WORK AUTHORIZATION NO. 3
TO THE AGREEMENT FOR REI NO. 2017-172
PROFESSIONAL ENGINEERING SERVICES
BETWEEN THE CITY OF STUART AND
THE FIRM OF KIMLEY-HORN AND ASSOCIATES, INC.

PROJECT DESCRIPTION: PUBLIC SAFETY COMPLEX PFC REMEDIATION EVALUATION

I. PURPOSE

This is an attachment to the Master Agreement for Professional Engineering Services, REI #2017-172 dated December 11, 2017, between the City of Stuart (CITY) and the firm of Kimley-Horn and Associates, Inc., (PROFESSIONAL) and made a part thereof. The purpose of this Project Authorization is to authorize PROFESSIONAL to provide engineering services for the PFC remediation evaluation at the City's Public Safety Complex.

II. PROFESSIONAL'S SERVICE

The PROFESSIONAL shall provide professional engineering services for the PFC remediation evaluation as outlined herein.

III. GENERAL SCOPE OF WORK

The PROFESSIONAL'S services shall include, but not be limited to, the following items:

TASK 1 – SITE ASSESSMENT

A site assessment plan will be prepared for submittal to FDEP. The plan will outline the proposed additional soil and groundwater sampling as described in the tasks below. PROFFESSIONAL will assist the City in responding to questions or comments from FDEP. Adjustments to the work scope may be necessary pending FDEP's response.

TASK 2 – SOIL & GROUNDWATER SAMPLING

a) In April 2018 Ecology and Environment, Inc. (E&E) was contracted by FDEP in part to perform soil sampling at the Fire Rescue Facility near onsite monitor well DW. The soil samples were analyzed for PFAS using EPA Method 537 (modified for solid samples).

b) PROFESSIONAL will expand on the soil sampling performed at the Fire Rescue Facility near monitor well DW. An additional eighteen (18) soil samples will be collected at 6 boring locations. Four borings will be located approximately fifty (50) feet from the well DW in the four cardinal directions. Two additional borings will be located approximately 100 feet from

well DW; one located north and another located east. Each boring location will be sampled at the same depth intervals as performed by E&E and each sample will be analyzed for PFAS using EPA Method 537. One duplicate sample, one equipment rinsate blank and one trip blank also will be analyzed for PFAS using EPA Method 537. PROFESSIONAL will coordinate with the City and the laboratory contracted with the City for the shipment and analysis of the samples.

c) The above work scope assumes the City will handle and pay for laboratory fees. A site map showing the proposed sample boring locations is included as Figure 1. Soil samples will be collected using a stainless-steel hand auger. Decontamination procedures will be performed between each sample collection in accordance with FDEP Standard Operating Procedures (SOP).

d) In March 2018 Aquatech Geosciences, Inc. was contracted by the City to install and sample a shallow groundwater monitor well (Well DW) near the southwest corner of the Fire Rescue Facility. Sampling in March 2018 and in April 2018 resulted in PFOA/PFOS concentrations of 30,100 ng/L and 34,840 ng/L. The high concentrations of PFOA/PFOS and discussions with City personnel indicate that Aqueous Film Forming Foam (AFFF) may have been released or discharged at the Facility during firefighting training exercises, conducted from the 1980s to early 2000s.

e) PROFESSIONAL will further delineate the contamination plume within and near the Facility. Eighteen (18) groundwater samples will be collected at six locations using the direct-push (Geoprobe) method. A site map showing the proposed sample boring locations is included as Figure 1. PROFESSIONAL will secure a subcontractor (JAEE Environmental) that specializes in direct-push sampling. PROFESSIONAL will coordinate with the City to obtain necessary right-of-way access agreements to perform sampling outside the property of the Facility. At each location, three groundwater samples will be collected at depth intervals generally as follows:

- Near the top of the water table (~7 to 10 feet bls)
- Near 40 feet bls
- Refusal depth of the Geoprobe or near 80 feet bls (whichever is shallower)

f) The samples will be analyzed for PFAS using EPA Method 537. Each sample interval will be purged and sampled in accordance with FDEP's SOP. Field instruments will be used and instrument calibration records and groundwater sampling logs will be completed. One duplicate groundwater sample, one equipment rinsate blank and one trip blank also will be collected for analysis. All groundwater sampling equipment will be decontaminated prior to use. PROFESSIONAL will coordinate with the City and the City's contracted laboratory for the shipment and analysis of the samples. Please note: this work scope assumes the City will handle laboratory fees. It is anticipated that onsite geoprobe groundwater sampling activities can be completed in two days.

TASK 3 – GROUNDWATER MODELING ASSESSMENT

Since initial detection of PFAS above HALs in 2014, the City has adjusted the use of their wellfield to reduce the PFAS concentration at the POE. Specifically, the City has discontinued the use of production wells PW-1, PW-3, and PW-5 that are located approximately 800 to 1,000 feet south of Well DW. In an effort to evaluate the transport and fate of the contamination plume, groundwater modeling efforts may be prudent to assist the City for future planning. PROFESSIONAL will review previous models completed of the wellfield area, historical groundwater quality data and data collected from this site assessment. PROFESSIONAL will then meet with the City to discuss whether additional modelling efforts may be beneficial.

TASK 4 – REMEDIATION TECHNIQUES EVALUATION

PROFESSIONAL will review current remediation techniques used in treating or removing PFC's from soils and/or groundwater contaminated sites, and evaluate effectiveness of each system. The following remediation methods will be reviewed:

- soil extraction
- In-situ treatment – in place treatment of groundwater/soils
- Treat-in-place system with regenerable ion exchanges

PROFESSIONAL will evaluate the size and applicable remediation system and prepare a summary report of advantages and disadvantages of each method. Remediation will be limited to the City's Fire Rescue facility located off of S.E. MLK Jr. Blvd. The summary report will include probable costs, techniques, locations current being applied, and effectiveness.

PROFESSIONAL will submit a draft for City review, and attend a review meeting to discuss results.

PROFESSIONAL will prepare a draft remediation plan for submission to FDEP and submit with final comments from the City.

TASK 5 – MEETINGS

It is anticipated that up to six (6) meetings will be held with the City and FDEP personnel to discuss the progress of the site assessment and to discuss steps forward for potential remediation and groundwater modelling efforts. It is also anticipated that regular communication and discussions will be conducted throughout this project. PROFESSIONAL will prepare for and attend the meetings and will be prepared to provide progress updates as necessary.

IV. WARRANTY

The PROFESSIONAL warrants that the services provided, as a result of this Work Authorization are complete, correct and suitable for the purpose intended.

V. DELIVERABLES

The project deliverables associated with the work effort will be delivered to the CITY in accordance with schedule provided in Exhibit B.

VI. PLANS AND DOCUMENT OWNERSHIP

The supporting information will become the property of the CITY upon completion of this Project. Computer software using Microsoft Excel and Word (latest version) will be used in the preparation of documents. If other software is used, it is to be translated to the aforementioned software.

VII. SCHEDULES AND TIME CONSTRAINTS

PROFESSIONAL will complete review of information and attend meetings in a timely manner and mutually agreed upon schedule. It is anticipated that the following schedule to complete this work authorization is in accordance with schedule provided in Exhibit B.

VIII. COMPENSATION

Payment for all services will be in accordance with the Standard Agreement for Civil Engineering Services. Total compensation shall, based on the man hours shown on Exhibit C, for all services, material, supplies and any other items or requirements necessary to complete the work as described herein to include actual salary costs, overhead and profit in an amount equal to 100% of actual salary cost and reimbursement of actual direct non-salary expenses shall not exceed sixty-eight thousand nine hundred five dollars (**$68,905.00**).

IX. ADDITIONAL TERMS

All exclusions and additional provisions agreed to in the original Agreement are to remain in full effect during the implementation of the project.

IN WITNESS WHEREOF, the parties have made and executed this Agreement, the day and year first above written.

PROFESSIONAL: **KIMLEY-HORN AND ASSOCIATES, INC.**

By: _____
(Signature)

BY: Brian Good, P.E., Principal
Corporate Officer Name and Title

Date: 9/13/18

ATTEST: _____

APPROVED AS TO COMPLIANCE WITH PURCHASING & CONTRACTS POLICIES AND PROCEDURES

_____ Date _____
Holly Vath
Financial Services Assistant Director

TECHNICAL PROVISIONS OF CONTRACT AND BUDGETARY REQUIREMENTS APPROVED

_____ Date _____
David D. Peters
Director of Public Works

APPROVED AS TO FORM AND LEGALILITY FOR THE USE AND BENEFIT OF STUART CITY ONLY

_____ Date _____
Michael J. Mortell
City Attorney

CITY CLERK

_____ Date _____
Mary Kindel
City Clerk

EXHIBIT A

"PROFESSIONAL'S PERSONNEL HOURLY RATE SCHEDULE"

POSITION	HOURLY BILLING RATE
Senior Principal	$255.00
Principal	$225.00
Senior Project Manager	$195.00
Construction Project Manager	$175.00
Project Manager	$160.00
Analyst	$105.00
Design / CADD Technician	$115.00
Traffic Technician	$85.00
Office Manager	$84.00
Clerical	$65.00

EXHIBIT B

"PROFESSIONAL'S PERSONNEL HOURLY RATE & DELIVERABLES SCHEDULE"

Tasks	Description	Deliverables	Task Fee
Task 1	Site Assessment	2 Weeks from NTP	$9,980.00
Task 2	Soil & Groundwater Sampling	2 Weeks after Task 1	$27,120.00
	Geoprobe Sample Collection	2 Weeks after Task 1	
	Lab Sampling & Results	4 Weeks after sample collection	
Task 3	Groundwater Modeling	3-4 Weeks after Task 2	$9,145.00
Task 4	Remediation Techniques Evaluation	4 Weeks from NTP	$11,570.00
	Evaluation	4 Weeks from NTP	
	Prepare & Submit Summary Report	10-14 Weeks after NTP (3 weeks after lab results received)	
Task 5	Meetings	As needed	$11,090.00
Total Fee Not to Exceed			**$68,905.00**

EXHIBIT C

"ESTIMATE FOR ENGINEERING SERVICES"

PROJECT: City of Stuart - PFC Remediation Investigation							SHEET 1 OF 1			
CLIENT: CITY OF STUART UTILITIES							FILE NO.			
ESTIMATOR: MDM							DATE: 9-12-18			
BASIS FOR ESTIMATE:										
Review and support of PFC Investigations										
DESCRIPTION:		DIRECT LABOR (MAN-HOURS)								
Review and support of PFC Investigations		PRIN	SR PROJ MGR	PM	DESIGN TS/NB	ANALYST	CLK	EXP SUB	Dir Exp	LINE TOTAL
NO.	TASK									
1	**SITE ASSESSMENT**									
	Prepare, submit, review assessment plan	12					8			$3,220
	JLA						4	$6,500		$6,760
2	**SOIL & GROUNDWATER SAMPLING**									
	Coordinate and conduct testing	6		4			8			$2,510
	Soil sampling JLA						4	$6,020		$6,280
	Groundwater sampling JLA						4	$11,510		$11,770
	Prepare report	6					8	$4,690		$6,560
3	**GROUNDWATER MODELING ASSESSMENT**									
	Conduct modeling - JLA	2					4	$8,435		$9,145
4	**REMEDIATION TECHNIQUES EVAL**									
	Investigate current remediation techniques	8		10			6			$3,790
	Prepare summary report	6		12			12			$4,050
	Prepare remediation plan for submission to FDEP	10		6			8			$3,730
5	**MEETINGS**									
	Attend progress meetings	12		4			12			$4,120
	JLA							$6,970		$6,970
		62	0	36	0	0	78	$44,125		**$68,905**
	LABOR ($/HOUR)	225	195	160	115	105	65			
	SUBTOTAL	13950	0	5760	0	0	5070	44125	0	