

PALM BEACH COUNTY  
BOARD OF COUNTY COMMISSIONERS  
AGENDA ITEM SUMMARY

Meeting Date: April 21, 2015

Consent [X]  
Public Hearing [ ]

Regular [ ]

Department: Water Utilities Department

I. EXECUTIVE BRIEF

**Motion and Title:** Staff recommends motion to approve: Consultant Service Authorization (CSA) No. 10 for Maximo Reconfiguration Iterations 3 & 4 with Black & Veatch Corporation, (R2014-0064), in the amount of \$695,340.77.

**Summary:** On January 14, 2014, the Board of County Commissioners (BCC) approved the Water Utilities Department (WUD) Engineering/Professional Services Contract with Black & Veatch Corporation for sustainability and strategic planning consulting services. CSA No. 10 provides for services relating to Maximo configuration (Asset Management Software), asset inventory and the development of procedures that will allow WUD to properly manage the repair and replacement of assets. Industry best practices in asset management will be used to guide the development of the management procedures. The Small Business Enterprise (SBE) participation goal established by the SBE Ordinance (R2002-0064) is 15% overall. The contract with Black & Veatch Corporation provides for SBE participation of 15%. The CSA includes 27.29% overall participation. The cumulative SBE participation is 18.31% overall. Black & Veatch Corporation is not a Palm Beach County company. (WUD Project No. 14-018) Countywide (JM).

**Background and Justification:** WUD has over \$1.5 Billion in assets that are used to supply over 500,000 customers with drinking water and wastewater services. These assets includes thousands of pumps, pipes, valves, tanks etc. As the utility system ages proper management of these assets is critical in order to properly provide for maintenance and replacement. Iteration 1 focused on creating a stable and secure system environment, as well as establishing standard global processes in the utilization of an asset management system. Iteration 2 focused on system changes including system enhancements, screen changes, and asset pilot data.

**Attachments:**

1. Location Maps
2. Two (2) Original CSA No. 10

Recommended By:

  
Department Director

4-2-15  
Date

Approved By:

  
Assistant County Administrator

4/15/15  
Date

**II. FISCAL IMPACT ANALYSIS**

**A. Five Year Summary of Fiscal Impact:**

Fiscal Years	2015	2016	2017	2018	2019
Capital Expenditures	<u>\$695,340</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>
<b>NET FISCAL IMPACT</b>	<b><u>\$695,340.</u></b>	<b><u>0</u></b>	<b><u>0</u></b>	<b><u>0</u></b>	<b><u>0</u></b>
# 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

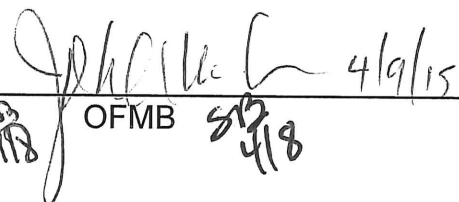
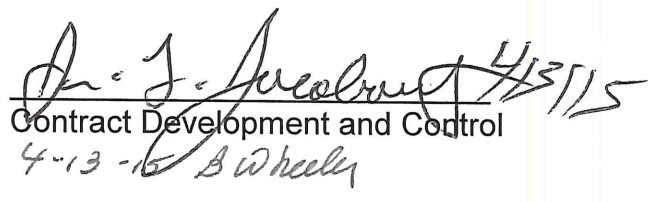
**B. Recommended Sources of Funds/Summary of Fiscal Impact:**

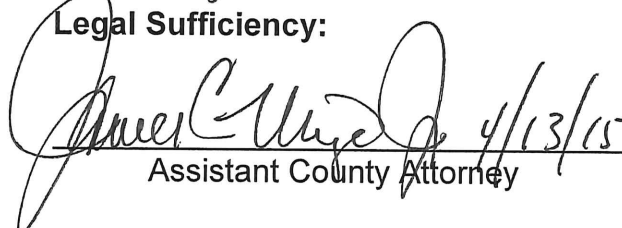
One (1) time capital expenditure from user fees with balances brought forward.

C. Department Fiscal Review: Debra Moxley

**III. REVIEW COMMENTS**

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

*5/10 4/18 5/12 4/18*  
  
 OFMB  
  
 Contract Development and Control  
 4-13-15 B. Wheeler

**B. Legal Sufficiency:**  
  
 Assistant County Attorney

**C. Other Department Review:**  
 \_\_\_\_\_  
 Purchasing Department Director

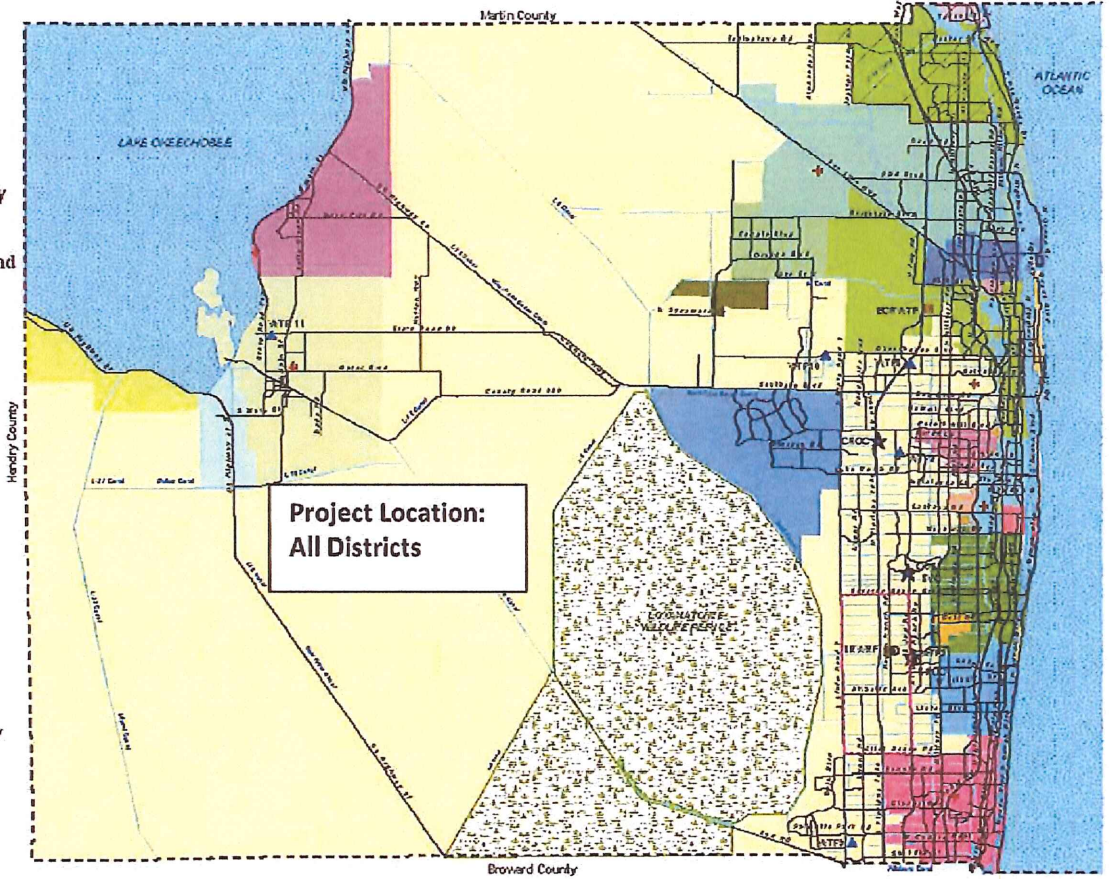
This summary is not to be used as a basis for payment.



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

Legend

- PBC WAD UTILITY SA
- Palm Beach County Limits
- Involuntary Retained SA
- Administration
- Water Reclamation Facility
- Water Treatment Facility
- Valleys





CONSULTANT SERVICES AUTHORIZATION NO. 10

Asset Management Framework Assessment, Asset Inventory and

Project Title Maximo Reconfiguration - Iterations 3 & 4

Project No. WUD 14-018

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

District No.: All Districts

THIS AUTHORIZATION No. 10 to the Contract for Consulting/Professional Services dated 1/14/14 (R2014 - 0064), 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 15.0% SBE participation overall. This Consultant Services Authorization includes 27.29% overall participation. The cumulative SBE participation, including this authorization is 18.31% overall. Additional authorization will be utilized to meet or exceed the stated overall participation goal.

- 1. CONSULTANT: Black & Veatch Corporation
- 2. ADDRESS: 1300 Concord Terrace, Suite 120, Sunrise, FL 33323
- 3. Description of Services to be provided by the Consultant:  
Consulting services for the development of an assessment of PBCWUD's Asset Management Framework, completion of an Asset Inventory and Iterations 3 & 4 for the Maximo Reconfiguration.  


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See ATTACHMENT A.

- 4. Services completed by the Consultant to date (Summary and Status of Authorizations):

See ATTACHMENT E.

- 5. Consultant shall begin work promptly on the requested services.
- 6. 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 \$
  - B. Fixed price of \$ 695,340.77
- 7. 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.

Project No. WUD 14-018 Consultant Services Authorization No. 10  
Asset Management Framework Assessment, Asset Inventory and  
Project Title Maximo Reconfiguration - Iterations 3 & 4

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: \_\_\_\_\_  
Shelley Vana, Mayor

Typed Name: \_\_\_\_\_  
Deputy Clerk

\_\_\_\_\_ Date  
JCS

Approved as to Form and Legal  
Sufficiency

Signed: \_\_\_\_\_

Typed Name: \_\_\_\_\_  
County Attorney

CONSULTANT: \_\_\_\_\_

ATTEST: \_\_\_\_\_  
Witness

\_\_\_\_\_  
(Signature)

Robert Chambers, Manager  
(Name and Title)

Robert E. Furr III, Client Director  
(Name and Title)

\_\_\_\_\_ Date  
2/16/15

**LIST OF ATTACHMENTS**

**Project No. WUD** 14-018 **Consultant Services Authorization No.** 10  
Asset Management Framework Assessment, Asset Inventory and  
**Project Title** Maximo Reconfiguration - Iterations 3 & 4

- ATTACHMENT - A            Scope of Work
- ATTACHMENT - B            Budget Summary
- ATTACHMENT - C            Project Schedule
- ATTACHMENT - D            SBE Schedule 1 and Schedule 2
- ATTACHMENT - E            Authorization Status Report - Summary and Status of Authorizations
- ATTACHMENT - F            Authorization Status Report – Summary of SBE Tracking
- ATTACHMENT - G            Location Map

ATTACHMENT A  
CONSTULTANT SERVICES AUTHORIZATION 10  
PALM BEACH COUNTY WATER UTILITIES DEPARTMENT  
ENGINEERING/PROFESSIONAL SERVICES  
SCOPE OF WORK  
FOR  
ASSET MANAGEMENT FRAMEWORK ASSESSMENT, ASSET INVENTORY AND MAXIMO  
RECONFIGURATION – ITERATIONS 3 & 4

**INTRODUCTION**

Palm Beach County (COUNTY) entered into an agreement entitled Contract for Engineering/Professional Services – Sustainability and Strategic Planning Consulting Services, Project No.: WUD 14-001 (CONTRACT) with Black & Veatch Corporation (CONSULTANT) to provide engineering, sustainability and strategic planning services on January 14, 2014 (R2014-0064). This Consultant Services Authorization (CSA) will be performed under that CONTRACT.

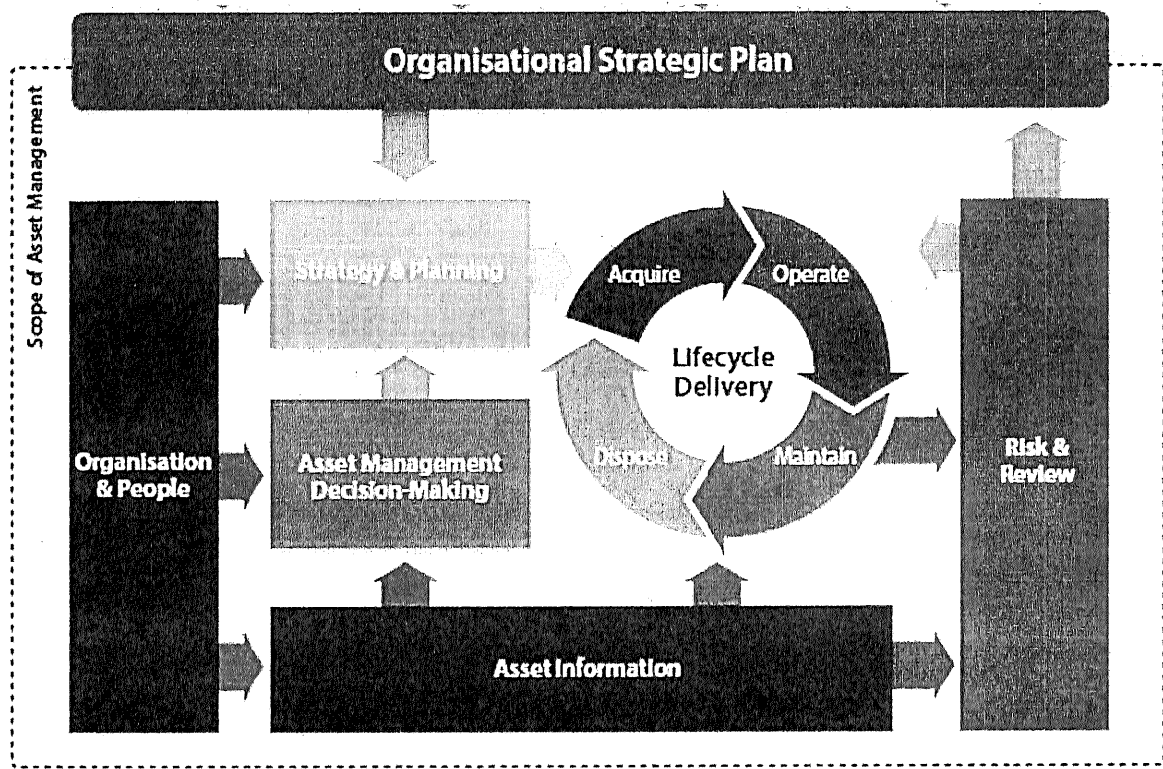
This CSA encompasses providing services related to Asset Management Framework Assessment, Asset Inventory, and Iterations 3 and 4 of the Maximo Reconfiguration. The CONSULTANT team is comprised of Black & Veatch, EDI and Holtz Consulting Engineers. The Asset Management Framework Assessment will be performed by CONSULTANT; the Asset Inventory will be performed by Holtz Consulting Engineers; and Iterations 3 and 4 of the Maximo Reconfiguration will be performed by EDI. These services are being provided in support of Palm Beach County Water Utilities Department (PBCWUD) asset management efforts.

**ASSET MANAGEMENT FRAMEWORK ASSESSMENT**

**Methodology**

CONSULTANT will assess PBCWUD's existing asset management framework against asset management good practice. CONSULTANT will refer to an industry best practice model developed by the Institute of Asset Management's (IAM), An Anatomy of Asset Management, which provides a simplified view of the key components of an effective asset management approach. Figure 1 illustrates the IAM's Conceptual Model of Asset Management.

Figure 1 Conceptual Model of Asset Management (source IAM)



A description of the components of the IAM’s Conceptual Model of Asset Management is provided below:

**Organizational Strategic Plan** – This component is equivalent to PBCWUD’s Strategic Sustainability Plan (SSP) that is currently under development. The organization should have a clear understanding of internal and external issues, and stakeholder needs. In addition, top management should provide leadership and demonstrate ownership of the asset management framework.

**Strategy and Planning** – Good practice includes having in place an Asset Management Policy, a Strategy, and clear Objectives (service levels, key performance indicators (KPIs)). Asset management plans for specific asset groups should be developed as a part of this component.

**Asset Management Decision Making** – As a part of this component, analysis approaches are utilized including life cycle cost analysis and others, developing R&R programs based on assets condition and risk, and optimizing the maintenance and implementation of the Capital Improvement Plan (CIP).

**Lifecycle Delivery** – Business processes should be in place and aligned across the entire asset life cycle. This includes planning and implementation of the CIP (Acquire), operations and maintenance, and final disposal or replacement of the asset. In addition, the organization should monitor and maintain control over outsourced activities.



**Organization and People** – There is a requirement for a clearly defined organizational structure for asset management, including definitions of roles, responsibilities and authorities. Resource and competence needs for the asset management program should be assessed and a resource plan developed.

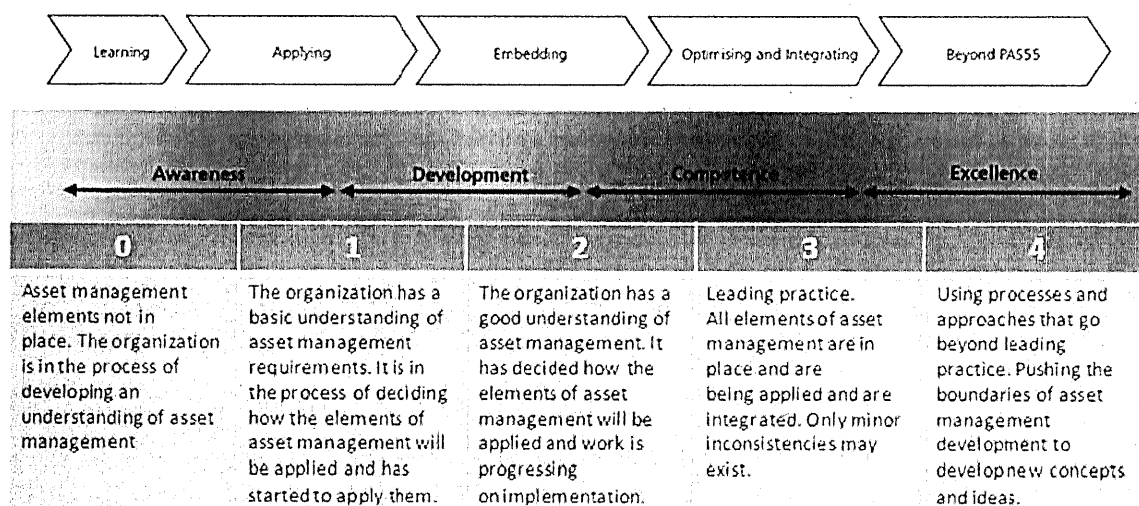
**Asset Information** – An organization must determine its information needs and implement work processes and systems to manage asset information, which includes documentation. PBCWUD is currently addressing most of these requirements as a part of the current Maximo project.

**Risk and Review** – Risk management is a key component of asset management, and a comprehensive risk management process and methodology should be in place. Other risk management components include condition assessment, performance monitoring, corrective and preventative actions, and a focus on continual improvement. Good practice asset management requires structured audits and management reviews of the actual implementation of the asset management program.

CONSULTANT will review PBCWUD’s relevant information and documentation, and interview staff individually or in a group setting. CONSULTANT will use an assessment tool to collate the results of the document reviews and interviews. The results will be analyzed against 27 elements of good asset management practice, which are aligned with the good practice asset management model, and a maturity score will be assigned for each element based on the maturity scoring in Figure 2. Results will be plotted on a radar diagram as shown in Figure 3.

Dedicated focus will be placed on business processes, including those for planning, asset management decision making, CIP development, prioritization and implementation, performance monitoring and reporting. CONSULTANT will review support elements, such as resource planning and training, and communication. Figure 2 below provides an example of an Asset Management Maturity Scoring Scale.

Figure 2 Asset Management Maturity Scoring Scale

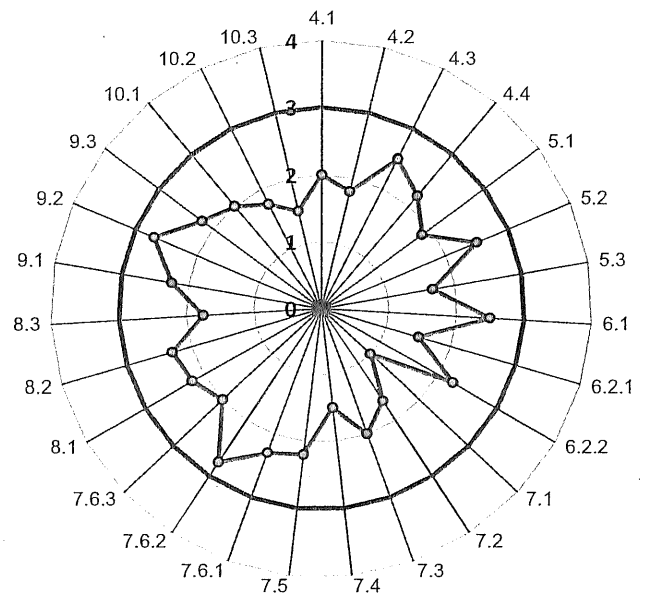


At the completion of this assessment, CONSULTANT will compile a list of prioritized activities that must be undertaken by PBCWUD to address areas of improvement identified as a part of the existing Asset Management Framework Evaluation.

Figure 3 provides an example of scoring for an asset management framework based on the aforementioned Evaluation.

Figure 3 Example of Scoring of an Asset Management Framework Evaluation

Section No	Section Name	Avg Score
4.1	Understanding the organization and its context	2.0
4.2	Understanding the needs and expectations of stakeholders	1.8
4.3	Determining the scope of the asset management system	2.5
4.4	Asset management system	2.2
5.1	Leadership and commitment	1.9
5.2	Policy	2.5
5.3	Organizational roles, responsibilities and authorities	1.7
6.1	Actions to address risks and opportunities	2.5
6.2.1	Asset management objectives	1.5
6.2.2	Planning to achieve asset management objectives	2.3
7.1	Resources	1.0
7.2	Competence	1.7
7.3	Awareness	2.0
7.4	Communication	1.5
7.5	Information requirements	2.2
7.6.1	Documented information general	2.3
7.6.2	Creation and updating documented information	2.8
7.6.3	Control of documented information	2.0
8.1	Operational planning and control	2.2
8.2	Management of change	2.3
8.3	Outsourcing	1.8
9.1	Monitoring, measurement, analysis and evaluation	2.3
9.2	Internal audit	2.7
9.3	Management review	2.2
10.1	Nonconformity and corrective action	2.0
10.2	Preventative action	1.8
10.3	Continual improvement	1.5



Following the assessment results, CONSULTANT will work with PBCWUD staff, as part of this effort, to develop an improvement roadmap for its Asset Management Framework. Identified activities will be time specific and prioritized based on importance and resource availability to implement an optimized asset management framework improvement roadmap.

## CONSULTANT SCOPE OF SERVICES

### Task 1: Project Kick-off and Document Review

CONSULTANT will attend a kick-off meeting to commence the project, plan interviews and meetings, and collect information and documentation for the document review. Prior to the kick-off meeting, CONSULTANT will provide PBCWUD with an information request. Documents requested will include business processes, asset management plans (e.g. CIP, Master Plans, R&R forecasts), risk assessments, job descriptions, performance reports, and the methodology for CIP prioritization and decision making. CONSULTANT will assess documentation provided against good practice.

### Task 2: Interviews and Meetings

CONSULTANT's team will meet with a cross-section of PBCWUD's staff that may include senior management, operations, engineering and planning. Sessions may include individual interviews with

management and small group interviews with staff (typically 3 to 4) as appropriate; each will last between 1 and 2 hours. Individual interviews will be conducted using a structured questionnaire which will be developed by CONSULTANT and approved by PBCWUD. The group interviews will review how business processes are used within PBCWUD and specific focus will be directed at the impact of implementing the Maximo project on the existing business processes, so these two efforts are coordinated.

As part of the group interviews, CONSULTANT will visit the water treatment plants and the wastewater treatment plant to discuss the existing operations and business process coordination with the plant operations and maintenance staff. These discussions will provide valuable insight on the alignment of the existing asset management framework through all tiers of the PBCWUD organization.

CONSULTANT has budgeted for up to 20 individual interviews or group sessions. Provided below is a list of departments from which the CONSULTANT intends to interview the appropriate representatives.

**Summary of PBCWUD Departments:**

1. Finance & Administration;
2. Engineering;
3. Human Resources;
4. Water Supply & Legislation;
5. Operations & Maintenance;
6. Strategic Planning;
7. Regulatory Compliance; and
8. Customer Service

CONSULTANT will agree with PBCWUD the staff to be interviewed at the kick-off meeting. Upon the completion of the interviews reference above, CONSULTANT will incorporate the results of the interviews and the previously completed Maximo and Data Assessment to initiate the Asset Management Framework Evaluation described herein. The incorporation of these components will avoid duplication of previous work efforts.

**Task 3: Asset Management Framework Evaluation and Results Workshops**

CONSULTANT will utilize the IAM Conceptual Model of Asset Management to assess PBCWUD's asset management framework against good practice based on the results of the project interviews, past assessments, and other information reviewed as a part of this project. CONSULTANT will develop an analysis report and facilitate a half-day workshop with PBCWUD staff. The purpose of the workshop will be to present the initial results of the assessment, highlight the key findings, and validate these findings with PBCWUD staff. In addition, the workshops will involve collaboration with PBCWUD staff to agree on improvement activities to be included in the Asset Management Roadmap.

**Deliverable:**

CONSULTANT will deliver an Asset Management Framework Evaluation letter report no later than 10 weeks from the effective date of project commencement of the Asset Management Framework

Assessment detailing the findings of the assessment, outcomes from the analysis workshop, and recommended improvements. A draft letter report will be submitted to the PBCWUD two weeks prior to the workshop for review and comments. Comments from PBCWUD should be provided no later than two weeks after submission of documents by CONSULTANT.

#### **Task 4: Asset Management Roadmap Development**

CONSULTANT will develop an asset management framework improvement roadmap based on the improvement areas identified from the assessment and the activities identified in the workshop in Task 3. The business process requirements to undertake the activities identified will be assessed and the activities will be prioritized based on highest to lowest priority. CONSULTANT will work with PBCWUD's staff to determine the criteria to evaluate and rank these activities. A detailed description of the proposed improvement activities will be provided to PBCWUD staff for review prior to prioritizing the activities.

The Roadmap will be developed in the form of a time specific action plan. CONSULTANT will facilitate a roadmapping workshop with PBCWUD staff to review the roadmap, agree on activities, schedule resource allocations, and review the priority of activities. The workshop will not extend for more than four hours (timeframe will be discussed with PBCWUD).

Following the roadmapping workshop, CONSULTANT will finalize the roadmap and present it to PBCWUD management, for review and approval.

#### **Deliverable:**

CONSULTANT will deliver an asset management framework improvement roadmap no later than 12 weeks from the effective date of project commencement of the Asset Management Framework Assessment.

#### **CONSULTANT KEY MEMBERS**

**Will Williams** heads Black & Veatch's energy and water asset management practice and is a globally recognized expert in asset management planning, strategy development, asset optimization, risk management and condition assessment. He has undertaken similar projects for Gwinnett County Department of Water Resources, Winston Salem, and Tulsa, as well as Sydney Water in Australia and Transco in Abu Dhabi. In his 24-year career, he has undertaken numerous asset failure, risk assessment, maintenance optimization and business transformation projects. Mr. Williams will provide overall guidance and quality assurance throughout all phases of this assessment.

**Rafael Frias** is a Client Director with the global water business of Black & Veatch Corporation, where he is responsible for the management of the Company's operations in Florida and the Caribbean. Rafael specializes in the management of water resources projects, including water supply, water treatment, hydropower and stormwater planning and design. Mr. Frias is also experienced in incorporating and aligning strategic and sustainability principles into program designs to develop sustainable water

planning technologies for the management of watersheds and ecosystems, water scarcity and wet-weather conditions. Rafael will serve as the Project Director for this engagement.

**Martin Jones** is a Principal Consultant with over 15 years of experience. He will lead the day-to-day activities of this assessment. Previous projects include an asset management assessment for Gwinnett County Department of Water Resources, Tulsa, Winston Salem, and Transco and the Abu Dhabi Distribution Company (ADDC) in Abu Dhabi. He is currently providing asset management expertise to the Tulsa Utility Enterprise Initiative in USA and most recently for the ADDC asset management implementation project in Abu Dhabi. His experience also includes 5 years undertaking regulatory audits of UK water companies for the regulator OFWAT, and previously worked for Wessex Water.

**Jeff Stillman** leads Black & Veatch's Water business Asset Management practice nationally. He has over 15 years' experience specializing in asset management and system planning for water and wastewater systems. Jeff has led the asset management effort for many clients, including Tulsa, OK and Winston-Salem, NC and will support the project team in completing the entire Asset Management Framework Evaluation.

**Kevin Harper** is a Director and his experience has spanned more than 30 years in the utilities and professional services industries. His consulting experience has included asset management, organizational formation and development, strategic and business planning, integrated resource planning and demand-side management, mergers and acquisitions, utility ratemaking and regulatory policy analysis. Mr. Harper will serve is provide strategic guidance related to the manner in which the existing Asset Management Framework is aligned with the overall strategic purpose of the PBCWUD.

**Robert Chambers** is a Management Consultant with 15 years of experience. He has completed numerous consulting engagements in the areas of utility financing issues, valuation studies for acquisition, utility regulatory processes, business case evaluations for capital program implementation, and business process evaluations associated with electric, water, and wastewater utilities throughout the United States. Mr. Chambers will support the project team in completing the Asset Management Framework Evaluation and he will give specific focus to the integration and alignment of PBCWUD's back office activities with its existing Framework.

## **ASSET INVENTORY**

### **SCOPE OF SERVICES**

As part of the current work as it relates to Asset Management, CONSULTANT team will perform asset inventory engineering services for the water and wastewater facilities in Zones 1 through 5 and the water treatment plant #11 in Zone 6. The asset inventory will capture asset data throughout the entire PBCWUD system for incorporation into the computerized asset management system, Maximo. The following facilities will be included as part of this scope of services:

- Water Plant 2
- Water Plant 3
- Water Plant 8
- Water Plant 9

- Water Plant 11
- Southern Region Water Reclamation Facility
- Beeline Rechlorination Facility
- Central Region Reclaimed Water Facility (Century Village)
- Regional Pump Station 5
- Regional Pump Station 9 North
- Regional Pump Station 9 South
- Regional Pump Station 5229
- Regional Pump Station 5236
- Regional Pump Station 5241
- Pumping Facility 4000 (Mecca)
- Pumping Facility 4100 ( Northern Region)

**Task 1: Facility Walk-down and Asset Inventory**

Under this task, CONSULTANT team will collect the asset inventory data for the assets at the following facilities:

- Water Plant 2
- Water Plant 3
- Water Plant 8
- Water Plant 9
- Water Plant 11
- Southern Region Water Reclamation Facility
- Beeline Re-chlorination Facility
- Central Region Reclaimed Water Facility (Century Village)
- Regional Pump Station 5
- Regional Pump Station 9 North
- Regional Pump Station 9 South
- Regional Pump Station 5229
- Regional Pump Station 5236
- Regional Pump Station 5241
- Pumping Facility 4000 (Mecca)
- Pumping Facility 4100 (Northern Region)

Historical work order data and asset inventories from the existing Maximo system as well as other data sources within PBCWUD will be collected and reviewed prior to scheduling the site visits to analyze existing data sources and how asset data is currently organized and utilized at PBCWUD. CONSULTANT team will collect asset attribute information as available during the inventory and through discussions with plant staff. Back-up documentation, photographs, forms and other data sources within PBCWUD will be catalogued and provided to PBCWUD as an Appendix to the asset inventory. For budgeting purposes, it is assumed that a two (2) to (3) person crew will conduct the field verification of asset information both during the initial inventory and any required follow-up following final presentation to PBCWUD staff.

The outcome of this task will be a listing of assets organized in asset hierarchies in an Excel spreadsheet format for uploading into the PBCWUD Maximo system and an electronic tabulation in an Appendix of backup documentation related to the development and completion of the asset inventory for the plant.



## **Task 2: Post-Walk-down Workshops and Review of Asset Inventory Framework**

Under this task, CONSULTANT team will work with PBCWUD asset management team to review the asset hierarchies, framework and attribute level data captured as part of the asset inventory. Workshop style meetings will be conducted to review and validate the hierarchy and framework for each system within the facilities as well as the attribute level data collected during Task 1. It is assumed that up to four workshops will be conducted: two for the water treatment facilities, one for the Southern Region Water Reclamation Facility, and one for the master repump facilities.

CONSULTANT will provide cursory support during the Post-Walk-down Workshops and Review of Asset Inventory Framework with the purpose to coordinate these work process with the business processes identified during the asset management framework assessment.

CONSULTANT team will also work with PBCWUD asset management team to review and finalize the naming conventions for all systems and individual assets and incorporate the approved naming convention into the final asset inventory list.

The outcome of this task will be asset hierarchies with an approved naming convention and the listing of assets identified in Task 1, validated with PBCWUD staff in Task 2, in an Excel spreadsheet format.

### Deliverables and Schedule

The following deliverables will be developed under this scope of services:

1. An inventory of assets at the facilities noted above, organized in asset hierarchies with an approved naming convention in an Excel spreadsheet format for uploading into PBCWUD's Maximo system. In addition, an electronic tabulation in an Appendix of backup documentation related to the development and completion of the asset inventory.

All tasks included as part of this scope of services are scheduled to be completed within six months after Notice to Proceed (NTP). It is anticipated that the work will be scheduled as follows: the project will start with field investigations held in the first week, followed by the necessary time to complete data entry by CONSULTANT team staff in the second and possibly third week, with this schedule repeating until project completion. The four workshops will be held at appropriate times during the six month duration and as determined by CONSULTANT team and PBCWUD staff. This schedule is put together with the intention to not overly encumber PBCWUD staff.

### Assumptions and Special Provisions

1. PBCWUD will provide any information, drawings, data, and other existing information pertinent to the project and project schedule.
2. PBCWUD will participate in inventory of the facilities and provide CONSULTANT team staff with access to a plant/master repump facility electrician during the site visits. It is assumed that PBCWUD will provide two people at the site visits for inventory of the facilities.
3. Provide prompt review and comment on all deliverables.

## MAXIMO RECONFIGURATION – ITERATIONS 3 & 4

### SCOPE OF SERVICES

Based on recent assessments of its Enterprise Asset Management (EAM), PBCWUD has identified a number of reconfigurations and enhancements that they would like to make to their processes, the Maximo system, and the data in the Maximo system. This scope of services covers the activities, to be performed by CONSULTANT team, identified for the third and fourth iterations (Iterations 3 & 4) of a high-level project plan.

#### Iteration 3

The primary activities of Iteration 3 that will require CONSULTANT team participation can be broken down into the following categories: Software Enhancements, Workflow, Procedures, Integrations, and Reconfigurations.

#### **Software Enhancements**

During this iteration, PBCWUD plans on enhancing the configuration of the GIS interactions with the current EAM system and deploying an EAM mobile solution. CONSULTANT team will assist PBCWUD in performing the requirements gathering, linking GIS with the EAM system, demo some mobile solutions, and configuring the selected mobile solution.

CONSULTANT team performed/supported activities:

- Conduct GIS workshop to gather requirements
- Demonstration of an EAM mobile solution and gather requirements
- Assist with configuration of GIS integration with Maximo 7.x system
- Assist with configuration of an EAM mobile solution

CONSULTANT team Deliverable:

- Provide requirements documentation from GIS Workshop
- Provide requirements documentation from Mobile demonstration

#### **Workflows**

During this iteration, PBCWUD plans on implementing workflow functionality for the Job Plans, Preventive Maintenance, Asset, and Work Order applications in the current EAM system. CONSULTANT team will assist PBCWUD in gathering the requirements, design specifications and configuring the workflows for each identified application.

CONSULTANT team performed/supported activities:

- Conduct workshops for four (4) workflow requirements for:
  - Job Plans

- Assets
- Preventative Maintenance
- Work Order
- Build technical design documentation for the four (4) workflows
- Assist PBCWUD team with building roles, actions, and four (4) workflows
- Assist with building migration packages for the four (4) workflows for promoting the workflows from environment to environment (Development, Test, and Prod)

CONSULTANT team Deliverable:

- Provide requirements documentation from workflow workshops
- Provide technical design documentation for four (4) workflows

### **Procedures**

During this iteration, PBCWUD plans on defining procedures for onboarding of new assets both from internal sources as well as construction projects. PBCWUD will also be determining the boundaries and integration points with the current CIS system. CONSULTANT team will assist with a CIS workshop that will determine the requirements and design of the integration with CIS. Additionally, CONSULTANT team will work with the PBCWUD team to build an onboarding standard operating procedure for managing assets at the Utility.

CONSULTANT will provide cursory support during the definition of procedures for onboarding of new assets with the purpose to coordinate these work process with the business processes identified during the asset management framework assessment.

CONSULTANT team performed/supported activities:

- Consult with PBCWUD team to provide guidance in best practices on onboarding procedures
- Conduct a workshop for an CIS system integration with Maximo 7.x system
- Develop requirements documentation for integration of the CIS system

CONSULTANT team Deliverable:

- Provide requirements documentation for CIS system integration with Maximo

### **Integrations**

During this iteration, PBCWUD plans on determining the integration points with Granite XP and Crystal Reporting. CONSULTANT team will assist in conducting the necessary workshops for Granite XP and Crystal Reporting. CONSULTANT team will assist with configuring Crystal Reporting with the EAM system.

CONSULTANT team performed/supported activities:

- Conduct requirements workshop for integration with Granite XP with Maximo 7.x system

- Conduct requirements workshop for integration with Crystal Reporting with Maximo 7.x system
- Assist with configuration of PBCWUD Crystal Reports server with Maximo 7.x system

CONSULTANT team Deliverable:

- Provide requirements documentation for Granite XP integration with Maximo
- Provide requirements documentation for Crystal Reporting integration with Maximo

### **Reconfigurations**

During this iteration, PBCWUD plans on reconfiguring the current EAM system to maintain compliance with licensing as well as bringing back in some out of the box functionality that was removed. CONSULTANT team will assist with gathering requirements and reconfiguring the purchase request process to include Desktop Requisition application usage. CONSULTANT team will also assist with reimplementing the Meter functionality in the EAM system. This will require requirement gathering, security modifications, data evaluation and cleansing, and populating new data to support the functionality.

CONSULTANT team performed/supported activities:

- Conduct requirements workshop for redesigning purchase/warehouse requisition requirements
- Develop a technical design document for Desktop Requisition application
- Miscellaneous Screen Changes
- Miscellaneous Data Loads
- Workflow build to support the purchasing requisition design
- Modify security changes to support the purchasing requisition design

CONSULTANT team Deliverable:

- Provide requirements documentation for requisition design
- Conduct screen changes (up to 5 applications) and data loading activities (up to 4 data loads) in the Production system
- Build one workflow for the Purchasing Requisition application

### **Iteration 4**

The primary activities of Iteration 4 that will require CONSULTANT team participation can be broken down into the following categories: Data, Environment, Integrations, Security, and Procedures.

#### **Data**

During this iteration, PBCWUD plans on undertaking extensive efforts to clean up and build out the data in the EAM system. These data efforts will be inclusive of meter based PM's, condition monitoring

points, warranty and service contracts, and setting up satellite warehouses in the trucks while setting inventory controls to maintain. CONSULTANT team will also assist in performing a review of the data in the old Maximo 6.2 environment to ensure critical data was transferred to the current EAM system.

CONSULTANT team performed/supported activities:

- Consulting Support and Data Loading for Meter based PM's and condition monitoring points
- Consulting Support and Data Loading for Warranty and Service contracts
- Consulting Support and Data Loading for Satellite Warehouses
- Review of Maximo 6.2 system data

CONSULTANT team Deliverable:

- Conduct data loading activities (up to 2 data loads) for the meters and condition monitoring data in the Production system
- Conduct data loading activities (up to 2 data loads) for the Warranty and Service contracts in the Production system Conduct data loading activities (up to 4 data loads) for the Inventory and Item Master applications in the Production system

### **Environment**

During this iteration, PBCWUD will implement the mobile solution to the I&I Team, Meter Shop, and Special Project Construction Team members. CONSULTANT team will assist in implementing of the mobile solution to these groups.

CONSULTANT team performed/supported activities:

- Assist with implementation of mobile solution for I & I Team, Meter Shop, and Special Project Construction Team

CONSULTANT team Deliverable:

- Provide implementation support for mobile rollout for 3 shops

### **Integrations**

During this iteration, PBCWUD plans on determining the integration points and configuring the current EAM system with SharePoint. SUBCONSUTANT will assist in conducting the necessary workshops for SharePoint requirements. CONSULTANT team will assist with configuring SharePoint with the EAM system.

CONSULTANT team performed/supported activities:

- Conduct workshops for requirements for SharePoint integration
- Develop technical design document for SharePoint integration

CONSULTANT team Deliverable:

- Provide requirements documentation from SharePoint workshop
- Provide technical design documentation from SharePoint requirements

### **Procedures**

During this iteration, PBCWUD plans on defining procedures for failure reporting on assets when conducting a work order. CONSULTANT team will assist with implementing business best practices with creating and implementing failure codes with their perspective problems, causes, and remedies.

CONSULTANT will provide cursory support to CONSULTANT team during the definition of procedures for failure reporting on assets with the purpose to coordinate these work process with the business processes identified during the asset management framework assessment.

CONSULTANT team performed/supported activities:

- Consult with PBCWUD team to provide guidance in best practices on failure reporting procedures

CONSULTANT team Deliverable:

- Provide documentation for best practices on Failure Reporting

### **Security**

During this iteration, PBCWUD would like to conduct a formal audit of the security groups to ensure that all licensing of the current EAM system is within compliance. CONSULTANT team will assist with the security audit.

CONSULTANT team performed/supported activities:

- Conduct an audit of licensing compliance for Maximo 7.x system
- Develop a recommendation document for licensing and security modifications

CONSULTANT team Deliverable:

- Provide audit documentation for licensing and security modifications

### **Terms and Assumptions**

- PBCWUD will provide key resources in a timely manner as the services are provided and will be made available via telephone after the on-site phase of the Site Assessments for follow-up and clarification.
- PBCWUD will be adequately prepared for on-site visits by CONSULTANT team consulting personnel.



**PROJECT SCHEDULE**

CONSULTANT team will complete the scope of services identified for CSA 10 in a time period of approximately nine months from the effective date of project commencement.

**COMPENSATION**

CONSULTANT team will provide the services set forth in the above scope of services for a lump sum amount of \$695,340.77. Upon request, CONSULTANT team may provide additional services through supplements to this CSA. Such supplemental services may include additional meetings, analyses, or other related services.

**SBE PARTICIPATION**

SBE participation is included in Attachment F under this authorization. The attached Schedule 1 defines the SBE applied to this CSA/Contract and Schedule 2 establishes the SBE contribution from each subcontractor (Letter of intend to perform as an SBE).

ATTACHMENT – C  
PROJECT SCHEDULE

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

<u>Engineering Services</u>	<u>Completion Date from Notice-to- Proceed</u>
	Nine months

The nine months are from the effective date of project commencement. The proposed schedule is contingent upon PBCWUD providing the necessary data and information in a timely manner. Commencement of each task will be coordinated with PBCWUD staff.

Palm Beach County Water Utilities Department, FL  
 CSA No. 10 - Asset Management Framework Assessment, Asset Inventory and Maximo Reconfiguration - Iterations 3 & 4  
 Attachment B. Budget Summary



Task Description	Project Director	Sr. Project Manager	Sr. Technical Specialist	Technical Specialist	Senior Engineer	Senior Administrator	Subs and Expenses				Totals		
							SBEs	Markup	All Other	Total	Hours	Cost	
CSA No. 10 - Asset Management Framework								10%					
<b>Framework Assessment</b>													
Task 1	Project Kick-off and Document Review		8	32	16	20	4			\$1,000.00	\$1,000.00	80	\$16,558.37
Task 2	Interviews and meetings	16	12	86	40	36				\$6,000.00	\$6,000.00	190	\$46,880.90
Task 3	Gap analysis and Results Workshop	4		24	8	16					\$0.00	52	\$10,800.00
	Results Workshop	12	8	24	18	8				\$2,400.00	\$2,400.00	70	\$18,363.93
	Gap Analysis Report	4	4	24	8	16	8				\$0.00	64	\$12,405.85
	<b>Subtotal</b>	<b>36</b>	<b>32</b>	<b>190</b>	<b>90</b>	<b>96</b>	<b>12</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$9,400.00</b>	<b>\$9,400.00</b>	<b>456</b>	<b>\$105,009.04</b>
<b>Roadmap Development</b>													
Task 4	Asset Management Roadmap Development	4	8	34	24	40					\$0.00	110	\$21,519.93
	Roadmapping Workshop	8	8	16	12	8				\$2,000.00	\$2,000.00	52	\$13,637.93
	Finalize Roadmap and Presentation		12	28	16	8	8			\$1,000.00	\$1,000.00	72	\$15,083.78
	<b>Subtotal</b>	<b>12</b>	<b>28</b>	<b>78</b>	<b>52</b>	<b>56</b>	<b>8</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$3,000.00</b>	<b>\$3,000.00</b>	<b>234</b>	<b>\$50,241.64</b>
<b>Asset Inventory - Holtz</b>													
	Facility Walk-down, Asset Inventory and Workshops		32				4	\$189,760.00	\$18,976.00		\$208,736.00	36	\$216,236.16
	<b>Subtotal</b>	<b>0</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>\$189,760.00</b>	<b>\$18,976.00</b>	<b>\$0.00</b>	<b>\$208,736.00</b>	<b>36</b>	<b>\$216,236.16</b>
<b>Maximo Iterations 3 &amp; 4 - EDI</b>													
	Iterations 3 and 4		8	40				\$283,480.00	\$28,348.00	\$1,000.00	\$312,828.00	48	\$323,853.93
	<b>Subtotal</b>	<b>0</b>	<b>8</b>	<b>40</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>\$283,480.00</b>	<b>\$28,348.00</b>	<b>\$1,000.00</b>	<b>\$312,828.00</b>	<b>48</b>	<b>\$323,853.93</b>
	<b>Totals</b>	<b>48</b>	<b>100</b>	<b>308</b>	<b>142</b>	<b>152</b>	<b>24</b>	<b>\$473,240.00</b>	<b>\$47,324.00</b>	<b>\$13,400.00</b>	<b>\$533,964.00</b>	<b>774</b>	<b>\$695,340.77</b>
	Multiplier, per Contract		3.0										
	Average Raw Billing Rate		\$112.00	\$74.41	\$77.00	\$63.00	\$50.00	\$29.70					
	<b>Project Total</b>	<b>\$16,128.00</b>	<b>\$22,324.13</b>	<b>\$71,148.00</b>	<b>\$26,838.00</b>	<b>\$22,800.00</b>	<b>\$2,138.64</b>	<b>\$473,240.00</b>	<b>\$47,324.00</b>	<b>\$13,400.00</b>	<b>\$533,964.00</b>	<b>774</b>	<b>\$695,340.77</b>

**SCHEDULE 1**

**LIST OF PROPOSED SBE-M/WBE CONSULTANT/SUBCONSULTANTS**

Asset Management Framework Assessment, Asset Inventory and

PROJECT NAME: Maximo Reconfiguration - Iterations 3 & 4

PROJECT NO. 14-018

NAME OF PRIME CONSULTANT: Black & Veatch Corporation

Consulting services for the development of an assessment of PBCWUD's Asset Management

DESCRIPTION OF WORK: Framework, completion of an Asset Inventory and Iterations 3 & 4 for the Maximo Reconfiguration.

**PLEASE IDENTIFY ALL APPLICABLE CATEGORIES OF CONSULTANT/SUBCONSULTANTS**

Name, Address and Phone Number	(Check one or both Categories)		Consultant/Subconsultant Percentage of Work					
	<u>M/WBE</u>	<u>SBE</u>						
	Minority Business	Small Business	Black	Hispanic	Women	Caucasian	Other (Please Specify)	
1. Holtz Consulting Engineers, Inc. 50 South US Highway One, Suite 206 Jupiter, FL 33477 (561) 575-2005	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	_____	\$94,880.00	\$94,880.00	_____	_____	
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	\$94,880.00	\$94,880.00	_____	_____	
Total SBE-M/WBE Participation			\$189,760.00	%				

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

**ATTACHMENT D**

**SCHEDULE 2**

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

PROJECT NO. 14-018 PROJECT NAME: Asset Inventory  
TO: Black & Veatch Corporation  
(Name of Prime Bidder)

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

Small Business Enterprise  Minority Business Enterprise

Black  Hispanic  Women  Caucasian  Other (Please Specify) \_\_\_\_\_

Date of Palm Beach County Certification: October 3, 2013

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

Line Item/Lot No.	Item Description	Qty / Units	Unit Price	Total Price
<u>1</u>	<u>PBCWUD Asset Inventory Engineering Services for Zones 1-6.</u>	<u>1</u>	<u></u>	<u>\$189,760.00</u>

at the following price  
\$ 189,760.00  
(Subconsultant's Quote)

And will enter into a formal agreement for work with you conditioned upon your execution of a contract with Palm Beach County. If undersigned intends to sub-subcontract any portion of this subcontract to a non-certified SBE subconsultant, the amount of any such subcontract must be stated:  
\$ 0

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 Subconsultant)

By: [Signature]  
(Signature)

Andrea Holtz  
(Print name/title of person executing on behalf of SBE-M/WBE Subconsultant)

Date: 2-6-15





ATTACHMENT - F

AUTHORIZATION STATUS REPORT

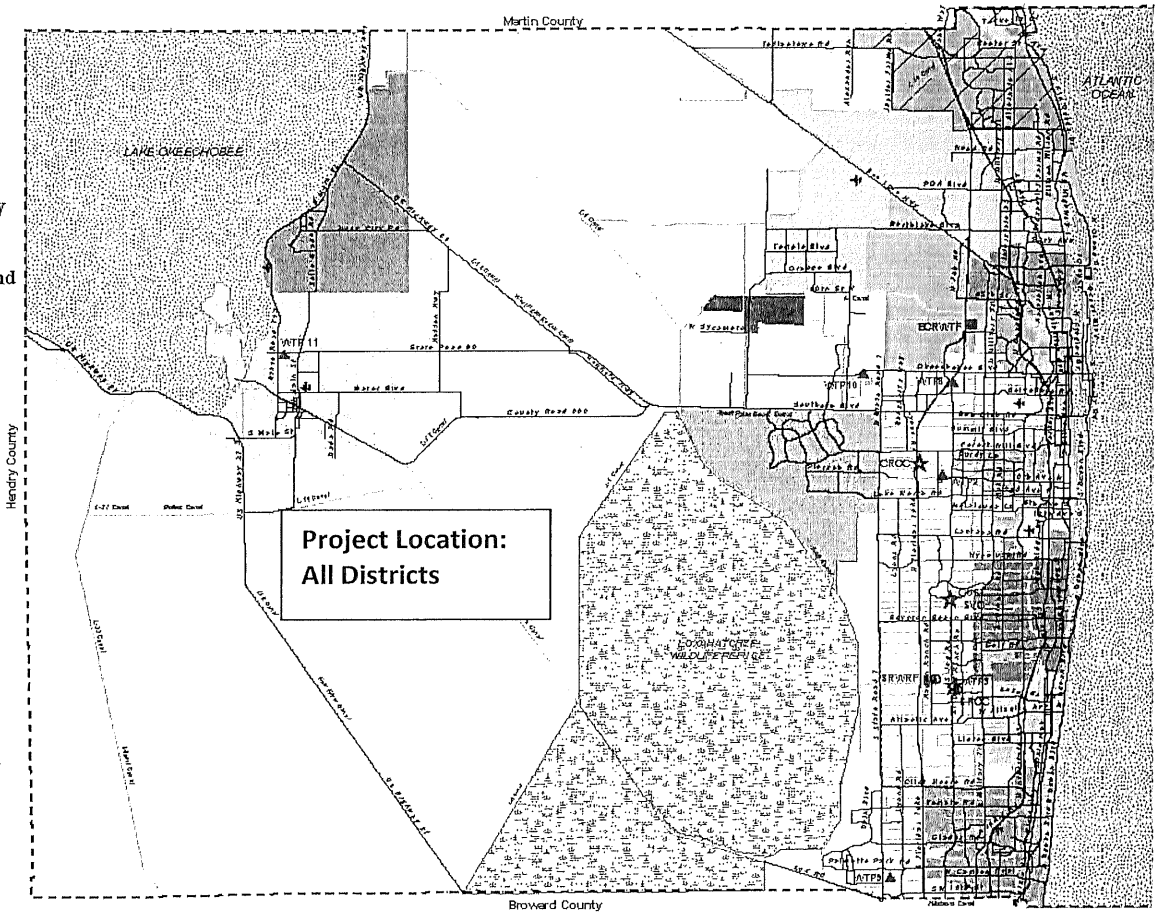
SUMMARY OF  
SBE / MINORITY BUSINESS TRACKING

	Total	SBE
<b>Current Proposal</b>		
Value of Authorization No. 10	\$ 695,340.77	
Value of SBE - M/WBE Letters of Intent	\$ 189,760.00	\$ 189,760.00
Actual Percentage	27.29%	27.29%
<b>Signed Authorizations</b>		
Total Value of Authorizations	\$606,168.45	
Total Value of SBE - M/WBE Signed Subcontracts	\$48,600.00	\$48,600.00
Actual Percentage	8.01%	8.01%
<b>Signed Authorizations Plus Current Proposal</b>		
Total Value of Authorizations	\$ 1,301,509.22	
Total Value of Subcontracts & Letters of Intent	\$ 238,360.00	\$238,360.00
Actual Percentage	18.31%	18.31%
<b>GOAL</b>	15.00%	18.31%

ATTACHMENT G – LOCATION MAP



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



Legend

- PBC WUD UTILITY SA
- - - Palm Beach County Limits
- ..... Mandatory Reclaimed SA
- ★ Administration
- Water Reclamation Facility
- ▲ Water Treatment Facility
- ⊙ Wetlands

