PALM BEACH COUNTY BOARD OF COUNTY COMMISSIONERS AGENDA ITEM SUMMARY

Meeting Date:

September 10, 2013

Consent [X]
Public Hearing []

Regular []

Department:

Water Utilities Department

I. EXECUTIVE BRIEF

Motion and Title: Staff recommends motion to approve: Consultant Services Authorization No. 34 with Hillers Electrical Engineering, Inc. (R2011-0637) for the Water Treatment Plant No. 3 (WTP 3) Programmable Logic Controller (PLC) Programming in the amount of \$174,902.00.

Summary: On May 3, 2011, the Palm Beach County Board of County Commissioners approved the continuing Contract for Electrical, Instrumentation and Telemetry Consulting Services with Hillers Electrical Engineering, Inc. (R2011-0637) to obtain engineering/professional service for utility related projects. The existing WTP 3 PLC's are becoming obsolete and are being upgraded to a newer version which is necessary to assure uninterrupted water treatment in the event of a PLC system failure. This Consultant Services Authorization will provide for re-programming of all plant functions controlled by the PLC's. The new PLC system will also improve operational efficiency through enhanced monitoring of electric power consumption. The Small Business Enterprise (SBE) participation goal established by the SBE Ordinance (R2002-0064) is 15% overall. The Contract with Hillers Electrical Engineering, Inc. provides for SBE participation of 80% overall. This authorization includes 100% overall participation. The cumulative SBE participation, including this Consultant Services Authorization is 100% overall. Hillers Electrical Engineering, Inc. is a local Company. (WUD Project No. 13-086) District 5 (JM)

Background and Justification: WTP 3 was constructed with the Allen-Bradley Series 5 PLC's which are no longer manufactured. Replacing the existing PLC's with the newer ControlLogix Series provides for continual support and replacement parts. PLC's are industrial computers which interface between the personal computers used by the plant staff and the instruments, motor controllers and motorized valves that control the various plant functions. Hillers Electrical Engineering, Inc. has successfully completed a similar PLC programming project for conversion to ControlLogix at WTP 9. This Authorization provides the funding for Hillers Electrical Engineering, Inc. to program the replacement ControlLogix PLC's at WTP 3.

Attachments:

1. Location Map

2. Two (2) Original Consultant Service Authorization No. 34

Recommended By:

Department Director

Data

Approved By:

Assistant County Administrato

Date

II. FISCAL IMPACT ANALYSIS

Five Year Summary of Fiscal Impact: A. 2017 **Fiscal Years** 2013 2014 2015 2016 0 0 0 0 \$174,902.00 Capital Expenditures 0 **External Revenues** 0 0 0 0 Program Income (County) 0 0 0 0 In-Kind Match County **NET FISCAL IMPACT** \$174,902.00 0 0 0 0 # ADDITIONAL FTE 0 0 0 0 0 POSITIONS (Cumulative) Unit 2533, Object 4615 Fund 4001 Dept 720 **Budget Account No.:** Yes X No Is Item Included in Current Budget? Reporting Category N/A Recommended Sources of Funds/Summary of Fiscal Impact: В. One (1) time operating expenditure from the user fees and balance brought forward C. **Department Fiscal Review:** III. REVIEW COMMENTS OFMB Fiscal/and/or Contract Development and Control Comments: A.

B. Legal Sufficiency:

Assistant County Attorney

C. Other Department Review:

Department Director

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



MANDATORY RECLAIMED SA

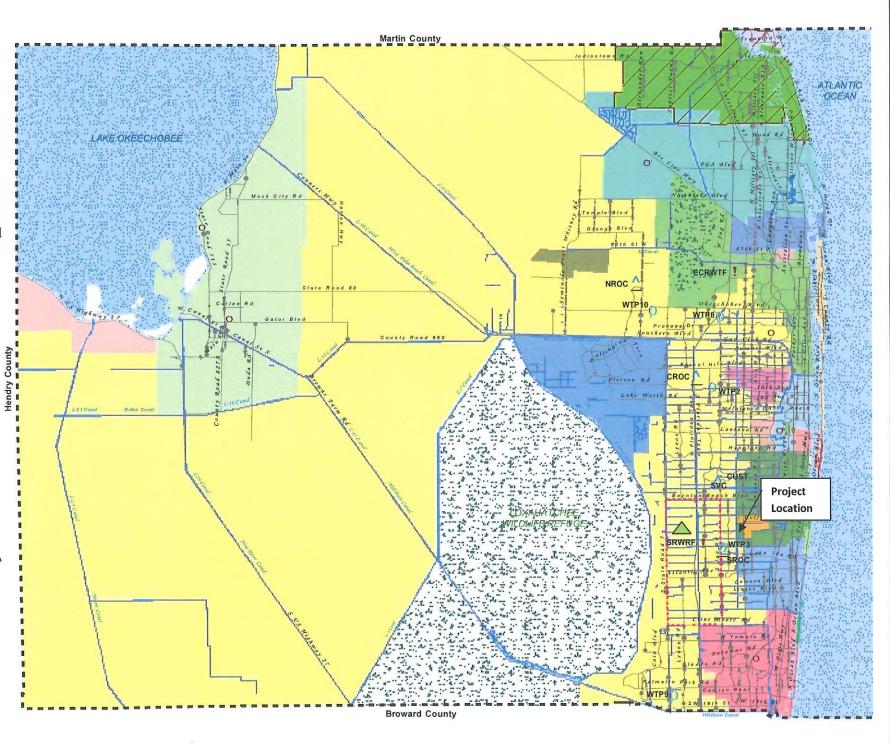
Water Treatment Facility

Administration

Water Reclaimation Facility

= = : COUNTY LIMITS

P.B.C.W.U.D. SA



CONSULTANT SERVICES AUTHORIZATION NO. 34

Project No. WUD 13-086 Budget Line Item No. 4001-720-2533-4615

Project Title: WTP 3 PLC Replacement Programming

District No.: 5

THIS AUTHORIZATION No. 34 to the Contract for Consulting/Professional Services dated May 3, 2011 with an effective date of June 3, 2011(R2011 0637), 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 80.00% SBE participation overall. This Consultant Services Authorization includes 100.00% overall. The cumulative SBE participation, including this authorization is 100.00% overall. Additional authorization will be utilized to meet or exceed the stated overall participation goal.

- 1. CONSULTANT: Hillers Electrical Engineering, Inc. (HEE)
- 2. ADDRESS: 23257 State Rd 7, Suite 100, Boca Raton, FL 33428
- 3. Description of Services to be provided by the Consultant:

The existing Allen Bradley PLC 5 including CPU programming card, process input and output cards and communication cards are old and obsolete. The County is in the process of replacing obsolete PLC 5 hardware with new Allen Bradley Control Logix PLC family. Consequently, the PLC software program needs to be re-written for the new Allen Bradley Control Logix family.

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: \$174,902.00
 - B. Fixed price of \$ N/A
- 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 Title: WTP 3 PLC Replacement Programming

- 8. As described in Section 7.5 of the CONTRACT, 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 May 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.

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

Sharon R. Bock, Clerk & Comptroller, Palm Beach County ATTEST:	Palm Beach County, Board of County Commissioners
Signed:	Signed: Steven L. Abrams, Mayor
Typed Name: Deputy Clerk	Date
Approved as to Form and Legal Sufficiency	
Signed:	
Typed Name:County Attorney	CONTRACTOR:
ATTEST: Jack Jases Witness	(Signature)
Tack Yasın, Admin. Asst (Name and Title)	Paul Hillers, President (Name and Title)
(CORPORATE SEAL)	8/1/13 Date

LIST OF ATTACHMENTS

Project No. WUD 13-086

Consultant Services Authorization No. 34

Project Title: WTP 3 PLC Replacement Programming

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/MWBE Tracking
ATTACHMENT - G	Location Man

ATTACHMENT - A

CONSULTANT SERVICE AUTHORIZATION NO. 34

PALM BEACH COUNTY WATER UTILITIES DEPARTMENT ENGINEERING/PROFESSIONAL SERVICES

SCOPE OF WORK FOR WTP 3 PLC Replacement Programming

INTRODUCTION

Palm Beach County (COUNTY) entered into an agreement entitled Contract for Engineering/ Professional Services - Palm Beach County Utilities Department Project No. WUD 11-006 (CONTRACT) with Hillers Electrical Engineering, Inc. (CONSULTANT) to provide engineering services for various general activities (Reference Document R2011 0637). This Consultant Service Authorization will be performed under that CONTRACT.

SCOPE OF SERVICES

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

Currently WTP 3 is controlled by Allen Bradley PLC 5 family, which is a 25 years old technology PLC which is now obsolete and in the near future will not be supported by Allen Bradley technical support.

WTP 3 consists of the Wells, Pretreatment System that includes wells and pretreatment chemicals, NF system that includes NF Feed pumps and ten (10) trains, Post Treatment System including clearwell, transfer pumps and post treatment chemicals, and Distribution system that includes storage tanks and high-service pumps.

The entire existing PLC logic will be rewritten to accommodate the new PLC processors.

The new PLC processors will be Allen Bradley Control Logix.

The control logic will be rewritten according to the original operation and in coordination with the Plant staff. The feedwater pump logic, as well as the high service pump logic will be completely rewritten.

The scope of the work includes:

- 1. PLC programming for entire WTP 3 including all the systems respectively:
 - Wells
 - Pretreatment System
 - NF System

- Post Treatment System
- Distribution System
- Chemical Systems
- SROC DIW
- New hypochlorite feed pumps if completed within the time frame of the project
- 2. Produce a new iFIX database
- 3. Coordination with PBC iFIX group
- 4. Process simulation, testing and start-up services for a bump-less software transition to the new family of processors
- 5. PLC program documentation
- 6. Operation Training
- 7. Meetings as needed including a kick-off meeting and pre-conversion meeting to discuss shutdowns

During the PLC replacement, HEE will assist the Plant I&C technician with temporary installation, removal and relocation of the existing system PLC system. HEE will provide an updated PLC communication block diagram, a new PLC/RIO rack layout with component list tables.

To minimize Plant shutdown time, the existing PLC 5 will be temporarily relocated while the new Control Logix PLC's are installed. The existing PLC 5 and the new Control Logix PLC system will be installed on separate fiber optic loops and will communicate with each other. HEE will field verify and test the existing spare fiber optic cables. HEE will assist the Plant I&C technician with the PLC replacement. The temporary power supply cables, temporary fiber optic jumpers, mounting hardware, etc. will be part of the scope. A new PLC communication block diagram will be created. A new PLC/RIO rack layout with component list table sheet will be provided for each panel. No new loop diagrams will be provided since all of the existing signals will remain in the same position.

This project will be designed in accordance with the Palm Beach County Water Utilities Department Manual of Minimum Engineering Standards and Design Manual.

COMPENSATION (Not-to-Exceed)

			TTACH	IMENT - I	В			TV.	
	(1)								-
	BUDGET SUMMARY				-				
	"	Labor Classification and Hourly Rate							
			Project	Project		Construction			Sub
Task		· ·	Manager	Engineer	Engineer	Coordinator	Secretarial	Total	Consulta
Number	Task Description							Labor	Services
1	Programming		75	755	660			1490	
1	Frogramming		75	755	660) 	1490	
	Subtotal Task 1		75	755	660	0	0	\$174,902.00	
								0	
			31		•			0	
						(9)		0	
	Labor Subtotal Hours		75	755	660	0	0	1490	
	Labor Raw Costs		\$68	\$50	\$37	\$37	\$21		
	Labor Multiplier		2.6	2.6	2.6	2.6	2.6		
	Labor SubTotal	\$	-	\$ -	\$ -	\$ -	\$ -		
	Labor Total	\$	13,260.00	\$ 98,150.00	\$ 63,492.00	\$ -	\$ -	\$ 174,902.00	
E)	Subconsultant Labor Total								
	Subconsultant Multiplier								
	Subcontract Total	6.2			*		() ()		
	Project Total						•	\$ 174,902.00	11

ATTACHMENT - C

PROJECT SCHEDULE

SCHEDULE

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

Engineering Services	Completion Date From Notice to Proceed	Deliverables
PLC Programming	9 months	Programming Files
	×	Α
9		r.

ATTACHMENT - D

SCHEDULE #1

LIST OF PROPOSED SBE-M/WBE PRIME/SUBCONTRACTORS

PROJECT NAME:	WTP 3 PLC Replacement Programming				PROJECT NUMBER: WUD 13-086				
NAME OF PRIME BIDDER: CONTACT PERSON: BID OPENING DATE:	Hillers Ele Paul Hiller		nc.	- -	ADDRESS: PHONE NO. DEPARTMEN	561-451-916	E FAX NO	00, Boca Raton, FL 33428 561-451-4886	
		PI F.	ASE IDENTIFY ALL	APPLICAR	I F CATEGORI	FS			
Name, Address and Telepho	one	(Check one or b		THE LIGHT			Dollar Amo	unt	
Number of Minority Contract	tor	Minority Business	Small Business	Black	Hispanic	Women	Caucasian	Other (Please Specify)	
Hillers Electrical Engineering 23257 State Rd 7, Suite 100 Boca Raton, FL 33428 (561))	×		\$	\$174,902.00	\$	\$	\$	
2004 Naton, 1 E 00420 (001)	7 401-0100			\$	\$	\$	\$	\$	
				\$	\$	\$	\$	\$	
Management of the Control of the Con				\$	\$	\$	\$	\$	
				\$	\$	\$	\$	\$	
PRIME CONTRACTOR TO	COMPLET	E:	TOTAL	\$ -	\$174,902.00	\$ -	\$ -	\$ -	
BID PRICE: \$174,902.00	_	Total Value o	f SBE Participation:				_		
Subcontractor 2. Firms may dollar amount	listed in or be certified under th ea	der to be counted tow	ard goal attainment. ity as an SBE and/o	an M/WBE				or a proposal from each	

ATTACHMENT - D

SCHEDULE 2

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

PROJECT NO.	WUD 13-086	PROJECT NA	WI ME:	Programming
	lers Electrical Engineering, Ind	o		
	(Na	me of Prime Bidde	er)	
	ed is certified by Palm Beach (X Business Enterprise			
Black His	spanicX Women Ca	ucasian Oth	er (Please Spec	ify)
	Beach County Certification:			
The undersigned	d is prepared to perform the follow	ving described work	in connection with	the above project
Line Item/Lot No.	Item Description	Qty / Units	Unit Price	Total Price
1	PLC Programming		\$174,902.00	\$174,902.00
				T
at the following p				
Beach County. If undersigned in	nto a formal agreement for work ntends to sub-subcontract any pr uch subcontract must be stated:	ortion of this subcor	ntract to a non-ce	tified SBE subconsultant, t
	d subcontractor understands the providing quotations to other be	oidders		21
9		(Print By:	Name of SBE-M/V (Signa Paul Hillers, Pres	ident
		behalf of	name/title of perso f SBE-M/WBE Sub 8/1/2013	
		Date:		

ATTACHMENT - E

AUTHORIZATION STATUS REPORT

SUMMARY AND STATUS OF REQUESTS FOR AUTHORIZATIONS.

Auth.			Project	Date	WUD No.	HEE	
No.	Description	Status	Total Amount	Approved	Assigned	Project No	
1	Pump Station 5229 Bypass PLC Programming	Approved	\$22,079.00	9/12/2011	1,1-035	PAN01	
2	SRWRF PLC Programming 2012	Approved	\$49,327.00	12/19/2011	12-011	PAN02	
3	Construction Phase: General Electrical Eng Services 2012	Approved	\$24,232.00	12/12/2011	12-010	PAN03	
4,	WTP 9 New Production Wells PLC Programming and Construction Services	Approved	\$71,289.00	12/14/2011	09-049	PAN04	
5	Pahokee Wastewater Treatment Plant Misc PLC Programming	Approved	\$4,997.00	12/1/2011	12-028	PAN05	
6	Royal Palm Beach Remote Telemtry Unit Upgrades	Approved	\$25,085.00	12/14/2011	11-037	PAN06	
7	Belle Glade Strategic Region Wastewater Infrastructure Project	Approved	\$60,190.00	5/9/2012	10-062	PAN07	
7.1	Belle Glade Strategic Region Wastewater Infrastructure Project	Approved	\$20,085.00	7/3/2013	10/062	PAN 7.1	
8	SRWRF Miscellaneous Electrical Upgrades	Approved	\$8,015.80	4/30/2012	12-056	PAN08	
9	Plant 8 Wellfield Panel Upgrades	Approved	\$16,772.60	5/10/2012		PAN09	
10.	SRWRF Chlorine Building/Effluenf Pumps Building PLC Upgrades	Approved	\$47,023.60	4/16/2012	12-053	PAN10	
11	Mecca Repump Improvements	Approved	\$8,010.60	7/24/2012	12-071	PAN11	
12	WTP 9 Replacement Programming	Approved	\$149,536.40	9/11/2012	12-014	PAN12	
13	Pahokee WWTP FDEP Requirements	Approved	\$6,037.20	9/4/2012	12-056	PAN13	
14	Telemetry Information Management System 2012 Upgrade	Approved	\$59,940.40	9/11/2012	12-023	PAN14	
15	WTP 2 Wells 1, 3, 4, 5, 6 & 7	Approved	\$46,007.00	10/9/2012	12-038	PAN15	
16	Lake Region WTP Additional Wells	Approved	\$39,572.00	10/17/2012	11-101	PAN16	
17	Lift Station Rehabilitation Project	Approved	\$19,500.00	10/11/2012	11-038	PAN17	
18	Conversion of Dry Can Lift Stations No. 941, 948, 970, 973, 1040, 1056, 1082 & 1083	Approved	\$30,994.60	10/19/2012	13-001	PAN18	
19	SRWRF Sludge Pump Station PLC Upgrade	Approved	\$45,843.20	11/28/2012	13-008	PAN19	
	SRWRF Aeration Flow Meters and Digester Gas Safety Meters	Approved	\$44,038.80	4/4/2013	13-037	PAN20	
	WTP 9 Wellfield SCADA Study	Approved	\$9,222:20	3/6/2013	13-038	PAN21	
22	WTP 3 SCADA and PLC Improvements	Approved	\$49,054.20	3/6/2013	13-039	PAN22	
23	Belle Glade WWTP PLC Programming	Approved	\$6,994.00	4/4/2013	13-046	PAN23	
24	WTP 2 PLC Programming	Approved	\$49,488.40	4/15/2013	13-048	PAN24	
	Conversion of Dry Can Lift Stations No.169, 171, 263,265,966,1023,1051,1057,5056,5058 & 5240	Approved	\$42,013.40	4/4/2013	13-034	PAN25	
	Plant 8 Well Replacement - Electric Power Study	Approved	\$22,048.00	4/30/2013	12-008	PAN26	
	Water Treatment Plant No. 2 Electrical Cables for Wells 1 through 7 Construction Services	Approved	\$45,084.00	7/3/2013	12-038	PAN27	
	SRWRF Sludge Pump Station 1 and Digester 1 PLC Uprades	Pending	\$46,233.20		13-054	PAN28	
	Construction Phase: General Electrical Eng Services 2013	Approved	\$24,232.00	7/15/2013	13-062	PAN29	
	WTP 2 Short Circuit, Device Coordination and Arc Flash Analysis	Pending	\$64,311.00		12-038	PAN30	
.31	Lift Station Control Panel UPAP Standards Update	Pending	\$40,989.00		13-088	PAN31	
	Lift Station Construction Services:Capital Projects	Pending	\$48,089.60		13-089	PAN32	
	Lift Station Construction Services:Developer	Pending	\$35,061.00	i i	13-090	PAN33	
34	WTP 3 PLC Replacement Programming	Pending	\$174,902.00		13-086	PAN34	
	TOTAL		51,456,298.20				

ATTACHMENT - F

AUTHORIZATION STATUS REPORT

SUMMARY OF SBE/MINORITY BUSINESS TRACKING

		TOTAL		SBE
Current Proposal				
Value of Authorization No. 34	œ.	174,902.00	Ф	174,902.00
Value of SBE Letters of Intent	\$ \$	174,902.00	\$ \$	
	Ф		Φ	174,902.00
Actual Percentage		100.00%		
Signed Authorizations				1
Authorization No. 1	\$	22,079.00	\$	22,079.00
Authorization No. 2	\$	49,327.00	\$	49,327.00
Authorization No. 3	\$	24,232.00	\$	24,232.00
Authorization No. 4	999999999999999999	71,289.00	\$	71,289.00
Authorization No. 5	\$	4,997.00	\$	4,997.00
Authorization No. 6	\$	25,085.00	\$	25,085.00
Authorization No. 7	\$	60,190.00	\$	60,190.00
Authorization No. 7.1	\$	20,085.00	\$	20,085.00
Authorization No. 8	\$	8,015.80	\$	8,015.80
Authorization No. 9	\$	16,772.60	\$	16,772.60
Authorization No. 10	\$	47,023.60	\$	47,023.60
Authorization No. 11	\$	8,010.60	\$	8,010.60
Authorization No. 12	\$	149,536.40	\$	149,536.40
Authorization No. 13	\$	6,037.20	\$	6,037.20
Authorization No. 14	\$	59,940.40	\$	59,940.40
Authorization No. 15	\$	46,007.00	\$	46,007.00
Authorization No. 16	\$	39,572.00	\$	39,572.00
Authorization No. 17	\$	19,500.00	\$	19,500.00
Authorization No. 18	\$	30,994.60	\$	30,994.60
Authorization No. 19	\$	45,843.20	\$	45,843.20
Authorization No. 20	\$	44,038.80	\$	44,038.80
Authorization No. 21	\$	9,222.20	\$	9,222.20
Authorization No. 22	\$	49,054.20	\$	49,054.20
Authorization No. 23	\$	6,994.00	\$	6,994.00
Authorization No. 24	\$	49,488.40	\$	49,488.40
Authorization No. 25	\$	42,013.40	\$	42,013.40
Authorization No. 26	\$	22,048.00	\$	22,048.00
Authorization No. 27	\$ \$ \$ \$ \$ \$ \$ \$	45,084.00	\$	45,084.00
Authorization No. 29	\$	24,232.00	\$	24,232.00
	SES	deal 30 7 00000000000000000000000000000000000		
Total Value of Signed Authorizations	¢	1,046,712.40	\$	1,046,712.40
Total Value of SRE Letters of Intent	\$ \$	1,046,712.40	φ	1,040,712.40
Total Value of SBE Letters of Intent	Ф			
Actual Percentage		100.00%		
Signed Authorizations Plus Current Proposal	\$	1,221,614.40		
Total Value of Authorizations	\$	1,221,614.40		
Total Value of Subcontracts & Letters of Intent	\$	1,221,614.40		
Actual Percentage		100.00%		
GOAL	Т	80.00%		
VV/1=		55.5576		



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

Legend

**** MANDATORY RECLAIMED SA

() Water Treatment Facility

Administration

▼ Water Reclaimation Facility

= = : COUNTY LIMITS
P.B.C.W.U.D. SA

