review meeting.

Deliverable(s):

- 2.1 – Draft technical memorandum on conversion of SRWRF to AWT
- 2.2 – Minutes from review meeting
- 2.3 – Final technical memorandum on conversion of SRWRF to AWT

Task 3 – Wastewater service area

The CONSULTANT will assist the COUNTY in performing the following tasks related to review and evaluation of wastewater service area boundaries:

- a. COUNTY will provide a GIS map depicting the existing wastewater service area which highlights areas currently without wastewater service
- b. COUNTY and CONSULTANT will meet to clearly identify boundaries for collection / conveyance of wastewater
- c. COUNTY will provide up to three (3) alternative pumping scenarios for collection to the SRWRF and/or the East Central Regional Water Reclamation Facility (ECRWRF). CONSULTANT will review the proposed alternatives and provide written comments on each
- d. CONSULTANT will review existing inter-local agreements provided by the COUNTY
- e. CONSULTANT will meet with COUNTY and jointly establish future expansion and growth areas for consideration in the Master Plan

A draft of the technical memorandum summarizing the wastewater service area will be prepared and submitted to the COUNTY for review. A review meeting will be held within two weeks of submission of the draft document to discuss comments on the technical memorandum. The COUNTY will provide written comments at the meeting. Comments from the meeting will be documented in meeting minutes and incorporated as applicable in the final version of the technical memorandum within two weeks of the review meeting.

Deliverable(s):

- 3.1 – Draft technical memorandum on wastewater service area
- 3.2 – Minutes from review meeting
- 3.3 – Final technical memorandum on wastewater service area

Task 4 – Population projections

The COUNTY will evaluate the present population and future service area and provide a population forecast for the planning horizons in the Years 2015, 2020, 2025 and 2030. Population forecasts will be prepared based on Palm Beach County Planning Department and University of Florida Bureau of Economic and Business Research (BEBR) population estimates and forecasts as divided into Traffic Analysis Zones (TAZs) within the service areas.

The CONSULTANT will incorporate data provided by the COUNTY into the applicable Master Plan chapter(s).

Deliverable(s):

- 4.1 – Incorporate data into Master Plan

Task 5 – Wastewater Flow and Loading Projections

The CONSULTANT will determine current system-wide flows using a combination of historical data, current water billing data, flow monitoring data, pump station flow records and treatment plant flow records which will be provided by the COUNTY. The future wastewater flows will be developed in conjunction with the water demand projections in the COUNTY's most recent water system master plan. The CONSULTANT will develop wastewater flow projections for 2015, 2020, 2025, and 2030 using the following methodology:

1. The COUNTY will delineate the wastewater service area boundaries by each pump station collection basin and create a basin boundary layer shape file in GIS format which will be provided to the CONSULTANT. A meeting will be held with COUNTY to review and reference the COUNTY's growth development plans and adjustments will be made to finalize population forecasts.
2. Perform an evaluation by linking wastewater flow generation to projected population growth patterns. Use historical per capita wastewater flow rates from different types of development and land use as provided by COUNTY. For the undeveloped areas, the future wastewater flows will be estimated using the data within their respective municipal jurisdictions prepared by the COUNTY.

The CONSULTANT will prepare aggregate wastewater flow and loading forecasts for the wastewater service area for the years 2015, 2020, 2025, and 2030. Forecasts will be derived considering population growth forecasts from previous tasks along with the anticipated schedule for providing wastewater service (i.e., sewer) to existing septic tank areas, and will reflect base wastewater flow and infiltration and inflow (I/I). The CONSULTANT will develop flow projections for individual sewer subsystem drainage areas as identified by the COUNTY for current and build-out conditions. The CONSULTANT will generate system-wide wastewater flow peaking factors from the historical flow data.

The CONSULTANT will estimate future wastewater constituent concentrations and loads based on a statistical analysis of daily historical flow data and influent concentration data at the Southern Region Water Reclamation Facility. Parameters to be analyzed include BOD₅, cBOD₅, COD, TSS, VSS, TKN, and TP. Daily flow and concentration data will be analyzed over the same time increments to develop concentration and load projections for the years 2015, 2020, 2025, and 2030.

A draft of the technical memorandum summarizing the wastewater flow and load projections will be prepared and submitted to the COUNTY for review. A review meeting will be held within two weeks of submission of the draft document to discuss comments on the technical memorandum. The COUNTY will provide written comments at the meeting. Comments from the meeting will be documented in meeting minutes and incorporated as applicable in the final version of the technical memorandum within two weeks of the review meeting.

Deliverable(s):

- 5.1 – Draft technical memorandum on wastewater flow and loads
- 5.2 – Minutes from review meeting
- 5.3 – Final technical memorandum on wastewater flow and loads

Task 6 – Collection System Hydraulic Modeling

The COUNTY will develop a wastewater hydraulic model for evaluating several major network capacity improvements, including transmission main re-routing and booster pump station design. The COUNTY will provide the CONSULTANT with a detailed list of proposed improvements for incorporation into the Master Plan.

A meeting will be held to discuss the findings of the model within two weeks of completion of the model. Meeting minutes will be prepared to document results and assumptions.

A draft of the technical memorandum summarizing the modeling results and proposed network capacity improvements will be prepared and submitted to the COUNTY for review. A review meeting will be held within two weeks of submission of the draft document to discuss comments on the technical memorandum. The COUNTY will provide written comments at the meeting. Comments from the meeting will be documented in meeting minutes and incorporated as applicable in the final version of the technical memorandum within two weeks of the review meeting.

Deliverable(s):

- 6.1 – Draft technical memorandum on modeling
- 6.2 – Minutes from review meeting
- 6.3 – Final technical memorandum on modeling

Task 7 – Collection System Capacity and Reliability Analysis

CONSULTANT will evaluate the capacity and reliability of the wastewater collection system as follows:

- a. CONSULTANT will conduct a walk-through with COUNTY staff for stations that are scheduled for rehabilitation within the next five years to validate the information provided by the COUNTY with respect to the condition of facilities.
- b. The COUNTY will be responsible for physical inspection of force mains (non-destructive testing); and inspections of lift stations and master stations to assess general conditions of structures; mechanical, electrical and telemetry equipment; operational evaluation of pumping equipment; odor and noise levels.
- c. CONSULTANT will review the COUNTY's findings based on Task 7(a) and 7(b), and include required improvements into the collection system capital improvements plan.

A draft of the technical memorandum summarizing recommended pump station improvements over the first 5 years of the planning horizon will be prepared and submitted to the COUNTY for review. A review meeting will be held within two weeks of submission of the draft document to discuss comments on the technical memorandum. The COUNTY will provide written comments at the meeting. Comments from the meeting will be documented in meeting minutes and incorporated as applicable in the final version of the technical memorandum within two weeks of the review meeting.

Deliverable(s):

- 7.1 – Draft technical memorandum identifying required collection system pump station reliability upgrades over the first 5 years of the planning horizon
- 7.2 – Minutes from review meeting
- 7.3 – Final technical memorandum identifying required collection system pump station reliability upgrades over the first 5 years of the planning horizon

Task 8 – Infiltration and Inflow Assessment

The COUNTY maintains an ongoing I/I reduction program. The CONSULTANT will provide an assessment of the COUNTY's I/I reduction program, as follows:

- a. Assess the existing I/I reduction program including completed rehabilitation and system-wide flow reductions achieved to date
- b. Compare system-wide water usage and wastewater flow records for the most recent available 5 year period
- c. Characterize the overall system based on I/I severity and the approximate proportions of infiltration, inflow, and wastewater

- d. Select up to 20 pump stations to represent "study areas" for more detailed analysis. Pump stations will be selected through consultation and consensus with the COUNTY based on geographical representation, data availability, and the COUNTY's expressed priorities.
- e. Develop a wastewater flow database for each study area pump station using date-and-time-stamped pump start and stop data along with wet well fill volumes, flow data available from existing meters, pump run hours, and/or power consumption records as available and technically feasible. Data will be analyzed over the most recent 12-month period for which data are available.
- f. Analyze study area data considering selected wet weather events, dry weather periods of markedly differing ground water elevations, and the so-called "night flow" time period between 1:00 AM and 5:00 AM when actual wastewater flow is minimal and the majority of flow is infiltration (and in the case of wet weather, inflow). This analysis will be conducted to the extent permitted by the time interval of available data (hourly, daily, weekly, etc.).
- g. Prioritize study areas by I/I severity so that follow-up inspection and rehabilitation work can be focused on those areas where the greatest I/I reduction potential exists. Develop planning level cost estimates for follow-up inspection and rehabilitation work using assumptions drawn from experience in similar systems.

A draft of the technical memorandum summarizing the I/I assessment will be prepared and submitted to the COUNTY for review. A review meeting will be held within two weeks of submission of the draft document to discuss comments on the technical memorandum. The COUNTY will provide written comments at the meeting. Comments from the meeting will be documented in meeting minutes and incorporated as applicable in the final version of the technical memorandum within two weeks of the review meeting.

Items to be requested from the COUNTY:

- General information, including written reports and records if available, concerning the nature and duration of the COUNTY's I/I reduction program to date.
- System-wide water production and wastewater flow records for the most recent available 5 year period.
- A schematic that illustrates repumping relationships among local and regional pump stations.
- Guidance and consultation concerning (a) the approximate extent of potable water demand associated with customers who are not also served by the COUNTY's wastewater system, (b) the approximate extent of wastewater production associated with customers who are not also served by the COUNTY's potable water system, and (c) the selection of representative study areas as described above.
- For each study area pump station, date-and-time-stamped pump start and stop data along with wet well fill volumes, flow data available from existing meters, pump run

- hours, and/or power consumption records as available and technically feasible. Data are to be provided in electronic format.
- A breakdown of piping lengths and diameters for each basin, if available, so that a collection system inventory can be developed and analyzed.

Deliverable(s):

- 8.1 – Draft technical memorandum on assessment of COUNTY's I/I program
- 8.2 – Minutes from review meeting
- 8.3 – Final technical memorandum on assessment of COUNTY's I/I program

Task 9 – Regulatory Overview

CONSULTANT will prepare a regulatory overview of existing and new wastewater treatment and disposal requirements. The CONSULTANT will summarize the critical regulatory and permit issues affecting the treatment facilities; assess emerging trends in local, state and federal wastewater regulations; and investigate potential future compliance issues. The CONSULTANT will coordinate with the COUNTY legislative representative to review position papers on regulatory issues. This task will also include a review of existing wastewater effluent, injection wells, reuse, numeric nutrient criteria, and bio-solids with respect to applicable standards.

A draft of the technical memorandum providing a regulatory overview of general wastewater regulations will be prepared and submitted to the COUNTY for review. A review meeting will be held within two weeks of submission of the draft document to discuss comments on the technical memorandum. The COUNTY will provide written comments at the meeting. Comments from the meeting will be documented in meeting minutes and incorporated as applicable in the final version of the technical memorandum within two weeks of the review meeting.

Deliverable(s):

- 9.1 – Draft technical memorandum on regulatory overview
- 9.2 – Minutes from review meeting
- 9.3 – Final technical memorandum on regulatory overview

Task 10 – SRWRF Whole-Plant BioWin™ Modeling and Calibration

CONSULTANT will develop and calibrate a whole plant BioWin™ process model of the SRWRF. Detailed modeling will include special sampling and laboratory analysis of SRWRF process flow streams to provide more detailed data on wastewater characterization.

Task 10.1 – Prepare a special sampling plan identifying locations and types of samples to be collected. CONSULTANT will meet onsite with SRWRF staff to coordinate requirements for sample containers and upcoming laboratory analysis.

Task 10.2 – Provide two process engineers for a period of 3 to 5 days to collect and deliver samples to the County's wastewater laboratory for analysis. It is assumed that the COUNTY

will perform/pay for all laboratory analyses. CONSULTANT will review, and tabulate sampling results for use in calibrating the whole plant BioWin™ model.

Task 10.3 – Calibrate the whole plant process model, including interaction between liquids and solids process streams; generate process data tables and graphs of applicable process flow streams and process parameters to demonstrate level of calibration.

A draft of the technical memorandum summarizing the whole plant BioWin™ process modeling for the SRWRF will be prepared and submitted to the COUNTY for review. A review meeting will be held within two weeks of submission of the draft document to discuss comments on the technical memorandum. The COUNTY will provide written comments at the meeting. Comments from the meeting will be documented in meeting minutes and incorporated as applicable in the final version of the technical memorandum within two weeks of the review meeting.

Deliverable(s):

- 10.1 – Draft technical memorandum on SRWRF whole plant BioWin™ modeling
- 10.2 – Minutes from review meeting
- 10.3 – Final technical memorandum on SRWRF whole plant BioWin™ modeling

Task 11 – SRWRF Capacity Analysis and Plant Optimization

This task will be limited to conducting a capacity analysis of wastewater treatment, effluent disposal and reuse for the SRWRF. Evaluation of the ECRWRF and Century Village Water Reclamation Facility are not included in this authorization. For the SRWRF, the CONSULTANT will perform the following tasks:

- a. Prepare a capacity analysis evaluation, for the major liquids and solids treatment processes, pumping facilities, deep injection wells and reclaimed water storage and distribution pumping facilities
- b. Review and validate targeted plant optimization strategies, including headworks by-pass, influent flow equalization (to reduce aeration energy, improve treatment and maximize reuse delivery); implementing anaerobic selectors at aeration basins; use of high-speed turbine blowers to replace multi-stage centrifugal blowers; nitrite control at aeration basins to minimize process air demand; and alternative energy sources. For each evaluation CONSULTANT will provide process calculations, design criteria, narrative descriptions, conceptual schematics, capital costs and a life-cycle cost / payback analysis.

A draft of the technical memorandum summarizing the capacity analysis for the SRWRF and recommended plant optimization projects will be prepared and submitted to the COUNTY for review. A review meeting will be held within two weeks of submission of the draft document to discuss comments on the technical memorandum. The COUNTY will provide written comments

at the meeting. Comments from the meeting will be documented in meeting minutes and incorporated as applicable in the final version of the technical memorandum within two weeks of the review meeting.

Deliverable(s):

- 11.1 – Draft technical memorandum on SRWRF capacity analysis and recommended plant optimization projects
- 11.2 – Minutes from review meeting
- 11.3 – Final technical memorandum on SRWRF capacity analysis and recommended plant optimization projects

Task 12 – Implementation Plan – Costs and Schedule

Based on projects identified in previous tasks, CONSULTANT will develop an implementation plan, as follows:

- a. Develop list of improvement projects.
- b. Develop capital cost estimates for all improvements. For this task, the CONSULTANT will develop Feasibility Study Level Opinions of Probable Cost. These Costs Opinions will be prepared to Class 5 Cost Estimate Levels based on the definition provided by the Association for the Advancement of Cost Engineering (AACE) International Recommended Practice No. 18R-97. Financial analyses and evaluation of funding options for purposes of rate studies will be performed by others and are not included in the present work authorization.
- c. Prepare prioritization of improvement projects; prioritization will be based on multiple criteria including, but not limited to, required timing to meet projected capacity shortfalls; required timing for renewal or replacement projects based on anticipated useful life of existing infrastructure; and timing of optimization improvements to maximize life-cycle cost savings.
- d. Develop cost-loaded implementation schedule utilizing EXCEL spreadsheet.

A draft of the technical memorandum summarizing the implementation plan will be prepared and submitted to the COUNTY for review. A review meeting will be held within two weeks of submission of the draft document to discuss comments on the technical memorandum. The COUNTY will provide written comments at the meeting. Comments from the meeting will be documented in meeting minutes and incorporated as applicable in the final version of the technical memorandum within two weeks of the review meeting.

Deliverable(s):

- 12.1 – Draft technical memorandum on implementation plan
- 12.2 – Minutes from review meeting

12.3 – Final technical memorandum on implementation plan

Task 13 – Master Plan

This task will consist of preparation and assembling of the information developed from previous task into a general wastewater master plan. The wastewater master plan will incorporate the above elements analyzed and follow the table of contents attached. Included in the master plan will be project costs and implementation schedules.

A draft master plan will be prepared and submitted to the COUNTY for review. A review meeting will be held within two weeks of submission of the draft document to discuss comments on the technical memorandum. The COUNTY will provide written comments at the meeting. Comments from the meeting will be documented in meeting minutes and incorporated as applicable in the final version of the technical memorandum within two weeks of the review meeting.

Deliverable(s):

13.1 – Draft master plan

13.2 – Minutes from review meeting on draft master plan

13.3 – Final master plan

ATTACHMENT B
PROJECT SCHEDULE

Task No.	Description	ESTIMATED PROJECT SCHEDULE																				
		2011												2012								
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J			
1	Project kick-off													■								
2	AWT assessment													■	■							
3	WW service area													■	■	■						
4	Population projections															■	■					
5	WW flow and loads															■	■					
6	Hydraulic modeling														■	■	■	■				
7	Reliability analysis														■	■	■					
8	I&I assessment														■	■	■					
9	Regulatory overview															■	■	■	■			
10	BioWin™ modeling														■	■	■	■	■			
11	SRWRF capacity analysis															■	■	■	■			
12	Implementation plan																		■	■		
13	Report																			■	■	

Assumes a notice to proceed in October; total project duration is 9 months

ATTACHMENT C
SBE SCHEDULE 1

LIST OF PROPOSED SBE-M/WBE PRIME / SUBCONTRACTORS

PROJECT NAME: Wastewater Master Plan

PROJECT NUMBER: 11-143

NAME OF PRIME BIDDER: Hazen and Sawyer, P.C.
 CONTACT PERSON: Albert Muniz, P.E.
 BID OPENING DATE: n/a

ADDRESS: 2101 NW Corporate Boulevard, Boca Raton, FL 33431
 PHONE No.: (561) 997-8070 FAX No.: (561) 997-8159
 DEPARTMENT: n/a

PLEASE IDENTIFY ALL APPLICABLE CATEGORIES

Name, Address and Telephone Number of Minority Contractor	(Check one or both Categories)		Dollar Amount				
	Minority Business	Small Business	Black	Hispanic	Women	Caucasian	Other (Please Specify)
Holtz Consulting Engineers, Inc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	\$0	\$0	\$22,100	\$0	\$0
C. Solutions, Inc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	\$14,600	\$0	\$0	\$0	\$0
	<input type="checkbox"/>	<input type="checkbox"/>	\$0	\$0	\$0	\$0	\$0
	<input type="checkbox"/>	<input type="checkbox"/>	\$0	\$0	\$0	\$0	\$0
	<input type="checkbox"/>	<input type="checkbox"/>	\$0	\$0	\$0	\$0	\$0
PRIME CONTRACTOR TO COMPLETE:	\$243,914	TOTAL	\$14,600	\$0	\$22,100	\$0	\$0

BID PRICE: \$ 245,114.00 Total Value of SBE Participation: \$36,700 15.0%

- NOTE:
1. The amount listed on this form for a Subcontractor must be supported by price or percentage included in Schedule 2 or a proposal from each Subcontractor listed in order to be counted toward goal statement.
 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 a M/WBE, please indicate the dollar amount under the appropriate category.
 3. M/WBE information is being collected for tracking purposes only.

ATTACHMENT C
SBE Schedule 2

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

PROJECT NO.: WUD 11-143 PROJECT NAME: WASTEWATER MASTER PLAN

TO: Hazen & Sawyer, P.C.
(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: May 6, 2011

The undersigned is prepared to perform the following described work in connection with the above project at the following price \$ 22,100
(Subconsultant's fee)

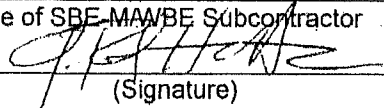
(Specify in detail, particular work items or parts thereof to be performed):

Line Item / Lot No.	Item Description	Qty / Units	Unit Price	Total Price
1	Wastewater Master Plan	1	n/a	\$22,100

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 subcontractor, the amount of any such subcontract must be state: \$ none

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

Holtz Consulting Engineers, Inc
(Print Name of SBE-M/WBE Subcontractor)
By: 
(Signature)
Andrea Holtz, PE
(Print name / title of person executing on behalf of SBE-M/WBE Subcontractor)
Date: 8-30-11

ATTACHMENT C
SBE Schedule 2

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

PROJECT NO.: WUD 11-143 PROJECT NAME: WASTEWATER MASTER PLAN

TO: C Solutions, Inc.
(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: September 8, 2008

The undersigned is prepared to perform the following described work in connection with the above project at the following price \$ 14,600
(Subconsultant's fee)

(Specify in detail, particular work items or parts thereof to be performed):

Line Item / Lot No.	Item Description	Qty / Units	Unit Price	Total Price
1	Wastewater Master Plan	1	n/a	\$14,600

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 subcontractor, the amount of any such subcontract must be state: \$ _____

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

C Solutions Inc.

(Print Name of SBE-M/WBE Subcontractor)

By: 

(Signature)

Mark Drummond, P.E. / President

(Print name / title of person executing on behalf of SBE-M/WBE Subcontractor)

Date: 8-30-2011



**Palm Beach County
Water Utilities
Department
Service Area (SA) and
Major Facilities**

Legend

- P.B.C.W.U.D. SA
- - - Mandatory Reclaimed SA
- - - Palm Beach County Limits
- ★ Administration
- Water Reclamation Facility
- ▲ Water Treatment Facility
- ⊙ Wetlands

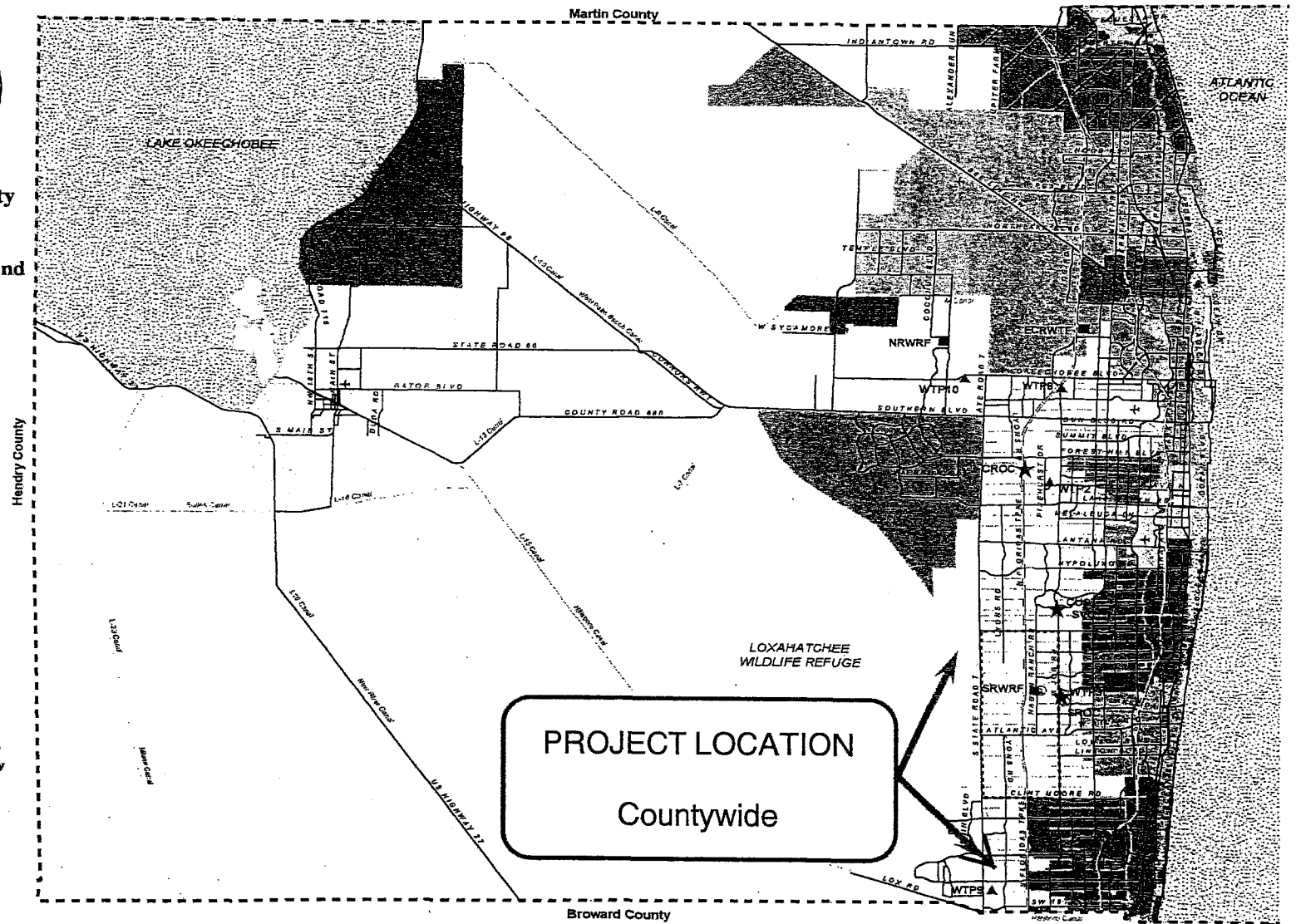


EXHIBIT - B

AUTHORIZATION STATUS REPORT

SUMMARY AND STATUS OF
REQUESTS FOR AUTHORIZATION

Auth.No.	Description	Status	Project Total Amount	Date Approved	WUD No. Assigned
1	Advanced Wastewater Treatment Technical Memorandum	Pending	\$10,000.00		11-002
2	Feasibility of Receiving Reclaimed Water from Broward County & Conveying to Designated Sites in PBC - Phase I	Approved	\$25,258.00	08/09/11	11-131
3	Wastewater Master Plan	Pending	\$245,114.00		11-143
Total			\$280,372.00		

EXHIBIT - C

AUTHORIZATION STATUS REPORT

SUMMARY OF
SMALL BUSINESS TRACKING SYSTEM

	Total	SBE
Current Proposal		
Value of Authorization No. 3	245,114.00	
Value of SBE Letters of Intent	36,700.00	36,700.00
Actual Percentage	14.97%	14.97%
Signed Authorizations		
Total Value of Authorizations	25,258.00	
Total Value of SBE Signed Subcontracts	0.00	0.00
Actual Percentage	0.00%	0.00%
Signed Authorizations Plus Current Proposal		
Total Value of Authorizations	270,372.00	
Total Value of Subcontracts & Letters of Intent	36,700.00	\$ 36,700.00
Actual Percentage	13.57%	13.57%
Goal	15.00%	