

PALM BEACH COUNTY
BOARD OF COUNTY COMMISSIONERS
AGENDA ITEM SUMMARY

Meeting Date: September 13, 2016 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. 12 for the Water Treatment Plant (WTP) Nos. 2, 3, 8, 9 and 11 Lead and Copper Study Project (Project) with Kimley-Horn and Associates, Inc. in the amount of \$122,331.50.

Summary: On June 3, 2014, the Board of County Commissioners (BCC) approved the Water Utilities Department (WUD) Engineering/Professional Services Contract (Contract) with Kimley-Horn and Associates, Inc. (R2014-0829). CSA No. 12 provides for a lead and copper study that will be used as a baseline for treatment optimization and to evaluate the impact of future changes in the water treatment processes. Data collection equipment will be installed at the WTPs and in the distribution system and plant staff will be trained in their operation. The Small Business Enterprise (SBE) participation goal established by the SBE Ordinance (R2002-0064) is 15% overall. The Contract provides for SBE participation of 20%. CSA No. 12 includes 19.8% overall participation. The cumulative SBE participation is 19.64% overall. Kimley-Horn and Associates, Inc. is a Palm Beach County company. The Project is included in the FY16 Capital Improvement Plan adopted by the BCC. (WUD Project No. 16-072) Districts 2, 3, 5 and 6 (MJ)

Background and Justification: WUD is taking a proactive approach to improve water quality and anticipates that future EPA rules on lead and copper will become more stringent. CSA No. 12 provides for a study that will aid in the optimization of water treatment and provide rapid testing of the corrosivity of the finished water. The study will determine if there are any significant differences in lead and copper corrosion rates for the water produced at the various treatment plants which may indicate the need for treatment improvements. Kimley-Horn and Associates will utilize Steven J. Duranceau, Ph.D., P.E., a nationally known corrosion expert, to assist with this study. Currently, only WTP No. 11 is using an orthophosphate corrosion inhibitor in the finished water. The test racks for lead corrosion will have instrumentation that provides continuous data on electrochemical corrosion rates. Copper pipe loops using continuous flow through pipe racks will be used to evaluate the potential for copper pitting and corrosion.

Attachments:

- 1. Location Map
- 2. Two (2) Original CSA No. 12

Recommended By: Jim Stiles 8-15-16
Department Director Date

Approved By: Sharon G. G. 8-29-16
Assistant County Administrator Date

II. FISCAL IMPACT ANALYSIS

A. Five Year Summary of Fiscal Impact:

Fiscal Years	2016	2017	2018	2019	2020
Capital Expenditures	<u>\$122,332</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>\$122,332</u>	<u><u>0</u></u>	<u><u>0</u></u>	<u><u>0</u></u>	<u><u>0</u></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 capital expenditure from user fees with balances brought forward.

C. Department Fiscal Review: Delram West

III. REVIEW COMMENTS

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

OFMB ET 8/4 8/5

D. J. Sant
Contract Development and Control
8/19/16

B. Legal Sufficiency:

 8/22/16
Assistant County Attorney

C. Other Department Review:

Department Director

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

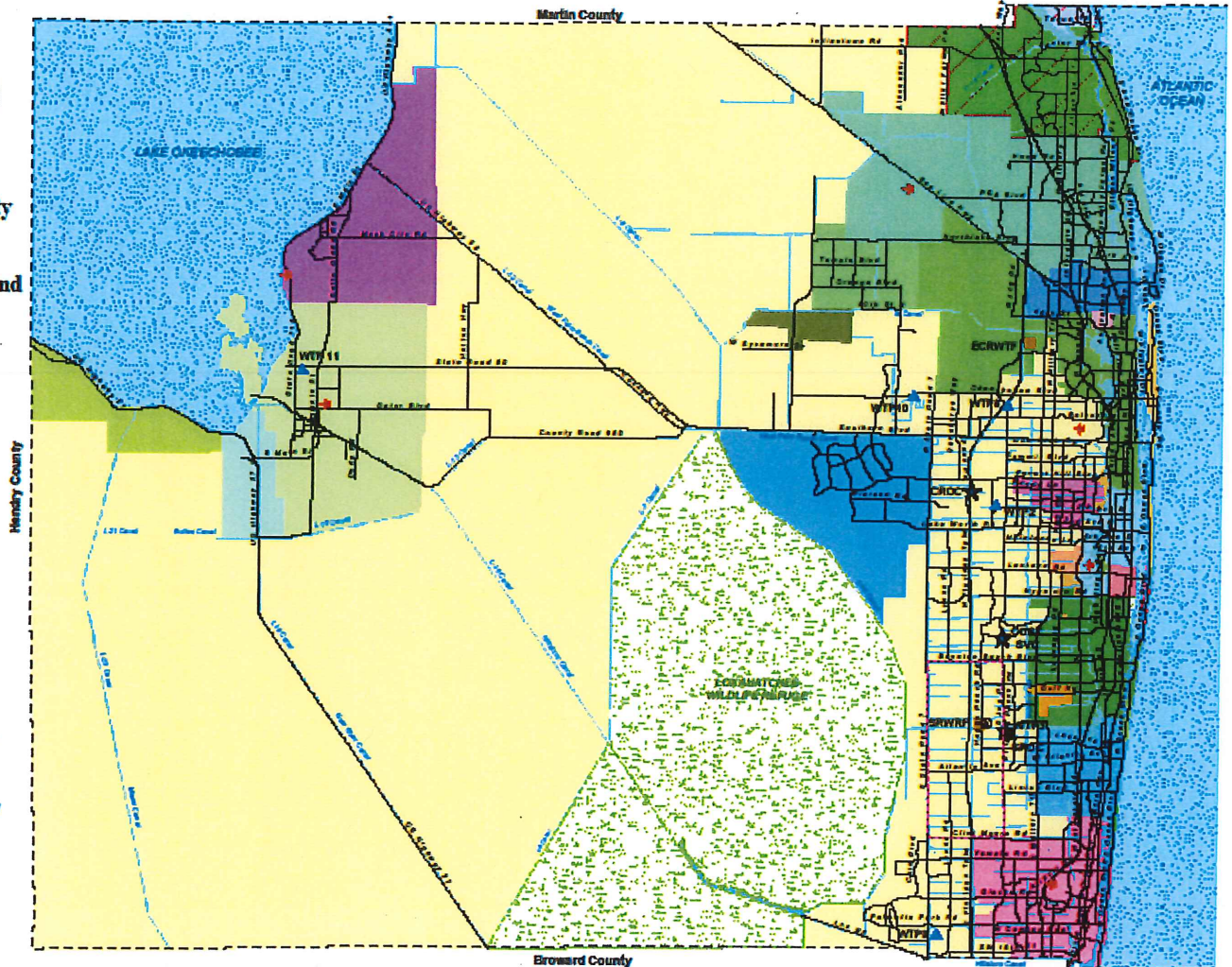
ATTACHMENT 1 Location Map



**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



WUD 16-072 - Lead & Copper Corrosion Study – WTP #2, #3, #8, #9 and 11

CONSULTANT SERVICES AUTHORIZATION NO. 12

Project Title: Lead and Copper Corrosion Study – Water Treatment Plants #2, #3, #8, #9 and #11

Project No. WUD: 16-072

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

District No.: 2, 3, 5 and 6

THIS AUTHORIZATION No. 12 to the Contract for Consulting/Professional Services dated 6/3/2014 (R2014-0829) 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 20% SBE participation overall. This Consultant Services Authorization includes 19.80% overall participation. The cumulative SBE participation, including this authorization is 18.30% overall.

1. CONSULTANT: Kimley-Horn and Associates, Inc.
2. ADDRESS: 1920 Wekiva Way, West Palm Beach, FL 33411
3. Description of Services to be provided by the Consultant:

Consultant will conduct a lead and copper corrosion study for water treatment plants' #2, #3, #8, #9 and #11.

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 \$ N/A
 - B. Fixed price of \$122,331.50
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 16-072 Consultant Services Authorization No. 12

Project Title: Lead and Copper Corrosion Study – Water Plant #2, #3, #8, #9 and #11

8. SBE participation is included in Attachment D under this Authorization. The attached Schedule 1 defines the SBE applied to this Authorization and Schedule 2 establishes the SBE contribution from each subconsultant (Letter of Intent to Perform as an SBE).
9. EXCEPT AS HEREBY AMENDED, CHANGED OR MODIFIED, all other terms, conditions and obligations of the Contract dated 6/4/2014 remain in full force and effect.

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: _____

Mary Lou Berger, Mayor

Typed Name: _____
Deputy Clerk

Date

Approved as to Form and Legal
Sufficiency

Signed: _____

Typed Name: Michael W. Jones
County Attorney

CONSULTANT: _____

(Signature)

Kevin Schanen, V.P.
(Name and Title)

Date

LIST OF ATTACHMENTS

Project No. WUD 16-072 Consultant Services Authorization No. 12

Project Title: Lead and Copper Corrosion Study – Water Treatment Plants #2, #3, #8, #9 and #11

ATTACHMENT - A	Scope of Work
ATTACHMENT - B	Budget Summary
ATTACHMENT - C	Project Schedule
ATTACHMENT - D	SBE Schedule 1, 2, 3a and 4
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
CONSULTANT SERVICES AUTHORIZATION NO. 12
PALM BEACH COUNTY WATER UTILITIES DEPARTMENT
ENGINEERING/PROFESSIONAL SERVICES
SCOPE OF WORK
FOR

Lead and Copper Corrosion Study – Water Treatment Plants #2, #3, #8, #9 and #11

INTRODUCTION

Palm Beach County (COUNTY) entered into an agreement entitled Contract for Engineering/ Professional Services - Palm Beach County Utilities Department Project No. WUD 14-007 (CONTRACT) with Kimley-Horn and Associates, Inc. (CONSULTANT) to provide engineering services for various general activities (Reference Document R2014-0829). This Consultant Service Authorization will be performed under that CONTRACT.

BACKGROUND

PBCWUD requested that KHA, the consultant, review operating protocols relative to operations that could affect the corrosive characteristics of produced water, establish a baseline for the corrosive characteristics of produced water by conducting corrosion test racks, and train plant staff in the operation of corrosion test racks at water treatment plant (WTP) 2, 3, 8 and WTP 9 as well as one corrosion test rack in the distribution system served by each WTP. It is assumed that the point of entry (POE) for each WTP will be the source of water for each of the test racks. The four (4) water treatment plants in this study are interconnected.

Copper pipe loops using continuous flow through pipe racks should be implemented at water treatment plants 2, 3, 8, 9 and 11, concurrent with the coupon test racks to evaluate the potential for copper pitting and corrosion. A copper corrosion study evaluating copper corrosion and pitting was conducted at WTP #9 in 2012 by Carollo Engineers, which recommended similar study be conducted at these other water treatment plants. Since a flow through copper corrosion study was already conducted at WTP #9, one will be conducted at WTP #11 concurrent with the coupon corrosion study currently being conducted under CSA #3. Kimley-Horn is currently performing similar corrosion studies at Water Treatment Plant #11 under CSA #3.

The results of this study are intended to provide a baseline as future plant improvements may change water quality. The study will determine if there are any significant differences in lead and copper corrosion for the water produced at the various treatment plants which may indicate the need for treatment improvements. Currently, only water treatment plant #11 is using an orthophosphate corrosion inhibitor in the finished water. This study will aid in the optimization and rapid testing of lead and copper corrosion.

SCOPE OF SERVICES

CONSULTANT shall perform the engineering Scope of Services as described herein.

Task 1 - COLLECT DATA & PREPARE PROTOCOL

Consultant will attend a kick-off meeting to discuss the approach to coupon testing, protocol, and goals of the project.

Consultant will conduct one site visit at each WTP and interview day shift staff during the site visit, as selected by PBCWUD, regarding operating procedures that are related to the stability and corrosive nature of produced water. During this meeting the location of the corrosion test rack at the plant site measuring point of entry (POE) water will be determined. Additionally PBCWUD distribution personnel are expected to be present and a selection made of the site for installation of the distribution system corrosion test rack. This meeting and plant site visit will include a visit to the remote distribution system location.

Consultant will collect water quality provided by PBCWUD for each water plant, consisting of finished water quality for the following:

- Alkalinity
- Hardness
- pH
- Calcium
- Chlorides
- Sulfate
- Total Dissolved Solids
- corrosion inhibitor types and dosages

Consultant will tabulate this data for review by the Consultant and Sub Consultant Dr. Steven Duranceau. The consultant will issue a Technical Memorandum describing the data, any findings resulting from that data review, and provide any suggestions for other data to be collected and to begin acquiring on a routine basis at each plant. Consultant will review historical water system lead and copper testing results. Provide preliminary recommendations for changes in finished water quality, which may include industry standards of alkalinity and pH adjustment, calcium hardness adjustment, and corrosion inhibitors.

Consultant will establish operating protocol for corrosion test racks at each WTP and a description and operating protocol of each remote location. Each rack will use LPR type probes and a hand-held data logger. Consultant will provide a written protocol for test program to eliminate hex at WTP 2 and 8.

Task 2 - COUPON AND COPPER LOOP RACKS AND TRAINING

Consultant will obtain and have fabricated two (2) parallel flow coupon test racks (one for lead, one for copper) for each WTP (#2, 3, 8, and 9) and remote site, 16 total racks, and two (2) flow through copper pipe loops at each WTP and remote site for WTP 2, 3, 8, and 11, eight (8) total flow through copper pipe loop racks. The racks will each have positions for one (1) LPR probe and two (2) coupons for three (3) total positions, and flow through copper pipe loop connected to the same manifold for each coupon test rack. Consultant will set up each corrosion test rack and coordinate with operations staff on the source water for the rack water supply. PBCWUD will provide 32 (16 coupon and 16 copper loops) 5/8"X3/4" water meters, one for each rack, to measure instantaneous and total flow through each rack.

Consultant will coordinate with PBCWUD to purchase for each plant and distribution location, four (4) LPR Data Loggers, and 16 brass and lead electrodes and coupons.

Consultant will conduct training sessions with up to 4 staff at each WTP in the reading, care and operation of corrosion racks using LPR probes and data logger. Training sessions will be up to 2 hours long and be consolidated into two days with one meeting at each water plant.

Consultant will conduct weekly testing of the copper loops, consisting of the following data:

- Electrical potential (mV)
- D.O. (dissolved oxygen)

PBCWUD staff will collect water quality data concurrently, consisting of the following data:

- Total and Free chlorine
- pH
- Alkalinity
- Chloride
- Sulfate
- Temperature
- Conductivity

Consultant will furnish an instrument to measure electrical potential and dissolved oxygen and conduct the testing at each site (4 WTP's, and 4 distribution locations)

Task 3 - COLLECT COUPON AND COPPER LOOP RACK DATA

Each coupon rack will be operated for a 21 day pre-corrosion period to allow improved accuracy of the corrosion rates. Consultant will operate and take readings at each corrosion test rack for a period of one (1) week initially to develop baseline data on water produced at each WTP. After the first week of daily data gathering by Consultant, readings will be taken by the WTP staff on Monday, Wednesday, and Friday for the next two (2) weeks of pre-corrosion and then the subsequent seven (7) weeks. Consultant will visit each WTP weekly during this nine (9) weeks to download data from the data loggers.

Consultant will visit each test rack at the conclusion of the 21 day pre-corrosion operation to remove one lead and one copper coupon from each rack. Consultant will send these coupons to an accredited laboratory for weighing and microscopic analysis.

Consultant will visit each test rack at the conclusion of the 7 week corrosion operation to remove one lead and one copper coupon from each rack. Consultant will send these coupons to an accredited laboratory for weighing and microscopic analysis.

Consultant will conduct copper loop testing weekly, concurrently with the coupon testing for the first 9 weeks, then for an additional 11 weeks up to 20 weeks of monitoring and testing of the copper loop racks. Consultant will remove the copper pipe loops approximately every 6 weeks for forensic analysis consisting of cutting, inspecting, cleaning, and measuring thickness of copper pipe wall using a digital micrometer.

Consultant will collect and assimilate the data from each site and maintain historical trends of coupon corrosion and copper pitting rates.

Task 4 - PREPARE REPORT AND MEETINGS

Consultant will prepare a report for all 4 plants providing findings and baseline conditions relative to the corrosive nature of water produced at each plant. The report will consist of recommendations for operating protocol or data gathering. The reports will be reviewed as DRAFT documents during one meeting with PBCWUD staff.

Comments accepted during the review meetings will be incorporated and the reports will issued as FINAL.

Consultant will attend progress meetings which will be conducted every 2 months up to 5 meetings, and Consultant will prepare and distribute meeting minutes from these meetings.

The total duration of coupon testing is anticipated to be 9 months, and duration of the copper loop testing up to 20 weeks.

Technical support and review of protocols and development of the final report will be in conjunction with Dr. Steven J. Duranceau for University of Central Florida.

ITEMS TO BE PROVIDED BY OWNER

Kimley-Horn shall be entitled to rely on the completeness and accuracy of all information provided by the PBCWUD. The PBCWUD shall provide all information and services requested by Kimley-Horn during the project including, but not limited to, the following:

- Available Record Drawings and Data in electronic portable document format (PDF)
- Access to the plant facility

DELIVERABLES

The following deliverables will be provided as a result of the efforts described in the Scope of Services:

- Draft Corrosion Control Report Summary (8 copies)
- Final Report (8 copies with CD)

Electronic versions of all deliverables shall be provided in both native (e.g. DOC, XLS, DWG, etc.) and PDF file formats.

COMPENSATION

The services included in this CSA are based on a lump sum value of \$122,331.50

Refer to Attachment B – Budget Summary for a further breakdown of the fee.

SBE PARTICIPATION

1. SCHEDULE 3(A) – Professional Services Activity Report

This form shall be submitted by the prime contractor with each payment application when SBE and/or M/WBE sub-consultants are utilized in the performance of the contract. This form shall contain the names of all SBE and M/WBE sub-consultants, specify the sub-consultants dollar amount for each sub-consultants and show amount drawn and payments to date issued to sub-consultants.

2. SCHEDULE 4 – SBE-M/WBE Payment Certification

A schedule 4 for each SBE and/or M/WBE sub-consultant shall be completed and signed by the proposed SBE and/or M/WBE after receipt of payment from the prime. When applicable, the prime shall submit this form with each application submitted to the county for payment to document payment issued to a sub-consultant in the performance of the contract.

SBE participation is included in the **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 Intent to Perform as an SBE).

ATTACHMENT - B

BUDGET SUMMARY									
Task	Task Description	Labor Classification and Hourly Rate							Sub
		Principal	Senior	Project		Analyst/ Intern Engineer	Snr Support Staff	Total	
Number	Task Description		Pr. Engineer	Engineer	Designer			Labor	Services
1	COLLECT DATA & PREPARE PROTOCOL								
	Kickoff meeting	4	4		4		2	\$2,201.70	\$1,000
	WTP Plant site visit & distribution system visit	8	8		16		2	\$5,034.90	\$1,600
	Collect and review FW water quality, prepare TM	12	3		24		4	\$5,805.90	\$1,000
	Prepare operating protocol	6			16		4	\$3,127.80	\$600
	Subtotal Task 1	30	15	0	60	0	12	\$16,170.30	\$4,200
2	COUPON RACKS AND TRAINING								
	Obtain and install test racks	10	6		50		6	8,631.30	\$10,684
	Construct copper loop racks and install	8			40	20		7,384.80	\$3,394
	Staff training, develop course, 2 days		6		24		4	3,812.40	
	Subtotal Task 2	18	12	0	114	20	10	19,828.50	\$14,078
3	COLLECT COUPON RACK DATA ALL WTPs								
	Data collection, 8 sites, 3 reads, 1 hr each	8					32	3,993.60	
	Collect Data 9wks, 8 sites, 1.5 hrs ea (CMA)	4			2	2	72	6,325.20	\$24,225
	Copper loop pipe testing (11 weeks total)	4					88	7,083.60	
	Assimilate data	6		26				4,719.60	
	Subtotal Task 3	22	0	26	2	2	192	22,122.00	\$24,225
4	PREPARE REPORT AND MEETINGS								
	Prepare Draft Report	4	24			44	2	9,786.90	\$1,600
	Progress meetings	6	10			20	4	5,389.20	
	Final Report	6	6			12	12	4,431.60	
	Subtotal Task 5	16	40	0	0	76	18	\$19,607.70	\$1,600
	Labor Subtotal Hours	86	67	26	176	98	232		685
	Labor Raw Costs	\$72.20	\$67.30	\$43.85	\$32.20	\$29.80	\$23.55		
	Labor Multiplier	3.0	3.0	3.0	3.0	3.0	3.0		
	Labor SubTotal	216.60	201.90	131.54	96.60	89.40	70.65		
	Labor Total	\$18,627.60	\$13,527.30	\$3,420.00	\$17,001.60	\$8,761.20	\$16,390.80	\$77,728.50	
								\$77,728.50	
	Subconsultant Labor Total	\$ -							44,103.00
	Subconsultant Multiplier								1.0
	Subcontract Total	\$ -							\$44,103.00
	Out of Pocket Expenses (mileage, copies, printing, etc)								\$500.00
	TOTAL	\$ -							\$122,331.50

ATTACHMENT - C

PROJECT SCHEDULE

Following are the completion dates for the referenced services (starting from CONSULTANT'S receipt of Notice-to-Proceed).

Engineering Services

Completion Date from Notice to Proceed

Task 1 – Collect Data, Prepare Protocol	8 weeks
Task 2 – Coupon Racks and Training	12 weeks
Task 3 – Collect Data	24 weeks
Task 5 – Prepare Report	36 weeks

ATTACHMENT D
SCHEDULE 1
LIST OF PROPOSED SBE-M/WBE CONSULTANT/SUBCONSULTANTS

PROJECT NAME: Lead and Copper Corrosion Study – WTP's 2, 3, 8, 9 and 11 PROJECT NO. WUD 16-072
NAME OF PRIME CONSULTANT: Kimley-Horn and Associates, Inc. ADDRESS: 561-845-0665 FAX NO. : 561-863-6392
DESCRIPTION OF SERVICES: Data Collection & Study

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

Name, Address and Phone Number	(Check one or both Categories)		Consultant/Sub-consultant Dollar Amount and Percentage of Services				
	<u>M/WBE</u>	<u>SBE</u>					
	Minority Business	Small Business	Black	Hispanic	Women	Caucasian	Other (Please Specify)
Chen Moore and Associates Consulting Engineers, Inc.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	_____	_____	_____	_\$24,225.00_	_____
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 SBE-M/WBE Participation 19.80_%		Total	_____	_____	_____	\$24,225.00_	

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

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

This document must be completed by **ALL** SBE-M/WBE's and submitted with this CSA. Specify in detail, the particular consulting services to be performed and the dollar amount and/or percentage for each services. SBE credit will only be given for services which the SBE-M/WBE's is certified to perform. Failure to properly complete Schedule 2 will result in your SBE participation not being counted.

PROJECT NUMBER: WUD 16- PROJECT NAME: Lead and Copper Corrosion Study – WTP 2, 3, 8, 9, and 11

TO: Kimley-Horn and Associates, Inc.
(Name of Prime Consultant)

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

Small Business Enterprise X Minority Business Enterprise X
Black Hispanic Women Caucasian X Other (Please Specify)

Date of Palm Beach County Certification: June 19, 2014

The undersigned is prepared to perform the following described consulting services in connection with the above project and will enter into a formal agreement for work with you, conditioned upon execution of a contract with Palm Beach County.

Additional Sheets May Be Used As Necessary

(Specify in detail the particular consulting services thereof to be performed)

Corrosion Measurements:

1. Training
2. Data Collection

Total SBE-M/WBE Participation 19.80%

If undersigned intends to sub-subcontract any portion of this job to a certified SBE-M/WBE or a non-SBE sub-consultant, please list the name of that sub-consultant and the amount below.

Price or Percentage \$24,225.00

Chen Moore and Associates Consulting Engineers, Inc.
(Name of Sub-consultant)

The Prime Consultant affirms that it will monitor the SBE-M/WBE listed to ensure the SBE-M/WBE perform the services with their own work force. The undersigned SBE-M/WBE Prime or SBE-M/WBE sub-consultant affirms that it has the resources necessary to perform the work listed without subcontracting to a non-certified SBE or any other certified SBE sub-consultants except as noted above.

The undersigned sub-consultant understands that the provision of this form to the Prime Consultant does not prevent sub-consultant from providing quotations to other.

Chen Moore Associates Consulting Engineers, Inc.

Print name of
SBE-M/WBE Sub-consultant

By: 
(Signature)

Suzanne Dombrowski, P.E.

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

Date: 6/6/16

OSBA Schedule 3(A)
PROFESSIONAL SERVICES ACTIVITY REPORT – N/A

Project No.: **WUD 16-072**

Task Authorization No: **12**

REPORTING PERIOD: _____

Prime Consultant Address: Kimley-Horn and Associates, Inc.
City/State: West Palm Beach, FL Zip 33411
Contact Person: Mark D. Miller Phone #561-845-0665
Contract Name: WATER PLANT & WATER RESOURCES ENGINEERING CONSULTING SERVICES
Contract Term: _____ Contract Amount: \$122,331.50
Total Percentage performed by the Prime's Firm: 80.20% SBE-M/WBE Firm: 19.80%
Service Type: Architectural _____ Engineering X Surveying _____
Other (Specify) _____
Have Sub-Consultants completed work with its own workforce for this application?
Yes _____ No _____

Note: If yes, complete below:

SUB-CONSULTANTS

1. Firms Name: Chen Moore Associates Consulting Engineers, Inc.
Address/Tel: 500 Australian Avenue South, Suite 530, West Palm Beach, FL (561)746-6900
Estimated Start Date: _____ Contract Amount: \$24,225.00
SCOPE OF WORK: Engineering & Data Collection
Percentage/Hrs Completed: _____ Amount Paid To Date _____
2. Firm's Name: _____
Address//Tel: _____
Estimated Start Date: _____ Contract Amount: _____
SCOPE OF WORK: _____
Percentage/Hrs Completed: _____ Amount Paid To Date _____
3. Firm's Name: _____
Address/Tel: _____
Estimated Start Date: _____ Contract Amount _____
SCOPE OF WORK: _____
Percentage/Hrs Completed: _____ Amount Paid To Date _____

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



Vice President

Signature/Title

OSBA SCHEDULE 4 - SBE-M/WBE PAYMENT CERTIFICATION

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

This is to certify that _____ received
(SBE or M/WBE Subcontractor Name)

(Monthly) or (Final) payment of \$ _____ . _____

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

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

DEPT.: _____ PROJECT NO.: _____

PRIME CONTRACTOR VENDOR CODE: _____

SBE OR M/WBE SUBCONTRACTOR VENDOR CODE: _____

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

*Subcontractor Name: _____ Amount to be paid: _____

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

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

STATE OF FLORIDA
COUNTY OF _____

Sworn to and subscribed before me this _____ day of _____, 20_____

By: _____

Notary Public, State of Florida

Print, Type or Stamp Commissioned Name of Notary

Rev.

Personally Known _____ OR Produced Identification _____ Type of Identification _____

Rev. 5

Last updated: 11/18/2011

ATTACHMENT E

AUTHORIZATION STATUS REPORT

SUMMARY AND STATUS OF REQUESTS FOR AUTHORIZATION

Auth. No.	Description	Status	Project Total Amount	SBE Total Amount	SBE Participation %	Approved By	Date Approved	WUD No. Assigned	Consultant's Project No.
1	WTP 11 Clearwell and Post-treatment Evaluation	Complete	\$78,082.40	\$7,000.00	8.96%	CRC	7/23/2014	14-073	144849005
2	General Water Plant Engineering Services	Approved	\$25,000.00	\$0	0%	Bevin Beaudet	7/8/2014	14-074	144849006
3	WTP 11 Distribution System Water Quality Evaluation & Corrosion Study	Approved	\$77,542.71	\$0	0%	CRC	10/8/2014	14-073	144849007
3.1	WTP 11 Distribution System Biofouling & Corrosion inhibitor Evaluation	Approved	\$49,559.94	\$0	0%	Jim Stiles	12/18/2015	14-073	144849007
4	WTP 3 Membrane Replacement Pilot Study	Approved	\$89,532.46	\$29,240.00	32.66%	CRC	2/27/2015	15-029	144840007
4.1	WTP #3 Membrane Replacement Impacts Evaluation	Approved	\$49,735.40	\$7,500	15.07%	Jim Stiles	10/20/2015	15-029	144840007
4.2	WTP #3 Membrane Replacement - Additional Membrane Pilot testing	Approved	\$30,198.50	\$0	0%	Jim Stiles	5/3/2016	15-029	144840007
5	WTP 11 - Priority 1 Clearwell Improvements	Approved	\$48,394.37	\$0	0%	Jim Stiles	4/22/2015	14-073	144840008
6	FPL Reclaimed Water Facility at ECRWRF Safety Review	Complete	\$8,153.76	\$0	0%	Jim Stiles	5/21/2015	15-050	144840009
7	Water Plant 11 Well PW-11 Design and Bidding Phase Services	Approved	\$90,163.08	\$63,935.00	70.91%	CRC	9/2/2015	15-058	144840010
8	Water Plant 11 Well Raw Watermain	Approved	\$39,010.52	\$8,100.00	20.76%	Jim Stiles	8/24/2015	15-059	144840011
8.1	Additional Services PW Raw Watermain	Approved	\$19,800	\$0	0%	Jim Stiles	6/27/2016	15-059	144840011
9	WTP #9 Sand Strainer Addition	Approved	\$32,296.12	\$3,500	10.83%	Jim Stiles	7/23/2015	15-087	144840012
10	WTP #3 Concrete Corrosion Study	Approved	\$96,974.00	\$20,950.00	21.60%	CRC	10/21/2015	15-094	144840013
11	WTP2 Conceptual Site Plan Study	Pending	\$99,866.50	\$24,500	25.28%			16-010	
12	WTP's #2, 3, 8, 9 Corrosion Control Study	Pending	\$122,331.50	\$24,225.00	19.80%			16-072	
13	WTP #11 Acid Elimination Evaluation		\$55,348.75	\$2,500	4.51%	CRC	6/1/2016	14-073	144840015
Total			\$1,011,990.01	\$191,450.00	18.91%				

ATTACHMENT - F

AUTHORIZATION STATUS REPORT

SUMMARY OF SBE / MINORITY BUSINESS TRACKING

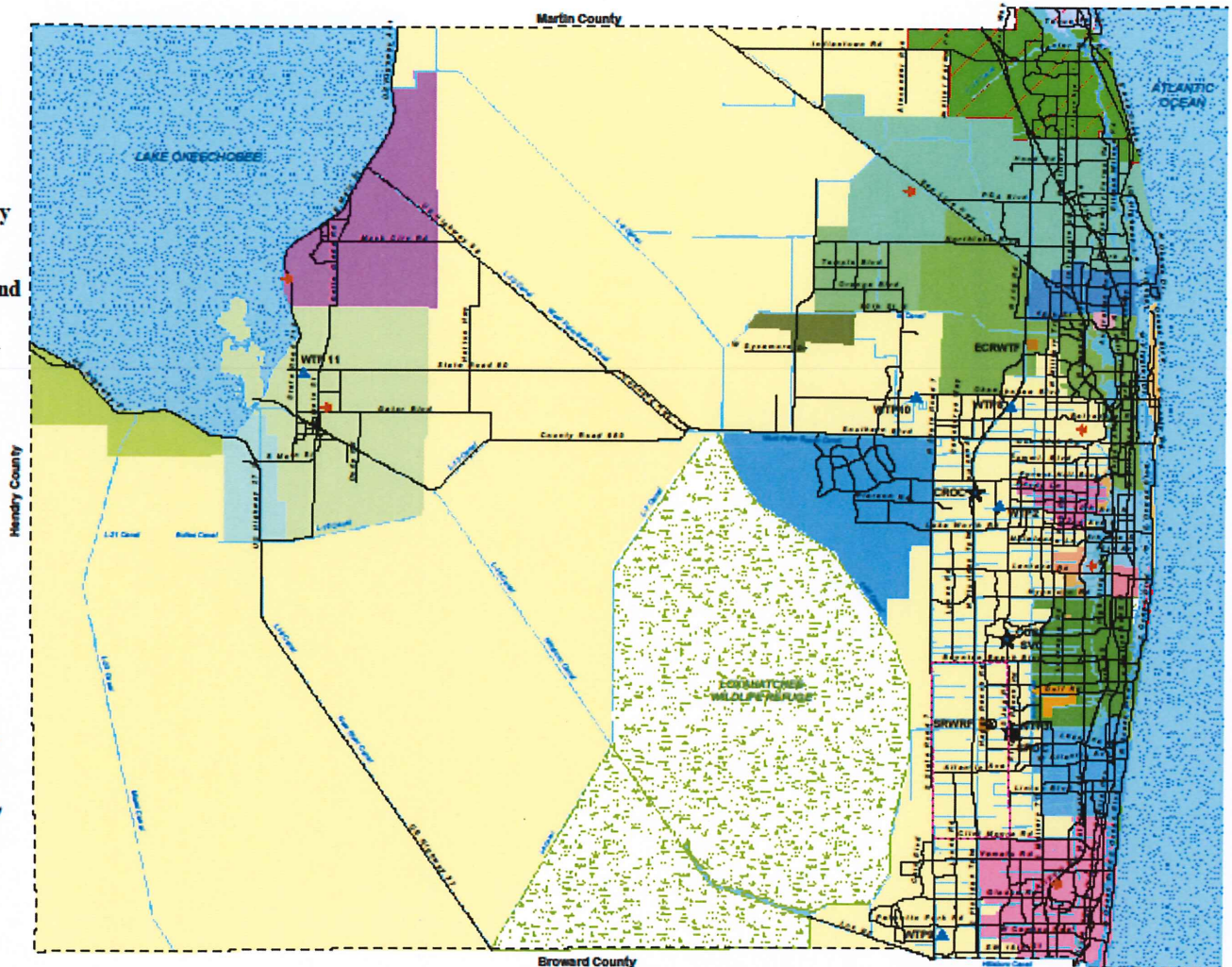
	Total	SBE	
Current Proposal			
Value of Authorization No. 12	\$122,331.50		
Value of SBE - M/WBE Letters of Intent	\$24,225.00	\$24,225.00	
Actual Percentage	19.80%		
Signed Authorizations			
Total Value of Authorizations	\$789,792.01		
Total Value of SBE - M/WBE Signed Subcontracts	\$142,725.00	\$142,725.00	
Actual Percentage	18.07%		
Signed Authorizations Plus Current Proposal			
Total Value of Authorizations	\$912,123.51		
Total Value of Subcontracts & Letters of Intent	\$166,950.00	\$166,950.00	
Actual Percentage	18.30%	18.30%	
GOAL	20.00%		

ATTACHMENT G Location Map



Legend

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



WUD 16-072 - Lead & Copper Corrosion Study – WTP #2, #3, #8, #9 and 11



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May 10, 2016

SENT VIA E-MAIL (John.Potts@kimley-horn.com)

Mr. John Potts
Kimley-Horn and Associates
1920 Wekiva Way, Suite 200
West Palm Beach, Florida 33411

Re: Palm Beach County Water Utilities Department Project WUD 14-007
Water Treatment Plant No. 3 Membrane Replacement & Corrosiveness Study
Additional Services Request: Eastern WTPs Corrosion Measurements
CMA Project No. 180.004

Dear Mr. Potts:

Chen Moore and Associates is pleased to submit this scope of services to assist with the corrosiveness study for various Water Treatment Plants for the Palm Beach County Water Utilities Department (PBCWUD).

INTRODUCTION

Chen Moore and Associates is currently working on with Kimley-Horn on the membrane replacement study for WTP 3, specifically the analysis of the Floridan Aquifer blend water and corrosive study for the concentrate and treated effluent. The study is being performed by Kimley-Horn and Associates under the General Consulting Services Contract. CMA has been requested to add to their scope of services to assist with the corrosiveness study for additional WTPs. The additional corrosiveness studies are being performed to evaluate the plant operations that may affect the corrosive character of the produced water.

Definitions

"Owner" of the property is the Palm Beach County Water Utilities Department (PBCWUD)

"Client" is Kimley-Horn and Associates (KHA)

"Consultant" is Chen Moore and Associates (CMA)

SCOPE OF SERVICES

Task 5 – Eastern WTPs Corrosion Measurements

- 5.1 Training: CMA will attend the first training session performed by KHA at the designated WTP. It is anticipated that this training session will review the procedures for operating and recording data from the corrosion test racks.
- 5.2 Data Collection: CMA will visit the 8 test units, 2 designated for each of the 4 eastern WTPs, and record the data readings. The visits will be performed once per week for 9 weeks. It is assumed that each rack will require two sets of data collection, one for lead and one for copper. CMA will tabulate the data collected by CMA staff, as well as County staff. CMA will make observations on



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the conditions and operation of the test racks. For this scope of services, it is assumed that each site visit (including the data tabulation and field observations) will take 3 hours.

The above scope of services and associated fee(s) are based on the following:

- Design and permit services are not included.
- KHA will obtain corrosion test racks, set them up and read the first week of data.
- Corrosion analysis and calculations are not included.
- Additional reimbursable expenses requested by the Client outside of the items for the tasks above, including delivery of additional copies of items or additional tests shall be invoiced as defined in our Subconsultant Agreement.
- Investigation of possible sources of corrosion will be performed by Client.
- Attendance at progress meetings is not included.
- Laboratory testing services are not included.

DELIVERABLES

CMA will provide the data tabulation in excel format. CMA will provide site reports to document the condition and observation of the test racks.

SCHEDULE AND FEES

Consultant will perform services as dictated by the contract between KHA and PBCWUD. Tasks 5 and 6 will be billed on a lump sum basis according to the percent complete. **The total fees for the project are \$24,225.00.** See Exhibit B for a detailed breakdown of fees.

Should you have any questions or comments please feel free to contact my office at (561) 746-6900 x1035, my mobile at (954) 650-7996 or my email at sdombrowski@chenmoore.com.

Respectfully Submitted,

CHEN MOORE AND ASSOCIATES
Suzanne Dombrowski, P.E.
Senior Engineer

EXHIBIT B

Kimley-Horn and Associates / PBCWUD
WTP 3 Membrane Replacement & Corrosiveness Study
Additional Services: Eastern WTPs Corrosion Measurements

Chen Moore and Associates Project # 180.004

	Subconsultant Costs	Professional Staffing							Total
		Clerical	CAD Technician	Inspector	Senior Inspector	Project Engineer	Senior Engineer	Project Manager	
Hourly Rate		\$70.00	\$75.00	\$88.00	\$136.00	\$100.00	\$125.00	\$155.00	\$210.00

Task 5 – Eastern WTP Corrosion Measurements

5.1 Training						3		3	\$765.00
5.2 Data Collection						216		12	\$23,460.00

Task 5 Total		\$0	\$0	\$0	\$21,900	\$0	\$2,325	\$0	\$24,225.00
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TOTAL**\$24,225.00**



DURANCEAU CONSULTING SERVICES, LLC

3820 Lake Mirage Boulevard

Orlando, FL 32817

sduranceau@aol.com

Florida Certificate of Authorization License No. 27510

July 11, 2016

Mr. Mark Miller, P.E.
Kimley-Horn & Associates, Inc.
1920 Wekiva Way, Suite 200
West Palm Beach, FL 33411

Re: Palm Beach County WUD 16-072 Lead and Copper Corrosion Study – Water Treatment Plants #2, #3, #8, #9 and #11

Duranceau Consulting Services, LLC (DCS) is pleased to provide to Kimley Horn & Associates, Inc. (Consultant) a scope of work and budget regarding a study Consultant is preparing for Palm Beach County Water Utilities Department (WUD), Florida. It is DCS's understanding that the City desires to have Consultant perform a Lead and Copper Corrosion Study for Water Treatment Plants #2, #3, #8, #9 and #11. The results of this study are intended to provide a baseline as future plant improvements may change water quality. The study will determine if there are any significant differences in lead and copper corrosion for the water produced at the various treatment plants which may indicate the need for treatment improvements. This study is intended to provide for optimization and rapid testing of lead and copper corrosion.

DCS Scope of Services

DCS will specifically provide peer review and advisory consulting services:

- Conduct at least one on-site meeting
- Review of initial data
- Review water quality goals and associated data
- Provide general (limited) and overall basic scan review of existing corrosion data
- Provide review of draft and final report

DCS Budget: Total Budget = \$5,800

Should you have any questions, or desire additional information, please contact me at your earliest convenience.

Prepared by:

Steven J. Duranceau, P.E. (Florida)
President, Duranceau Consulting Services, LLC

**KHA Purchase
LPR Total Costs**

Item	Unit Cost	Quantity	Total Cost
Corrosion Rack	\$350.00	16	\$5,600.00
Retractable Probe	\$188.55	16	\$3,016.80
Weight Loss Analysis	\$9.60	32	\$307.20
King Rotameter 7200 1/2"FNPT	\$110.00	16	\$1,760.00
Rack Wall w/ Mount	\$30.00	16	\$480.00

Subtotal **\$10,684.00**

**KHA Purchase
Copper Loop Costs**

1/2" Type M Copper Pipe	\$9.48	15	\$142.20
1/2" I.D. Clear PVC Tubing	\$8.38	15	\$125.70
Hose Clamps	\$0.98	210	\$205.80
PVC Pipe & Fittings	\$30.00	8	\$240.00
1/2" PVC Diaphragm Valve	\$175.00	8	\$1,400.00
King Rotameter 7200 1/2"FNPT	\$110.00	8	\$880.00
Loop Rack	\$50.00	8	\$400.00

Subtotal **\$3,393.70**

**PBCWUD Purchase
LPR Total Costs**

Item	Unit Cost	Quantity	Total Cost
Hand Data Logger MS 1500L	\$1,920.00	4	\$7,680.00
Red Brass (CDA 260) electrodes	\$64.50	16	\$1,032.00
Red Brass (CDA 260) Coupons	\$12.00	16	\$192.00
50/50 Lead/Tin Electrodes	\$140.00	16	\$2,240.00
50/50 Lead/Tin Coupons	\$131.00	16	\$2,096.00
Flow Totalizer (Badger)	\$240.00	16	\$3,840.00

TOTAL **\$17,080.00**

**KHA Purchase
Office Expense**

Item	Unit Cost	Quantity	Total Cost
Mitutoyo Point Micrometer	\$600.00	1	\$600.00

Subtotal **\$600.00**

**KHA Purchase
Office Expense**

Item	Unit Cost	Quantity	Total Cost
YSI Pro1020 Instrument	\$875.00	1	\$875.00
Field Cable	\$560.00	1	\$560.00
DO Sensor	\$180.00	1	\$180.00

Subtotal **\$1,615.00**