



December 17, 2021

Ms. Albiona Balliu, P.E.
Sr Project Manager
City of Key West
1300 White Street
Key West, Florida 33040

SUBJECT: Proposal for Additional Soil Investigation
Bahama Village 3.2
Key West, Florida, 33040
Parcel Nos. **00001630-000801**

1. INTRODUCTION

Tetra Tech, Inc. (Tt) is pleased to present this proposal to the City of Key West (City) to prepare a supplemental Phase II evaluation for the Bahama Village 3.2 mixed use commercial/residential development. The parcel is identified as 918 Fort Street, Key West, Florida, 33040. The parcel is located within Section 6 of Township 68S, Range 25E, Monroe County, Key West, Florida. The subject parcel comprises a total area of +/- 5.57 acres (according to the property appraiser website). Generally, the property is irregular in shape with maximum dimensions of approximately 350 feet wide by 1450 feet long. The Target Property is located approximately 1 mile west of the City of Key West (center) and approximately 325 feet southeast of Key West Bight Marina in Monroe County, Florida. A Phase I ESA was conducted by Tetra Tech in December 2020 upon the City of Key West request, to evaluate future redevelopment options. Additionally, Phase II sampling was conducted in March, May and September 2021.

It is our understanding that the subject property is proposed for redevelopment by the City of Key West. Based on the review of the conceptual site plan, the proposed development will consist of mixed commercial and residential land use.

BACKGROUND

A Phase I ESA completed by Tetra Tech and submitted to the City on December 24, 2020, identified (1) Controlled Recognized Environmental Conditions (CRECs). The BRAC 5-year Review for Six Environmental Sites Report dated April 2014 was reviewed for the purposes of the Phase I ESA Report. The BRAC 5-year Review Report indicates that excavation work was completed in early 2007 to remove additional contaminated soil to a depth of 2 feet bls at the site after the deed restrictions and LUCs were put in place. The BRAC 5-year Review Report recommended the removal of the land use restrictions from the deed by the Navy based on the removal of this additional contaminated soil and the confirmatory sidewall samples which were

collected at the terminus of the excavation. In 2016, the FDEP issued a Memorandum of Decision for No Further Action which released the Residential Restriction for the top two feet of soil and Notice Requirements. Notably, Area F or Site B located on the target property still maintains an engineering control for soils (“Do Not Disturb Soils”) in the denoted 45 x 5-foot area due to an excavation bottom sample that maintained exceedances after the 2007 IRA event. Additionally, groundwater use restrictions are in place for the parcel based on an Iron exceedance detected in a monitoring well previously located 300 feet southwest of former Building 223.

In March of 2021, 4 soil borings were installed inside the delineated area. Three of four soil borings were measured below the Soil Cleanup Target Level (SCTL) for Arsenic. One soil sample SB-2, had a reported Arsenic concentration of 2.4 mg/kg which is above the Residential soil SCTL of 2.1 mg/kg. Based on this exceedance SB-2 was resampled in May of 2021 and the results confirmed the prior results with a level of 2.6 mg/kg. Additionally, step out locations were installed to the north, south, east and west of SB-2R. The step out locations indicated the north and south borings above SCTLs with concentrations of 3.6 mg/kg and 9.5 mg/kg.

An additional round of step out locations was conducted to determine if the Arsenic was located outside the originally delineated area to the north and south. The additional round of step out locations, which included six soil borings were completed to the north and south of the delineated area. The supplemental Phase II Assessment was conducted on September 21, 2021. All six of the step out locations had reported Arsenic concentrations above the Residential soil SCTL with one of the six locations with reported levels above the Commercial Industrial Standards. In general the majority of the exceedances were reported within the range of 0 to 2 feet below land surface (bls). The 2-4 feet bls samples collected from the fourteen samples collected thus far have been reported below SCTLs.

2. PHASE II ASSESSMENT OBJECTIVES AND SCOPE OF WORK

CONSTITUENTS OF INTEREST

Based on available data, this total parcel is 5.57 acres in size (according to the property appraiser website) and formerly housed building 223 which was built by the Army and the Navy subsequently used it as storage for Port Services. Reportedly, activities associated with the former building 223 included: an equipment repair shop, a plumbing shop and materials storage. The building has since been demolished and the area is currently being used as a recreational soccer field (Gilleran Field). The constituents of interest (COIs) for this facility are Arsenic and Iron.

MEDIA SPECIFIC ASSESSMENT

This section presents the field program, which will be used to collect additional soil samples at the former facility. The activities described in this section comprise the field activities and include the following:

- The delineation of the 45 x 5-foot Land Use Control (LUC) area “Do not Disturb Soils” by a professional surveyor.
- The advancement of approximately (50) soil borings for the collection of soil samples. The collection of soil borings surrounding the marked LUC. The soils will be screened with an XREF field portable analyzer. Thirty five (35) select soil samples will also be analyzed for

EPA 6010 for Arsenic in a fixed base laboratory. The intent of the soil borings is to find the limits of the Arsenic exceedances measured in the Phase II evaluation.

Field investigation activities will be conducted in accordance with the FDEP Standard Operating Procedures (SOPs)(FDEP 2017). SOPs will be adhered to in the collection of samples, duplicates, and equipment blanks. The laboratory analyses will be performed by a National Environmental Laboratory Accreditation Conference (NELAC) certified laboratory.

UTILITY CLEARANCE

Tetra Tech or its contractor will contact the Sunshine State One-Call Center in order to locate on-site utilities. Care will be taken to avoid overhead power lines and marked underground utilities.

SOIL SAMPLING

A direct-push/ auger rig will be used during the sampling to assess potential soil on the site. Direct-push sampling will be conducted at approximately 50 locations outside the former denoted LUC “Do Not Disturb Soil” area. An approximately 40 x 80 foot grid will be set up with samples collected on a 10 foot spacing. These locations will be revised as necessary in the field (to avoid utility conflicts), and with the City’s concurrence. If the XRef screening results indicate that the Arsenic is beyond the 40 x 80 grid the grid will be expanded to a larger spacing to attempt to identify the limits of the Arsenic exceedances. For reference a sketch of the proposed boring locations is included as a sketch.

2. REPORTING

The deliverable for this project will be a letter report which presents the data and summarizes the findings of the field investigation along with recommendations for a path forward. The text of the report will be formatted in Microsoft Word® with the tables in Microsoft Excel.® Individual site figures, in AutoCAD, depicting the relative location of each sampling point will be prepared along with a summation of analytical detections above standards.

PROJECT SCHEDULE, FEE, AND LIMITATIONS

It is prepared to begin implementation of this project immediately upon receipt of authorization to proceed from the City. After receipt of authorization to proceed from the City, the Letter Report will be submitted to the City within 30 business days of completion of field activities which includes time allotted for laboratory turn-around.

For this proposal, we have assumed that one electronic and one hard copy of the report will be prepared and submitted.

It proposes to perform the scope of work described herein on **lump sum** basis in accordance with the terms and conditions of our current MSA with the City (Resolution ESA 20-002). The proposed cost to complete the work is **\$70,442**. A summary breakdown of our cost estimate to complete the scope of work is attached. For this proposal we have selected Jupiter Analytical Laboratories as the primary analytical laboratory. We have selected Groundwater Protection as the drilling contractor.

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It will keep the City abreast of anticipated changes, if any that may occur. We will not initiate additional work without your prior authorization. We appreciate the opportunity to submit this proposal and look forward to working with the City on this project. If you have any questions or require additional information, please feel free to contact the undersigned at your earliest convenience.

Respectfully Submitted,
Tetra Tech, Inc.

A handwritten signature in blue ink that reads "David Frodsham". The signature is written in a cursive style with a long, sweeping underline.

Dave Frodsham, P.E.
Project Manager

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COST MODEL

CITY OF KEY WEST (CLIENT 55111)			TASK 01		TASK 02		TASK 03		TOTAL	
BAHAMA VILLAGE 3.2 PHASE II			PERFORMANCE OF LIMITED SOIL INVESTIGATION		SOIL DATA ANALYSIS, INTERPRETATION AND REPORT PREPARATION		TELECONFERENCE WITH FDEP			
NAME	TITLE	UNIT RATE	QTY	PRICE	QTY	PRICE	QTY	PRICE	QTY	PRICE
TETRA TECH STAFF										
Boberg, Lori	Project Support Services I	\$ 65.00	3.0	\$195					3.0	\$195
Endicott, Jessica	Eng/Sci/Planner Staff II	\$ 110.00							16.0	\$2,800
Frodsham, David	Eng/Sci/Planner Senior Staff II	\$ 175.00	4.0	\$700	8.0	\$1,400	4.0	\$700	20.0	\$2,400
Martinez Rivera, Francisco	Eng/Sci/Planner Staff III	\$ 120.00			20.0	\$2,400			60.0	\$6,600
Mendoza, Mike	Eng/Sci/Planner Staff II	\$ 110.00	60.0	\$6,600					119.0	\$18,445
Ouellette, Shawn	Eng/Sci/Planner Senior Staff I	\$ 155.00	60.0	\$9,300	55.0	\$8,525	4.0	\$620		
TOTAL LABOR COST			127.0	\$16,795	83.0	\$12,325	8.0	\$1,320	218.0	\$30,440
INTERNAL SUBCONTRACTOR										
TOTAL INTERNAL SUBCONTRACTOR										
EXTERNAL SUBCONTRACTOR										
Groundwater Protection or ETD		\$ 15,000.00	1.0	\$15,000					1.0	\$15,000
Florida Keys Land Surveying		\$ 2,500.00	1.0	\$2,500					1.0	\$2,500
Jupiter Laboratories		\$ 1,500.00	1.0	\$1,500					1.0	\$1,500
IDW		\$ 1,500.00	1.0	\$1,500					1.0	\$1,500
TOTAL EXTERNAL SUBCONTRACTOR				\$20,500						\$20,500
TRAVEL										
R/T Airfare		\$ 500.00								
Mileage		\$ 0.56								
Rental Car w/Fuel		\$ 97.00	6.0	\$582					6.0	\$582
Misc. Travel Costs (gas, parking, tolls)		\$ 50.00								
Lodging		\$ 400.00	10.0	\$4,000					10.0	\$4,000
Meals & Incidental Expenses		\$ 67.00	10.0	\$670					10.0	\$670
TOTAL TRAVEL COSTS				\$5,252						\$5,252
OTHER DIRECT COSTS / RENTAL EQUIPMENT/LABORATORY										
Shipping		\$ 10.00								
Misc. Equip & Supplies		\$ 250.00	5.0	\$1,250					5.0	\$1,250
XREF Plus Shipping		\$ 2,000.00	2.0	\$4,000					2.0	\$4,000
XREF Plus Shipping		\$ 4,000.00	1.0	\$4,000					1.0	\$4,000
TOTAL OTHER DIRECT COSTS				\$9,250						\$9,250
TETRA TECH OWNED EQUIPMENT										
TOTAL TT EQUIPMENT										
GRAND TOTAL				\$66,797		\$12,325		\$1,320		\$70,442

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Accepted By:

Bahama Village 3.2 Acre Soil Sampling
CONTRACT OR PROJECT NAME

CITY OF KEY WEST
CLIENT

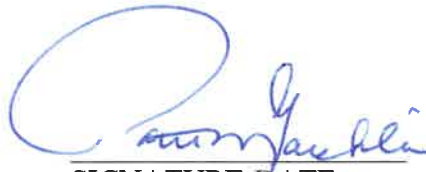
Dave Frodsham
By (PRINT NAME)

PATTI McLAUGHLIN
BY (PRINT NAME)

Project Manager
TITLE

CITY MANAGER
TITLE


12/17/21
SIGNATURE DATE


12/30/2021
SIGNATURE DATE

TEMPORARY WELL

SOIL BORING

Sample		Arsenic
Location	Date	(mg/kg)
SB007- 0-0.5	5/12/2021	9.5

Sample		Arsenic
Location	Date	(mg/kg)
SB-9 (0-0.5)	9/22/2021	3.1
SB-9 (0.5-2)	9/22/2021	8.7
SB-9 (2-4)	9/22/2021	1.4

Sample		Arsenic
Location	Date	(mg/kg)
SB-14 (0-0.5)	9/22/2021	2
SB-14 (0.5-2)	9/22/2021	4.3
SB-14 (2-4)	9/22/2021	1.1

Sample		Arsenic
Location	Date	(mg/kg)
SB-9 (0-0.5)	9/22/2021	3.1
SB-10 (0-0.5)	9/22/2021	1.2
SB-11 (0-0.5)	9/22/2021	7.5
SB-12 (0-0.5)	9/22/2021	2.9
SB-13 (0-0.5)	9/22/2021	33
SB-14 (0-0.5)	9/22/2021	2
SB-9 (0.5-2)	9/22/2021	8.7
SB-9 (2-4)	9/22/2021	1.4
SB-10 (0.5-2)	9/22/2021	2.2
SB-10 (2-4)	9/22/2021	1
SB-11 (0.5-2)	9/22/2021	4
SB-11 (2-4)	9/22/2021	1.2
SB-12 (0.5-2)	9/22/2021	3
SB-12 (2-4)	9/22/2021	0.97
SB-13 (0.5-2)	9/22/2021	1.6
SB-13 (2-4)	9/22/2021	1.1
SB-14 (0.5-2)	9/22/2021	4.3
SB-14 (2-4)	9/22/2021	1.1

Sample		Arsenic
Location	Date	(mg/kg)
SB-10 (0-0.5)	9/22/2021	1.2
SB-10 (0.5-2)	9/22/2021	2.2
SB-10 (2-4)	9/22/2021	1

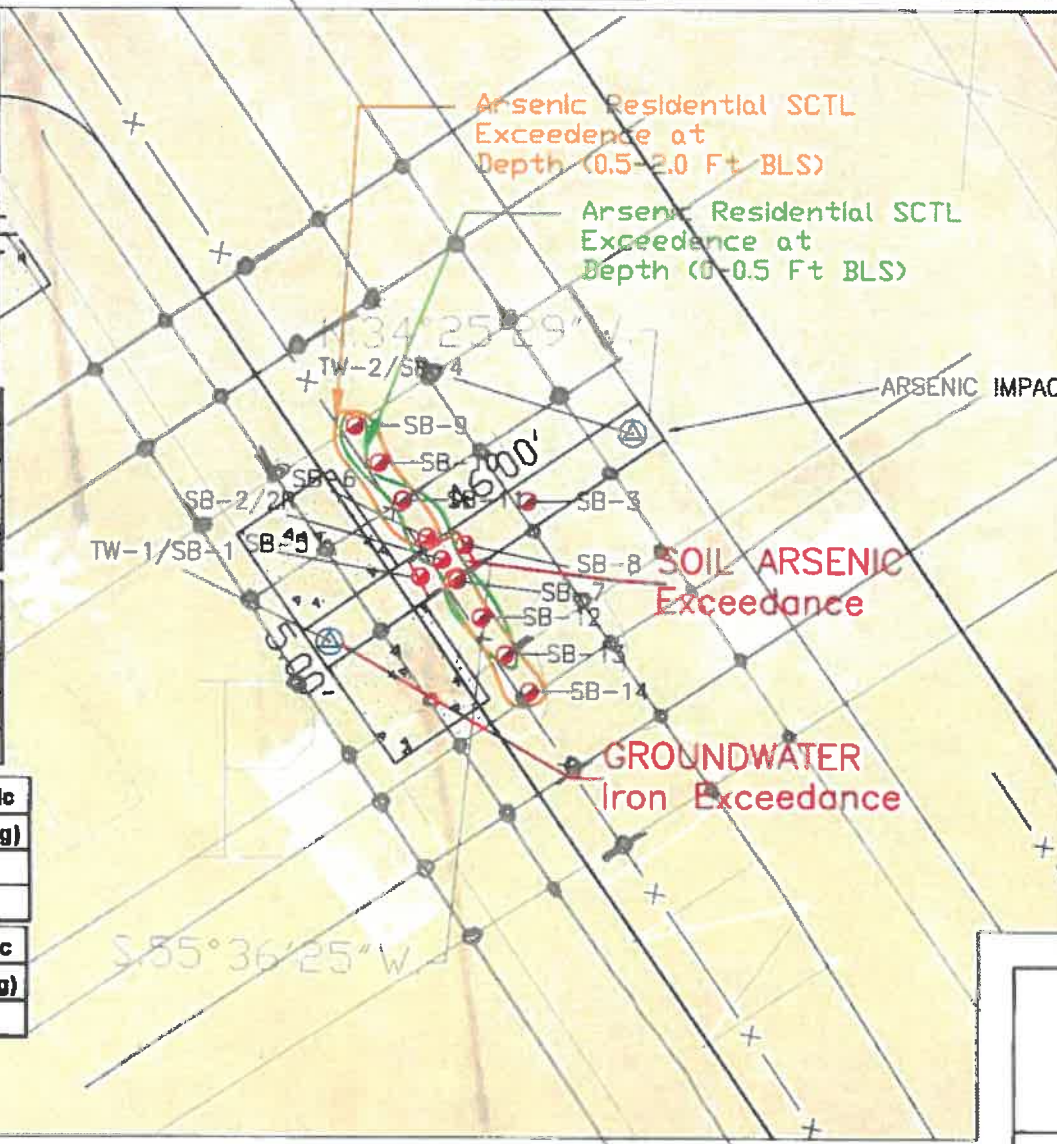
Sample		Arsenic
Location	Date	(mg/kg)
SB-11 (0-0.5)	9/22/2021	7.5
SB-11 (0.5-2)	9/22/2021	4
SB-11 (2-4)	9/22/2021	1.2

Sample		Arsenic
Location	Date	(mg/kg)
SB-12 (0-0.5)	9/22/2021	2.9
SB-12 (0.5-2)	9/22/2021	3
SB-12 (2-4)	9/22/2021	0.97

Sample		Arsenic
Location	Date	(mg/kg)
SB-13 (0-0.5)	9/22/2021	33
SB-13 (0.5-2)	9/22/2021	1.6
SB-13 (2-4)	9/22/2021	1.1

Sample		Arsenic
Location	Date	(mg/kg)
SB 002-0-0.5	3/23/2021	2.4
SB 002R- 0-0.5	5/12/2021	2.6

Sample		Arsenic
Location	Date	(mg/kg)
SB006- 0-0.5	5/12/2021	3.6



FDEP Soil Cleanup Target Level for Direct Exposure Residential (mg/kg)	2.1
FDEP Soil Cleanup Target Level - Direct Exposure Commercial (mg/kg)	12
FDEP Soil Cleanup Target Level for Leachability Based on Groundwater Criteria (mg/kg)	***

CITY OF KEY WEST

BAHAMA VILLAGE
918 FORT STREET
KEY WEST FL

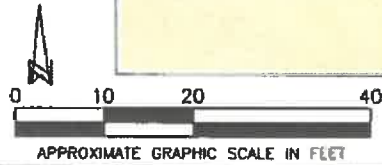
SAMPLE LOCATION MAP

TETRA TECH, INC

SCALE: AS SHOWN
DATE: 11/4/21

PREPARED BY: [Signature]
CHECKED BY: [Signature]
APPROVED

CAD FILE NO. [Number]
FIGURE No 3



40+4 perimeter 0-0.5 44
0-2 132
2-4