

SECOND AMENDMENT TO THE AGREEMENT BETWEEN BROWARD COUNTY AND CPZ ARCHITECTS, INC., FOR CONSULTING SERVICES FOR CONSOLIDATED FACILITIES MAINTENANCE BUILDING AT PORT EVERGLADES (RFP # PNC2116532P1)

This Second Amendment ("Second Amendment") to the Agreement (hereinafter defined) is made and entered into by and between Broward County, a political subdivision of the State of Florida ("County"), and CPZ Architects, Inc., a Florida corporation ("Consultant") (collectively, the "Parties").

RECITALS

A. The Parties entered into that certain Agreement for Consulting Services for Consolidated Facilities Maintenance Building at Port Everglades, dated August 2, 2019, which was amended by a First Amendment, dated May 18, 2020 (collectively, as amended, the "Agreement").

B. The Agreement addresses compensation and scope of services for Phases I and II. The Parties desire to amend the Agreement to update the scope of services to reflect phased construction of the balance of the project and to provide additional compensation for the updated scope of services.

C. The additional compensation consists of Three Million Three Hundred Thirty-three Thousand Six Hundred Seventy and 92/100 Dollars (\$3,333,670.92) for Basic Services; Three Hundred Ten Thousand and 00/100 Dollars (\$310,000.00) for Optional Services; and Three Hundred Forty-six Thousand Three Hundred Thirty and 00/100 Dollars (\$346,330.00) for Reimbursable Expenses, each payable on a Maximum Amount Not-to-Exceed basis, resulting in a total increase of Three Million Nine Hundred Ninety Thousand and 92/100 Dollars (\$3,990,000.92).

D. County has determined that the updated scope of services and related compensation are in County's best interest.

E. The Parties met and negotiated the updated scope and related compensation, all in accordance with the Broward County Procurement Code, and this Second Amendment incorporates the results of such negotiation.

Now, therefore, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties amend the Agreement as follows:

1. The above Recitals are true and correct and are incorporated herein as if set forth in full hereunder.

2. Amendments made to the Agreement by this Second Amendment are indicated by use of strikethroughs to indicate deletions and underlining to indicate additions, unless otherwise stated.

3. Section 1.11 of the Agreement is hereby amended as follows:

1.11 **Services** consists of the work and phases set forth in Exhibit A, Scope of Services, and shall include civil, structural, mechanical, and electrical engineering, architectural services, and other professional design services, as applicable for the Project, and any Optional Services procured under this Agreement.

4. Section 5.1 of the Agreement is hereby amended as follows (original underlining omitted):

5.1 Amount and Method of Compensation. The amounts set forth in this Article 5 are the total compensation payable to Consultant and constitute a limitation upon County's obligation to compensate Consultant for Services under this Agreement, but do not constitute a limitation of any sort upon Consultant's obligation to perform all Services required under this Agreement.

5.1.1 Maximum Amount Not-To-Exceed Compensation. For Basic Services identified in Amended Exhibit A, Phase I and Phase II, compensation to Consultant shall be payable on a "Maximum Amount Not-To-Exceed" basis and based upon the Salary Costs as described in Section 5.2 up to a maximum not-to-exceed amount of Five Hundred Thirty-two Thousand Nine Hundred Ninety-four and 55/100 Dollars (\$532,994.55) Three Million Eight Hundred Sixty-six Thousand Six Hundred Sixty-five and 47/100 Dollars (\$3,866,665.47). Unused amounts of these Basic Services monies shall be retained by County.

...

5.1.3 Optional Services. ~~Intentionally left blank~~ County may procure Optional Services payable on a "Maximum Amount Not-To-Exceed" basis and based upon the Salary Costs as described in Section 5.2 up to a maximum not-to-exceed amount of Three Hundred Ten Thousand and 00/100 Dollars (\$310,000.00) pursuant to Article 6. Unused amounts of these Optional Services monies shall be retained by County.

5.1.4 Reimbursable Expenses. County will reimburse authorized Reimbursable Expenses as defined in Section 5.3 up to a maximum not-to-exceed amount of Seventy-three Thousand One Hundred Ninety Dollars (\$73,190) Four Hundred Nineteen Thousand Five Hundred Twenty and 00/100 Dollars (\$419,520.00).

Unused amounts of the monies referenced in this paragraph shall be retained by County.

...

5.1.7 Phased Payments. Payments for Basic Services shall be paid out pursuant to the Project phasing specified in Amended Exhibit A and shall not exceed the amount set forth below for the applicable phase. The invoiced fee amount for each phase shall be subject to retainage as set forth in Section 5.5.

Project Phase	Fee %	Not-to-Exceed Phase Amount
Phase I and II: Programming and Schematic Design	100% 18.23%	\$532,994.55 <u>\$704,850.30</u>
Phase III: Design Development	TBD 18.51%	TBD <u>\$715,802.58</u>
Phase IV: Construction Documents	TBD 26.22%	TBD <u>\$1,013,680.09</u>
Phase V: Permitting, Bidding, and Award of Contract	TBD 5.42%	TBD <u>\$209,485.57</u>
Phase VI: Administration of the Construction Contract	TBD 31.62%	TBD <u>\$1,222,846.93</u>
Phase VII: Warranty Administration and Post-Occupancy Services	TBD	TBD
	Total Basic Services Fee	\$532,994.55 <u>\$3,866,665.47</u>
	100%	

5. Article 6 of the Agreement is deleted in its entirety and replaced by the following (strikethroughs and underlining omitted):

**OPTIONAL AND ADDITIONAL SERVICES;
CHANGES IN SCOPE OF SERVICES**

6.1 County or Consultant may request changes that would increase, decrease, or otherwise modify the Scope of Services to be provided under this Agreement. Unless otherwise expressly permitted herein, such changes must be made in accordance with the provisions of the Broward County Procurement Code and must be contained in a written amendment.

6.2 If any goods or services under this Agreement, or the quantity thereof, are identified as optional ("Optional Services"), County may select the type, amount, and timing of such goods or services pursuant to a work authorization ("Work Authorization")

in substantially the form attached as Exhibit F executed by Consultant and County pursuant to this section. No such selection, when combined with those goods or services required under this Agreement, may result in a payment obligation exceeding the applicable maximum amount stated in Article 5. A Work Authorization for Optional Services shall specify the method of compensation applicable to that Work Authorization and the required completion date for those additional services.

6.3 Notwithstanding anything to the contrary in this Agreement, Work Authorizations (and amendments thereto) for Optional Services shall be executed on behalf of County as follows: (a) the Contract Administrator may execute Work Authorizations for which the total cost to County in the aggregate is less than \$50,000.00; (b) the Purchasing Director may execute Work Authorizations for which the total cost to County in the aggregate is within the Purchasing Director's delegated authority; and (c) any Work Authorization above the Purchasing Director's delegated authority requires express approval by the Board. Consultant shall not commence work on any Work Authorization until after receipt of a purchase order and issuance of a Notice to Proceed by the Contract Administrator.

6.4 If a dispute between the Contract Administrator and Consultant arises over whether any work requested by County is within the scope of contracted Services and such dispute cannot be resolved by the Contract Administrator and Consultant, such dispute shall be promptly presented to the County Administrator or the County Administrator's designee for resolution, whose decision shall be in writing and shall be final and binding on the Parties. During the pendency of any dispute, Consultant shall promptly perform the disputed work.

6. Exhibit A of the Agreement is replaced with Amended Exhibit A, attached hereto, which is hereby incorporated in the Agreement. All references to Exhibit A in the Agreement are deemed to refer to Amended Exhibit A attached hereto.

7. Exhibit B of the Agreement is modified as follows:

- a. The Maximum Billing Rates for Keith and Associates, Inc., included as part of Exhibit B of the Agreement, are supplemented by the Maximum Billing Rates attached hereto, which are incorporated in the Agreement. All references to Exhibit B or the Maximum Billing Rates, as they pertain to Keith and Associates, Inc. for work performed after the execution of this Second Amendment, are deemed to refer to the Maximum Billing Rates attached hereto.
- b. The Maximum Billing Rates for CMS-Construction Management Services, Inc., included as part of Exhibit B of the Agreement, are supplemented by the Maximum Billing Rates attached hereto, which are incorporated in the Agreement. All references to Exhibit B or the Maximum Billing Rates, as they pertain to CMS-Construction Management Services, Inc. for work performed after

the execution of this Second Amendment, are deemed to refer to the Maximum Billing Rates attached hereto.

- c. The Maximum Billing Rates for Design Management Services, attached hereto, are incorporated into the Agreement as part of Exhibit B. All references to Exhibit B or the Maximum Billing Rates, as they pertain to Design Management Services, are deemed to refer to the Maximum Billing Rates attached hereto.
8. Exhibit D of the Agreement is replaced with Amended Exhibit D, attached hereto, which is incorporated in the Agreement. All references to Exhibit D in the Agreement are deemed to refer to Amended Exhibit D attached hereto.
 9. Exhibit F (Work Authorization Form), attached hereto, is hereby incorporated in the Agreement. All references to Exhibit F in the Agreement are deemed to refer to Exhibit F attached hereto.
 10. In the event of any conflict or ambiguity between this Second Amendment and the Agreement, the Parties agree that this Second Amendment shall control. The Agreement, as amended herein by this Second Amendment, incorporates and includes all prior negotiations, correspondence, conversations, agreements, and understandings applicable to the matters contained herein, and the Parties agree that there are no commitments, agreements, or understandings concerning the subject matter hereof that are not contained in the Agreement as amended in this Second Amendment. Accordingly, the Parties agree that no deviation from the terms hereof shall be predicated upon any prior representations or agreements, whether oral or written.
 11. Preparation of this Second Amendment has been a joint effort of County and Consultant, and the resulting document shall not, solely as a matter of judicial construction, be construed more severely against one of the Parties than the other.
 12. Except as expressly modified herein, all other terms and conditions of the Agreement remain in full force and effect.
 13. Contractor acknowledges that through the date this Second Amendment is executed by Contractor, Contractor has no claims or disputes against County with respect to any of the matters covered by the Agreement.
 14. This Second Amendment is effective upon complete execution by the Parties.
 15. This Second Amendment may be fully executed in multiple originals, and may be executed in counterparts, each of which will be deemed to be an original, but all of which, taken together, will constitute one and the same document.

IN WITNESS WHEREOF, the Parties have made and executed this Second Amendment to the Agreement: through its Board of County Commissioners, signing by and through its Mayor or Vice-Mayor, authorized to execute same by Board action on the ___ day of _____, 20___, and CPZ Architects, Inc., signing by and through its _____, duly authorized to execute same.

County

ATTEST:

BROWARD COUNTY, by and through
its Board of County Commissioners

Broward County Administrator, as
ex officio Clerk of the Broward County
Board of County Commissioners

By _____
Mayor
____ day of _____, 20__

Approved as to form by
Andrew J. Meyers
Broward County Attorney
Port Everglades Department
1850 Eller Drive, Suite 302
Fort Lauderdale, Florida 33316
Telephone: (954) 523-3404
Telecopier: (954) 468-3690

ANTONIO
By LOZADA
Antonio Lozada (Date)

Digitally signed by ANTONIO
LOZADA
Date: 2022.04.25 09:41:07
-04'00'

Assistant County Attorney
CARLOS A.
RODRIGUEZ-
By CABARROCAS
Carlos Rodriguez-Cabarrocas (Date)
Senior Assistant County Attorney

Digitally signed by CARLOS A.
RODRIGUEZ-CABARROCAS
Date: 2022.04.25 09:43:35
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AAD:cr
CPZ Architects (PNC2116532P1) 2nd Amendment Draft 4.20
4/20/20
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SECOND AMENDMENT TO THE AGREEMENT BETWEEN BROWARD COUNTY AND CPZ ARCHITECTS, INC., FOR CONSULTING SERVICES FOR CONSOLIDATED FACILITIES MAINTENANCE BUILDING AT PORT EVERGLADES (RFP # PNC2116532P1)

ATTEST:



Corporate Secretary

Kim Vinot Zimmerman

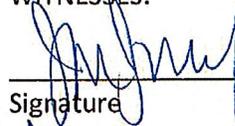
(Print/Type Name)

(Corporate Seal)



OR

WITNESSES:



Signature

Joseph J. Barry

Print/Type Name



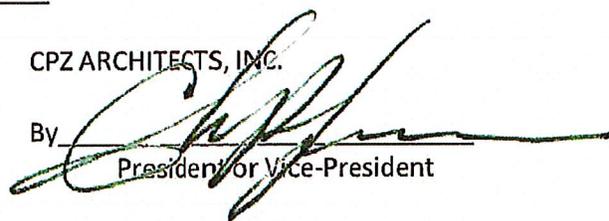
Signature

Christopher Craddock

Print/Type Name

Consultant

CPZ ARCHITECTS, INC.

By 

President or Vice-President

Chris P. Zimmerman, AIA

(Print/Type Name and Title)

22 day of April, 2020.

AMENDED EXHIBIT A
SCOPE OF SERVICES

Changes made to this Exhibit by the Second Amendment are indicated by use of strikethroughs to indicate deletions and underlining to indicate additions, unless otherwise stated.

1.01 Project Description and Program

1.01.01 The following paragraphs form a general description of the professional services required for the programming and design of a consolidated maintenance facility. As such, it is not all inclusive and County does not represent that it is a complete inventory of the professional services necessary to achieve County's goals for the new facility. The following paragraphs describe Consultant's minimum level of performance; however, descriptions are not intended to limit professional services required to fully perform each phase, during any project phase.

1.01.02 Project Description.

The project consists of the design and construction of the consolidated maintenance facility in Port Everglades, with the goal of centralizing the functions performed by personnel, in support of buildings, equipment, systems, and processes owned, operated and otherwise assigned to Port Everglades a Department of Broward County (the "Port").

This is an intentionally phased project with the initial phase consisting of programming and schematic design services. The facility shall be designed for construction to take place such that, during construction, there will be no interruption to port operations and to maintenance personnel. Maintenance personnel are to continue to perform their duties and complete their responsibilities while this project is under construction, without interruptions because of construction or completion of the facility. Construction phasing shall take into consideration all aspects of port operations including but not limited to, interruptions to traffic, taxi movement and staging, stores truck staging and movement, and other vehicle operations that could potentially impact the port's ability to service its clients and maritime operations.

The construction of this project is intentionally phased into the following components:

Component I.a. Construction of the main building, including trades, welders, administration, generator, chillers, and parking, fueling station, refuse area, employee parking, carwash, perimeter parking and sanctuary are included in this first component.

Component I.b. Moving access to the 'Maintenance Row' buildings from the south to the north, so that access is from the completed **Component I.a.** site.

Retaining the paved area to the south of the existing building to be used as laydown areas.

Component II. Construction of storekeepers building and laydown areas and related site development.

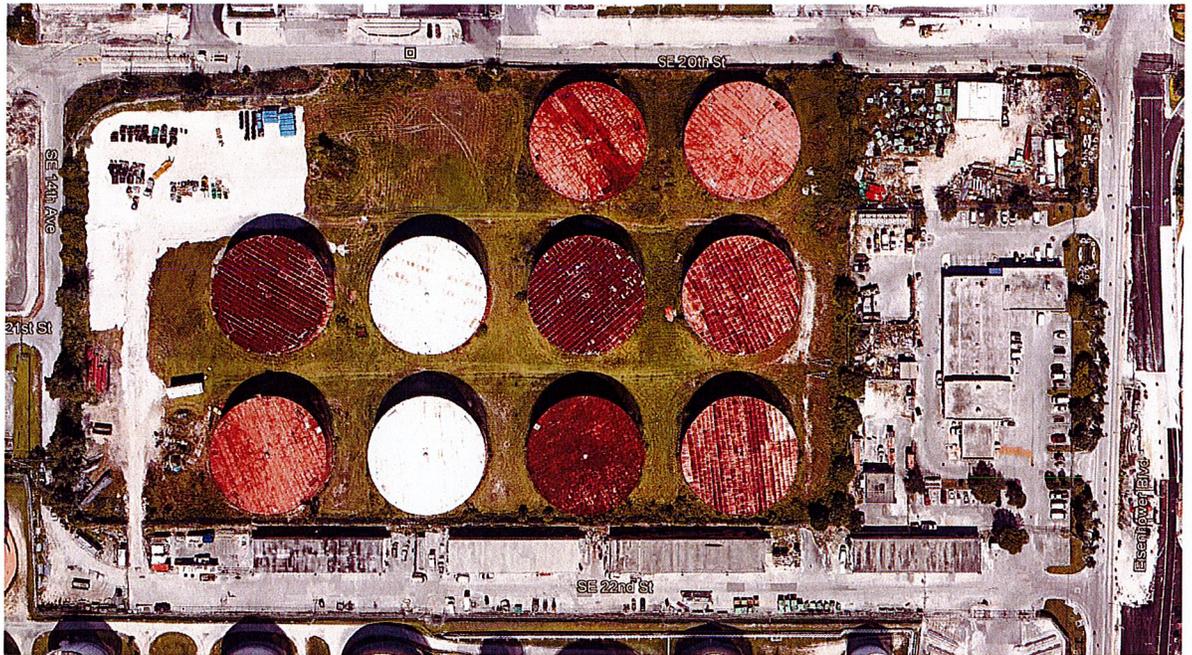
Consultant shall provide all design services, consisting of, but not limited to, programming, material and soil testing, all aspects of permitting, traffic engineering services, calculations and complete construction support, threshold inspection services, topographic and special purpose-surveys, architectural, planning, engineering, and construction administration services required to complete this project.

Consultant's design shall comply with the requirements of Port Security. Consultant shall work through the Contract Administrator to engage, address, and resolve any and all issues of concern by the Port's Security Manager, Law Enforcement, U.S. Customs and Border Protection (CBP), United States Coast Guard (USCG), and others, as directed by the Contract Administrator.

As part of Phase I, The Consultant shall prepare and provide a programming and recommendations report as a standalone document. This document shall define and outline the facility's needs and shall be used to determine the size of the facility, number of rooms, spaces, uses and operational adjacencies, employee and port/county vehicle parking, specialized equipment parking and storage, including, but not limited to, listing and compiling all equipment anticipated and needed to operate the facility in an efficient and effective way. This document shall also be used in the process of obtaining permits and approvals for this project, including but not limited to, zoning approvals, presentations and discussion with fire, security, operations and any other entity with reviews, approvals and all permitting agencies.

The project site (shown in the picture below) is limited to the existing main public works facility site which extends to the north side of SE 20th St to the north, the south side of SE 22nd St to the south (Maintenance Row), the west side of SE 14th St to the west and the west side of Eisenhower Boulevard to the east.

Consultant shall provide all necessary efforts to complete Components I.a. and I.b.



1.01.03 Preliminary Architectural Program

The Architectural Program option checked below is applicable to Basic Services under this Agreement:

- A detailed architectural program is available from the Contract Administrator and is attached to this document as Attachment 3, Architectural Program.
- A detailed architectural program is not available from the Contract Administrator and shall be developed by Consultant under the Programming phase as further described below.
- An architectural program is attached to this document as Attachment 3, Architectural Program. Requirements for Consultant's use and modification of that generic program follow under Programming Option 2 of Predesign Services as further described below.
- The Preliminary Final architectural program for this project will be provided by the Contract Administrator with the Consultant's Notice to Proceed. Consultant's use of this program is described within Exhibit A, Scope of Work of the Professional Services Agreement for this project.

2.01 Basic Services

2.01.01 The services listed below are related to this specific project or other professional services as necessary to meet the needs of Broward County.

2.01.02 The listed services below shall not limit those activities or services that may be requested by the Contract Administrator.

3.01 Basic Services by Phase

3.01.01 Consultant agrees to: (A) Provide complete professional architectural, engineering, and other professional design services set forth in the phases enumerated hereinafter and all necessary personnel, equipment, and materials to perform services; (B) Complete those design services in accordance with the project schedule (Attachment 1, Project Schedule, as attached to this Exhibit (A) and (C) Complete those services that will deliver a facility (or facilities) within County's established budget for the Project, including but not limited to Value Engineering and Constructability Considerations.

3.01.02 Consultant shall schedule and attend bi-weekly project review and coordination meetings with representatives of the Contract Administrator throughout all the phases of the Project. At each of these meetings, Consultant and Contract Administrator shall review the Project's budget, schedule, and scope along with Consultant's development and progress to date on the respective phases of the Project and any special problems related to the continuing progress of the Project. For each project review meeting, and as may be otherwise appropriate during any project phase, Consultant shall provide progress sketches and other documents enough to illustrate progress and the issues at hand for the Contract Administrator's review. Consultant shall not be entitled to claims for delays to the Project Schedule due to Consultant's provision of such documents.

3.01.03 Consultant and representatives of each subconsulting firm shall attend a Programming and Schematic Design Phase Kick-Off meeting scheduled by the Contract Administrator at the beginning and end of each of the Project's phases. The Programming and Schematic Design Phase Kick-Off meeting shall provide a forum for the entire project team to review project goals, continuing project issues, and review performance expectations for the respective phase of the project.

3.01.04 Consultant ~~and its interior designer or interior architect~~ shall attend periodic ~~furnishings and~~ equipment coordination meetings as scheduled by the Contract Administrator during the Programming and Schematic Design Phases of the Project. These meetings will be scheduled to address and coordinate the layout, selection, specification and documentation of ~~furniture and~~ equipment items for the project. Various representatives of Port Everglades will attend these meetings to coordinate and communicate their functional requirements and preferences.

- 3.01.05 Consultant shall keep Contract Administrator informed of any proposed changes in requirements or in construction materials, systems or equipment as the drawings and specifications are developed. Proposed changes must be reviewed and approved in writing by Contract Administrator prior to incorporation into the design or construction documents.
- 3.01.06 Consultant shall cooperate with Contract Administrator and with other County staff by participating in, reviewing, and commenting on Constructability and Value Engineering studies performed by Contract Administrator, and attending meetings, where the content of design and construction contract documents will be coordinated and reconciled, scheduled during any phase of the Project. In the event Contract Administrator accepts recommendations from Value Engineering and Constructability studies, Consultant shall implement same, including providing revised drawings and specifications or other documents, as a part of Basic Services.
- 3.01.07 Consultant shall be required to submit various documents further defined below in both hardcopy and electronic media formats. Requirements for electronic media submittals are contained in Attachment 2, Electronic Media Submittal Requirements, below. Requests for deviations from those electronic media submittal requirements shall be submitted in advance by Consultant in writing for the consideration of the Contract Administrator.
- 3.01.08 Documents, electronic media and other materials submitted to Contract Administrator by Consultant shall be retained by the Contract Administrator except as otherwise noted herein and are subject to the ownership provisions of this Agreement.
- 3.01.09 Consultant shall make complete document submittals at the various phases listed below. Incomplete or partial submittals may be requested in advance through the Contract Administrator and may be allowed only when Consultant has received advance approval in writing by the Contract Administrator. Incomplete or partial submittals made without advance approval shall be returned to Consultant unreviewed and unaccepted by the Contract Administrator and subject to any liquidated damages applicable as provided for elsewhere in this Agreement.
- 3.01.10 Consultant shall pursue design principles and guidelines established by the United States Green Building Council (USGBC) for achieving a "green" LEED-Certified Building and Site Development in all Project Phases as part of Basic Services. Professional services required for the achievement of LEED certification through the USGBC shall be provided by Consultant. The design shall attain the LEED Certification Level of "Certified." Consultant shall incorporate solar power collection design to the Project. Solar power collection systems shall be analyzed by Consultant, and Consultant shall propose a recommended system for Contract Administrator to review. Solar power collection system recommendations to Contract Administrator

shall focus on efficiency, cost control and most cost-effective solution. Consultant shall keep solar power system within the Project budget.

3.01.11 The design shall incorporate the applicable items from the “Green Marine, Ports Seaway 2018 Self-evaluation Guide.”

3.01.12 Consultant shall update the program to reflect the construction phasing described above.

3.01.13 Consultant shall prepare drawings indicating the construction phasing as part of this design phase. Drawings shall be reviewed and approved by Port staff. Based on comments by Port staff, Consultant shall make corrections and update those drawings before moving forward.

3.01.14 Consultant shall provide cost estimates reflecting the construction phasing, breaking out each construction component, with a total estimated cost for the entire phased construction of the project.

3.02 Phase I - Programming

3.02.01 (not used)

The following optional Programming Services as described below in Articles 3.02.02 through 3.02.05

Are **Are Not a part of this Agreement's Basic Services.**

3.02.02 Consultant shall develop and submit a standalone program to establish the following detailed requirements for the Project: design objectives, limitations and criteria; spatial and functional relationships; functional options to the movement of parking users; flexibility and expandability; and special equipment and systems.

3.02.03 Consultant shall develop and submit the program description of occupancy needs and spatial allocation by coordinating with County Staff (including Port Maintenance, Port Operations, Port Security, Cruise Operations and others as directed by the Contract Administrator) and:

(A) Establish the number of parking spaces required for staff and for work and County vehicles needed to meet the needs of Port Everglades. Consultant shall address the need for future growth in the number of employees parking and number of work and County vehicles to be stored and operate from the facility.

- (B) Gain complete understanding of the maintenance and operations functions of Port Everglades. Knowledge gathering shall be detailed enough to describe what each group does, when they perform those responsibilities and where they take place. If the functions include workspace within the facility or outside, such description shall be included and detailed.
 - (C) Inventory each maintenance and operations existing facility, describing it's use, size, number of occupants, purpose within the maintenance and operations functions, special tools, equipment, lighting, ventilation, storage and other materials and services provided or used.
 - (D) Port Everglades would like to place this facility near the existing main maintenance facility. Consultant shall take into consideration and coordinate all aspects of the fact that temporary facilities are being planned and placed on land directly north of the existing maintenance building.
 - (E) Present a cost analysis and timelines for the permitting and construction of the project.
 - (F) Develop a facility program listing all spaces, their use, square footage, adjacencies, special features, equipment, communications, two-way radio communications needs, occupant capacities, anticipated growth needs, specialized storage for flammables, oils, fuels and other regulated materials and supplies. This space program shall be used to design the facility and shall become the checklist for spaces to be built.
 - (G) A designated training/conference space shall be provided within the facility that can double as an Emergency Operations Center. This space shall be equipped with audio visual equipment to support the training and conference type usages.
- 3.02.04 Consultant shall develop and submit the programming report with the clear intent of generating a roadmap for the completion of this project.
- 3.02.05 Consultant shall develop and submit the program's description of site development criteria, building configuration, construction, and material standards by:
- (A) Listing required and optional provisions for phased construction taking into consideration that construction shall not interfere with Port Operations. Consultant shall work very closely with Port Everglades to understand and incorporate the Port's requirements for operations and include those in the construction phasing provisions. Consultant shall take into consideration the continuity of port operations when proposing a program for the development of the Project site.

- (B) Verifying and documenting site zoning or other restrictions such as building heights, setbacks, etc.
 - (C) Listing required or optional provisions for phased construction and future additions.
 - (D) Estimating size(s) of core area(s) required for:
 - 1) Mechanical services, including elevators
 - 2) Electrical services.
 - 3) Vertical transportation.
 - 4) Stair towers.
 - 5) Life safety issues.
 - (E) Identifying options of building configuration based on functions, occupancies, site limitations, orientation, height, spans and structural system.
 - (F) Identifying and documenting building exteriors, including but not limited to the inclusion of art in public places. Consultant shall meet with Port Everglades staff assigned to art in public places to ascertain the type of art to be incorporated into the designs.
 - (G) Identifying and documenting any "Contract Administrator Preferences" for interior and exterior construction types, site planning, space functionalities, building systems and assemblies, room types, building envelopes, and maintenance and operational considerations.
 - (H) Identifying and documenting goals for integrating solar power collection and public art into the project.
- 3.02.06 Consultant shall analyze, and document jurisdictional requirements related to concurrency or other regional/urban planning issues.
- 3.02.07 Consultant shall research and document all codes, laws, rules, regulations and ordinances pertaining to the property, building type and probable building design established by other programming tasks.
- 3.02.08 Consultant shall provide written cost estimates for the Project and budgeting services based on the programming tasks listed above and consisting of: conversion of programmed requirements to net area requirements; development of initial approximate gross facility areas; evaluation of current construction market conditions; application of unit cost data to gross area; estimates of related costs such as site development, landscaping, utilities, phasing and other services. Additionally, Consultant shall:

- (A) Reconcile the architectural program with County's budget.
- (B) Advise the Contract Administrator as needed, to address budget issues, propose alternates, solutions and options.
- 3.02.09 Consultant shall prepare design documentation to accurately and thoroughly communicate the Project. Consultant shall consistently prepare design documentation through the Project Phases to convey the design such that the information provided can be used by the Contractor to fully comprehend the scope of the work.
- 3.02.10 Within the time frame established in Attachment 1, Project Schedule, Consultant shall submit TEN (10) copies of all documents required under this Phase (except where otherwise specified), without additional charge, for approval by the Contract Administrator. The Contract Administrator shall review submitted documents and provide written review comments to Consultant within the time frames established on Attachment 1, Project Schedule. Consultant shall modify and resubmit to Contract Administrator until approved (if not initially satisfactory to the Contract Administrator) by fourteen (14) consecutive calendar days from the receipt of Contract Administrator's review comments such documents and drawings as required to illustrate the Program listed in the paragraphs above.
- 3.02.11 In addition to the required hard copy documents described above, Consultant shall submit the final Contract Administrator approved programming documents on electronic media conforming to the Contract Administrator's Electronic Media Submittal Requirements (Attachment 2). The electronic media submittal shall include all text, drawings, spreadsheets, calculations, exhibits, diagrams, charts, photographs, presentation materials and other media used to prepare the program and present it to the Contract Administrator. Hard copy original archival documents that are unavailable in electronic media formats may be photographed or scanned and saved in PDF, TIFF, JPEG or other suitable electronic formats.
- 3.02.12 Consultant shall not proceed with the next Phase until the completion of all required presentations and reports, reconciliation or correction of all outstanding Contract Administrator review comments, and receipt of a written Notice to Proceed for the next phase.
- 3.02.13 Consultant shall provide presentations of the Project's Program to County's staff, the public and to the Broward County Board of County Commissioners as may be required.
- 3.02.14 Consultant shall provide the following surveying and testing services as follows:

(A) Boundary and Topographic Survey (Survey & Subsurface Utility Engineering (SUE))

- 1) Consultant shall prepare a Boundary and Topographic Survey of the site. The limits for the survey will extend to the north side of SE 20th St, south side of SE 22nd St, west side of SE 14th St. and the west side median of Eisenhower Boulevard. Boundary lines and easements shall be as shown on the record plat, and any provided lease agreements, title reports or other documents that contain a more recent legal description. Survey shall show all surface features such as roadways, buildings, fences, berms, surface utilities, etc. Trees will be noted by common name and trunk diameter. Storm and Sanitary structures will be noted with invert elevation, diameter, material and direction. Survey shall include locating the paint marks and flagging that mark the underground utilities as located in the SUE tasks below.
- 2) Survey shall be referenced to the Florida State Plane Coordinate System (NAD83/11) and the North American Vertical Datum of 1988 (NAVD88). Elevations shall be shown at an interval of approximately 50 feet, including intermediate changes in grade.
- 3) Title Search and Incorporation of Title Search encumbrances on Survey. Consultant will contract with a Broward County approved Land Title company to conduct a Title search for the Project site. Consultant shall review Title information and incorporate Title Search encumbrances on Survey.
- 4) Consultant shall provide SUE services and shall follow ASCE Standard 38-02 – “Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data” during the field and office operations for this Project. The quality levels discussed below are defined within the standard. Consultant is to provide professional services associated with designation, location and mapping of existing subsurface utilities. Consultant shall designate all known toneable and non-toneable utilities within the delineated area. The limits for our investigation will extend to the north side of SE 20th St, south side of SE 22nd St, west side of SE 14th St and the west side median of Eisenhower Boulevard. The entire site within the defined boundary will be traversed to identify existing utilities.
- 5) Consultant shall mark facilities in advance of the geotechnical investigation (20 soil bores) will be performed and a 50’ Ground Penetrating Radar (GPR) grid will be utilized to identify and mark existing UST’s in the tank areas.
- 6) Consultant shall perform utility record research to assist in identifying utility owners that may have facilities present or be affected by the Project. Consultant shall collect any applicable utility owner records for review and provide assistance and development of a composite drawing or equivalent. All procured utility information will have the corresponding quality levels indicated; utility type and/or ownership; date of depiction; accuracy of

depicted appurtenances; end points of any utility data; active, abandoned, or out-of-service status; size; condition; number of jointly buried cables; and encasement.

- 7) Utility Mapping - Consultant will identify surface features on a topographic plan or ground surface that are surface appurtenances of existing subsurface utilities. Consultant will survey such features, check accuracy and completeness for applicability with the existing project correlating applicable utility records to these surveyed features, considering the geometries and indications on the records of these surface features. Consultant will determine when records and features do not agree and resolve discrepancies.
- 8) Horizontal Designation Services - Consultant will horizontally mark any known toneable and non-toneable underground utilities that are represented on as-built plans, above ground appurtenances, and other miscellaneous utility records available to the Consultant. Conductive utilities will be marked on the surface utilizing active geophysical prospecting techniques in conjunction with electromagnetic equipment utilizing passive radio and audio frequencies. Known non-conductive utilities and/or structures will be marked on the surface utilizing GPR, above ground features, professional judgment, utility plats and/or as-builts. Designation services does not include sanitary service laterals and irrigation lines.
- 9) Location Services - Consultant shall perform up to twelve (12) test holes at specific sites to be designated by the geotechnical subconsultant. Test holes will be utilized to expose utilities to minimize any potential for damage. Test holes performed will be of minimum size (usually 1' by 1'). Consultant shall perform backfilling of test holes will be performed utilizing the removed material, if suitable. Areas will be restored back as close as possible to their original condition. Installation of an identifiable above ground marker will be performed at each test hole location. Field markers will consist of a nail and disk in asphalt, or an iron rod and cap with survey stake in grassed areas. Test holes performed in the street will be patched using cold patch. The test hole number and utility will be identified on the ground or on the stake, as appropriate. A test hole summary report will be created providing coordinates, depth of cover, type, size and material if applicable.

(B) Hazardous Materials Survey and Phase 1 Environmental Site Assessment

Consultant shall conduct Environmental investigations to assess for hazardous materials that may be present within building materials and to determine if current and/or historical site operations impacted soil, groundwater, and subsurface vapor quality beneath the site.

- 1) Hazardous Materials Survey
 - a. Asbestos Survey
An asbestos survey will collect samples of building materials for analysis

of asbestos content to comply with the United States Environmental Protection Agency's (USEPA) National Emission Standards for Hazardous Air Pollutants (NESHAP) regulation, in addition to other USEPA and Florida Department of Environmental Protection (FDEP) requirements. The buildings to be addressed include the following.

b. Buildings/Facilities Proposed for Demolition include the following:

- I. Loading Bridge Open Storage Loading
- II. Loading Bridge/Ground Maintenance Building. No. 612
- III. AC/Fendering Building No. 69
- IV. Storage house Overflow Building No. 68
- V. Painters Overflow Storage Building No. 67
- VI. Garage Canopy
- VII. Welders Shop
- VIII. Mobile Trailers
- IX. PW Main Building
- X. Plummer's Shop Building No. 64 and Open Storage
- XI. Electrical Overflow Storage
- XII. Electrical Shop
- XIII. Supervisors Office

c. Asbestos Hazard Emergency Response Act (AHERA) accredited asbestos building inspectors will be utilized to conduct an asbestos survey as required by USEPA regulation 40 CFR Part 61 NESHAP. Samples will be collected in general accordance with the sampling protocols outlined in USEPA 40 CFR 763.86 and analyzed by Polarized Light Microscopy (PLM).

d. Hazardous Regulated Building Materials

Buildings will be inspected for the presence of hazardous/regulated materials within the buildings to identify building materials, equipment and fixtures that may contain hazardous/regulated materials. Testing will not be performed as part of the investigation phase.

Examples of these types of materials include, but are not limited to, mercury in light switches, thermostats and fluorescent light tubes, polychlorinated biphenyls (PCBs) in electrical insulating fluid, hydraulic or hydrocarbon lubricants in equipment with moving parts, such as elevator equipment or hydraulic door closers, and chlorofluorocarbons (CFCs) refrigerants.

The findings will be presented in a final report describing the sampling methodology and findings.

- (2) Phase I Environmental Site Assessment (ESA)
Performance of a Phase I ESA consistent with the procedures included in ASTM E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Assessment Process*. The purpose of this ESA is to assist the County in developing information to identify recognized environmental conditions (RECs - as defined below) in connection with the Project site. The Phase I ESA will include the following:
- a. Physical Setting - The physical setting for the site will be described based on a review of the applicable USGS topographic quadrangle map, USDA soil survey, and selected geologic reference information.
 - b. Historical Use Information - Review of selected historical sources, where reasonably ascertainable and readily available, will be conducted in an attempt to document obvious past land use of the site and adjoining properties back to 1940 or when the site was initially developed, whichever is earlier.
 - c. Interview - County will be interviewed to provide information regarding past uses of the Project site and information pertaining to the use of hazardous substances and petroleum products on the Project site. Past owners, operators, and occupants of the site may be interviewed to the extent that they are identified within the scope of the ESA and are likely to have material information.
 - d. Regulatory Records Review - Consistent with ASTM E1527-13, federal, state, and tribal databases will typically be reviewed for indications of RECs, and the approximate minimum search distance of the review from the nearest property boundary.
 - e. Project Site and Adjoining/Surrounding Property Reconnaissance
A Project site reconnaissance will be conducted to identify RECs. The reconnaissance will consist of visual observations of the Project site from the Project site boundaries and selected interior portions of the Project site. The Project site reconnaissance will include, where applicable, an interview with site personnel who the client has identified as having knowledge of the uses and physical characteristics of the Project site. Pertinent observations from the site reconnaissance will be documented including:
 - I. Project Site description
 - II. General site operations
 - III. Aboveground chemical or waste storage
 - IV. Visible underground chemical or waste storage, drainage, or collection systems

- V. Electrical transformers
- VI. Obvious releases of hazardous substances or petroleum products

f. Construction Considerations

As the Project site is to be redeveloped, construction considerations will need to be considered in design of the building and redevelopment efforts for the site. These considerations include the following:

- i. Vapor Intrusion - A Tier 1 Vapor Encroachment Screen in general accordance with the procedures included in ASTM E 2600-15, *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions*.
- ii. Soil and groundwater management considerations
- iii. Regulatory oversight involvement / closure requirements

(C) Limited Site Investigation (Phase II ESA)

A Limited Site Investigation (LSI) /(Phase II ESA) will be conducted to assess for potential impacts to soil and groundwater quality at the site from constituents of concern that may have been released during current and historical site operations. The limited investigation is not intended to delineate the extent of impact, if present, or to develop corrective action costs.

- 1) Ground Penetrating Radar
Ground Penetrating Radar (GPR) may be utilized to assess for the presence and location of subsurface structures (i.e., Underground Storage Tanks, fuel piping, oil/water separator, soakage pits, in ground lifts, septic tanks, used oil USTs) that may have not been removed and remain in place.
- 2) Soil Sampling
~~Up to a maximum of~~ It is estimated that twenty (20) soil borings will be advanced at the Project site utilizing a direct push technology drill rig to observe and screen soil samples and collect soil samples for laboratory analysis from within locations of concern as reported in the Phase I ESA. The soil borings will be advanced to an anticipated depth of approximately 10 feet below ground surface (bgs). If Consultant determines that more than 20 soil borings are required, Consultant shall notify Contract Administrator in writing. Written approval from the Contract Administrator is required to exceed 20 soil borings.

Soil samples collected will be screened for volatile organic vapors using a properly calibrated organic vapor analyzer (OVA) equipped with a Photo

Ionization Detector (PID). Locations of borings are to be documented using global positioning system (GPS) coordinates.

Up to a maximum of twenty (20) soil samples will be collected for laboratory analysis and will be placed into pre-cleaned, laboratory provided containers, stored in a chest with ice and delivered using chain-of-custody protocol to a Florida Department of Health (FDOH)-certified and National Environmental Laboratory Accreditation Program (NELAP)-compliant subcontracted laboratory for analysis of constituents of concern.

3) Monitoring Well Installation

Up to fifteen (15) groundwater interface monitoring wells will be installed to a depth of approximately 15 feet below ground surface (bgs) to intersect the groundwater interface at approximately 7-8 feet below ground surface (bgs). The monitoring wells will be constructed with 10-feet of 1-inch diameter, 0.010-inch machine slotted PVC well screen and sufficient 1-inch diameter, threaded, flush-joint PVC riser pipe to reach surface grade. The annular space of the borehole will be filled with a well graded silica sand pack from the bottom of the boring to a height of 1-2 feet above the screened interval and the top of the monitoring well will be filled with neat cement grout followed by a flush mounted 8-inch diameter handhole or equivalent set in concrete. The monitoring wells will be purged for development then sampled in accordance with FDEP Standard Operating Procedures (SOP) 001/O1, FS2200. Samples will be placed into pre-cleaned, laboratory provided containers, stored in a chest with ice and delivered using chain-of-custody protocol to a FDOH-certified and NELAP-compliant subcontracted laboratory for analysis.

All non-dedicated sampling equipment and field instruments will be decontaminated after each sample is collected.

4) Vapor Sampling

Consultant shall conduct vapor sampling within the area of the former AST fuel farm to assess for the potential presence of volatile organic compounds (VOC) from six locations within the area of the Project site.

Vapor points will be constructed in boreholes advanced via direct push drilling (DPT) drilling techniques to a depth of approximately ½ -1 foot above the groundwater interface, estimated at approximately 6-8 feet below ground surface (bgs). The sampling points will be constructed with 5-feet of 1-inch diameter polyvinyl chloride (PVC) well screens and sufficient riser to extend above the surface.

A helium tracer gas leak test will be conducted prior to sampling. Approximately three purge volumes will be manually evacuated through Teflon® lined tubing that passes through the shroud. Upon completion of purging, vapor samples will be collected in laboratory supplied, batch certified 1.0-liter (or 6-liter) Summa canisters.

- 5) Laboratory Analytical Program Soil
Up to twenty (20) soil samples will be analyzed for the following parameters:
 - a. Volatile organic compounds (VOC) by EPA Method 8260
 - b. Total Recoverable Petroleum Hydrocarbons (TRPH) by FLPRO Method
 - c. Resource Conservation and Recovery Act (RCRA) Metals, (including arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) by EPA Method 6010/7470. Up to fifteen soil samples will be analyzed.
 - d. Polynuclear Aromatic Hydrocarbons (PAH) by EPA Method 8270. Up to five soil samples will be analyzed for Semi-volatile organic compounds (SVOCs) by EPA Method 8270.

- 6) Groundwater
Up to fifteen (15) groundwater samples will be analyzed for the following parameters:
 - a. VOC by EPA Method 8260
 - b. TRPH by FLPRO Method
 - c. RCRA Metals by EPA Method 6010/7470Up to fifteen groundwater samples will be analyzed for PAH by EPA Method 8270
Up to five groundwater samples will be analyzed for SVOCs by EPA Method 8270.

- 7) Upon completion of Project site activities, Consultant shall prepare a Limited Site Assessment report that will include the following:
 - a. Documentation of field activities;
 - b. Site plan showing pertinent site features;
 - c. Soil boring logs;
 - d. Groundwater sampling logs;
 - e. Soil, Groundwater and Vapor Analytical laboratory results;
 - f. Data evaluation and presentation of pertinent findings; and
 - g. Recommendations concerning further action, if necessary

(D) Geotechnical

- 1) Consultant shall perform geotechnical investigation for the Project site. The geotechnical investigation will be performed in two phases.
- 2) Consultant shall perform Phase 1 geotechnical investigation to include:
 - a. A total of up to five (5) Standard Penetration Test (SPT) borings to a depth of 30 feet will be performed across the Project site to evaluate subsurface conditions.
 - b. Perform three (3) exfiltration tests at depths of 10, 15 and 20 feet below grade as requested by the Civil Engineer.
 - c. Perform laboratory testing to classify soils and determine the soil properties (e.g., moisture content, organic content, Atterberg limits, grain size distribution) as deemed necessary by the engineer.
 - d. Provide estimated seasonal high-water table.
 - e. Provide preliminary geotechnical recommendations for the proposed development.
- 3) Upon completion of schematic design, Consultant shall perform additional boring to include:
 - a. Perform a total of four (4) SPT borings to a depth of 30 feet.
 - b. Perform laboratory testing to classify soils and determine the soil properties (e.g., moisture content, organic content, Atterberg limits, grain size distribution).
 - c. Provide estimated seasonal high-water table.
 - d. Provide geotechnical engineering recommendations for the foundation options and engineering design parameters.
 - e. Provide estimated total and differential settlement of foundations.
 - f. Provide recommendations for design and construction of interior floor slabs.
 - g. Provide Geotechnical recommendations for subgrade preparation/earthwork designs.
 - h. Provide lateral earth pressure coefficients: active, passive and at-rest
 - i. Provide recommendation on pavement thickness options and design parameters
- 4) Provide Environmental oversight, including air monitoring and decontamination services, for all soil borings, due to the anticipated soil contamination at the Project site.

(End of Phase I, Programming)

3.03 Phase II - Schematic Design:

- 3.03.01 Consultant shall confer with representatives of the Contract Administrator to verify and confirm the Program, consisting of a detailed listing of all functions and spaces together with the square footage of each assignable space, gross square footage, and a description of the relationships between and among the principal programmatic elements.
- 3.03.02 Consultant shall, prior to commencing design activities, inspect the site to determine if existing conditions conform to those portrayed on information as may have been provided by the Contract Administrator. Upon discovery of such differing conditions, Consultant shall notify Contract Administrator.
- 3.03.03 Consultant shall present alternative design solutions to the Contract Administrator to illustrate optional creative responses to the architectural program. The Contract Administrator will convene a design review conference at which Consultant shall review with the Contract Administrator these alternative solutions. Alternative approaches should address both design and construction of the project; site use and improvements; selections of materials, building systems and equipment; potential construction methods and methods of project delivery; and Consultant's recommendations concerning the presented alternatives. The Contract Administrator shall identify a preferred design solution which shall then form the basis of Consultant's continuing work on the project and the primary content of the Design Concept and Report further described below.
- 3.03.04 Consultant shall prepare, submit and present for approval by the Contract Administrator Design Concepts and Schematics Report, comprised of the Schematic Design Documents listed below including an identification of any special requirement(s) affecting the Project:
- (A) "Project Transmittal Form" as required by Port Everglades' Seaport Engineering and Facilities Maintenance Division. In the absence of a proprietary form issued by Port Everglades' Seaport Engineering and Facilities Maintenance Division, Consultant shall utilize its own office standard transmittal form (or an equivalent document such as that published by the American Institute of Architects). The Project Transmittal Form must accurately delineate the date of submittal and list each component document of the submittal.
 - (B) For those projects that involve new buildings, building additions and other exterior work, provide a hardcopy and electronic media copy of a site survey with the following information: the legal description of the site, acreage, points of the compass, contours, overall dimensions, vegetation, trees, hardscape elements, adjacent highways and roads, information about ownership and use of adjacent land, locations of on- and off-site utility connections, utility service point entry locations, utility easements, parking areas, service areas, play areas,

athletic fields, bus pick-up areas, parent pick-up areas, existing buildings with height, mechanical cooling towers and chillers, floor elevations (related to base flood elevation as shown on Flood Insurance Rate Maps, Broward County criteria and other applicable documents). The site survey may be an update of informational surveys provided by the Contract Administrator but shall be prepared on electronic media and submitted in both hard and electronic media formats conforming to the Contract Administrator's Electronic Media Submittal Requirements (Attachment 2).

- (C) Concept Drawings. These documents shall be schematic drawings responding to the predesign documentation and architectural program requirements illustrating the general scope, scale, and relationship of project components. Documents shall include, as a minimum, the following in addition to other graphic or descriptive materials Consultant may deem necessary to adequately communicate the Project)
- 1) A site plan showing acreage, points of the compass, scale, contours and general topographical conditions, flood plain elevation and velocity zone (pursuant to FEMA and Broward County criteria, whichever is most stringent), over-all dimensions, adjacent highways, roads, off-site improvements, emergency access, fire hydrants, power transmission lines, ownership and use of adjacent land, walks and paths, vehicle and bike parking areas, preliminary chiller plant/cooling tower/electrical vault locations, accessibility for the disabled, service areas, loading docks, play areas, athletic fields, bus and car loading zones, existing buildings and use, location of proposed building(s) and future additions, relocatable or temporary structures, community use buildings, storage containers, phased construction, preliminary soil borings. A statement shall be included on the site plan identifying the FEMA and Broward County criteria for flood plain and velocity zone in which the project is located. The statement shall be signed and dated by the Architect or Engineer of Record.
 - 2) Floor plans showing points of the compass, over-all dimensions, identity of each space, proposed door locations, accessibility for the disabled, room numbers, mechanical and electrical rooms, any existing buildings and use, future additions, and phased construction.
 - 3) For the selected Schematic Design solution, provide preliminary life-safety plan(s) delineating the necessity for and initial decisions concerning exits, provisions for accessibility for the physically challenged, fire walls, protected corridors, smoke partitions, fire alarm systems, fire sprinkler systems, room names and numbers, and any other life-safety features relevant to the facility. Indicate those facilities, or portions thereof, that will serve as emergency shelters, or which have been designed to incorporate special emergency preparedness features or equipment including a brief notation of those design features and equipment.

- 4) For the selected Schematic Design solution, provide preliminary ADA plan(s) delineating the necessity for and initial decisions concerning compliance with the Florida Accessibility Code for Building Construction (2017 edition or later). Include graphics and notations delineating accessible routes, parking, elevators/ramps/lifts, toilet facilities, signage, telephones, assistive listening systems, and other building equipment and features that will provide accessibility.
 - 5) For the selected Schematic Design solution, provide elevations and sections of the building to fully illustrate and indicate the mass and character of the facility including fenestration, openings, walkways, vertical transportation (elevators, escalators, lifts, ramps and stairs), preliminary material selections, and other building features and spatial relationships.
 - 6) For the selected Schematic Design solution, provide Landscape Concept Drawings indicating preliminary locations and character of proposed landscaped areas that will conform to required zoning and development codes and other jurisdictional requirements of Project's location.
 - 7) For the selected Schematic Design solution, preliminary graphics, concept sketches and other supplementary materials suggesting proposed locations for integrated public art and/or other special spaces which have been programmed for special or thematic design content (including theme-oriented furnishings, graphics, signage, finish materials and other "special" construction such as entryway treatments, etc.) shall be provided.
 - 8) For the selected Schematic Design solution, provide preliminary civil site plan(s) showing, in addition to Phase I site survey requirements, landscaping, drainage, water retention ponds, sewage disposal and water supply system, chilled water supply and return piping and such physical features that may adversely affect or enhance the safety, health, welfare, visual environment, or comfort of the occupants.
- (D) A Preliminary Project Description comprised of a narrative discussion of preliminary material selections, components, assemblies, and systems (including proposed landscape, civil, structural, mechanical, and electrical design elements, components and systems) to be used in the project. Coordinate points of service and preliminary service requirements with Florida Power and Light (FPL), AT&T, cable TV and other utility services as required by the Project's scope and program. The Preliminary Project Description should specifically incorporate, and address Value Engineering and Constructability issues raised during this project phase. Format Preliminary Project Descriptions to match that specified by the latest edition of the Construction Specifications Institute's "Manual of Practice".
- (E) Mechanical Requirements Specific to Remodeling and Addition Projects: Provide a listing of capacities for existing HVAC equipment and the available tonnage for the new connected load. Provide a survey of the condition of the existing mechanical equipment.

- (F) Electrical Requirements Specific to Remodeling and Addition Projects: Provide an electrical load analysis for the existing facility for existing and new loads. Provide a survey of the condition of the existing electrical equipment.
- (G) A Project Development Schedule: Consultant shall prepare a schedule of services (Project Development Schedule) in compliance with Project Schedule and for approval by the Contract Administrator. Such schedule shall show activities including but not limited to Consultant efforts and Contract Administrator reviews and approvals required to complete the design services. This schedule shall initially be submitted to the Contract Administrator for approval within fifteen (15) days of execution of this Agreement. As a condition of payment, Consultant shall submit with each invoice a copy of the approved schedule showing progress (indicated by percentage complete) as of the invoice cutoff date and a forecast of when each phase of Consultant's work will be complete. No subsequent payment shall be made if Consultant has not obtained approval of his work schedule, the schedule is not updated, or a forecast is not submitted with each invoice.
- 1) Include all activities known at this stage of the Project's development for the entire project including the construction process. Illustrate all project activities including any projected or preliminary requirements for creating temporary facilities, relocating County's staff or other personnel, removing and storing furniture, equipment and/or other appurtenances, hazardous material abatement, work by County, work by separate contractors, and any other activities that relate to or that may impact construction of the project (including offsite work and related site reviews, permitting, etc.).
 - 2) Prepare in a bar chart format, or other format as required by the Contract Administrator, which may be further developed and updated for submittal during subsequent phases.
 - 3) Consultant shall not be permitted to deviate from the milestones indicated on the Project Schedule (Attachment 1 of this scope) without specific written authorization from the Contract Administrator.
- (H) The Statement of Probable Construction Cost: Consultant shall submit to Contract Administrator for review and approval a schematic design phase estimate of probable construction cost itemized by major categories and projected to the expected time of bid.
- 3.03.05 Consultant shall investigate and determine the municipal, county and other jurisdictional governmental agency coordination required for the Project and, through the Contract Administrator. Consultant shall prepare and provide a list of permits and approvals required by such agencies to the Contract Administrator and shall coordinate with Contract Administrator concerning the timing, application

requirements, fees and other matters pertaining to those agency approvals. Consultant, as required by the Contract Administrator, shall attend and provide representation at all review meetings, workshops, hearings and Commission/Council meetings concerning the Project as conducted by any and all other agencies having jurisdiction over the Project. Consultant shall be responsible for attending and participating in design reviews conducted by the municipal, county or other jurisdictional governmental agency and shall be responsible for responding in writing to all review comments generated in such reviews and providing revised and resubmitted documents as required by reviewing agencies in response to such reviews.

- 3.03.06 Consultant shall submit five copies of all documents required under this Phase (except where otherwise specified), without additional charge, for approval by the Contract Administrator. The Contract Administrator shall review submitted documents and provide written review comments to Consultant within the time frames established on Attachment 1, Project Schedule. Consultant shall modify and resubmit to Contract Administrator until approved (if not initially satisfactory to the Contract Administrator) within 14 consecutive calendar days from the receipt of Contract Administrator's review comments such documents and drawings as required to fulfill the submittal requirements for this project phase as listed in the paragraphs above.
- 3.03.07 Consultant shall provide presentations of the Schematic Design to County's staff, the public and to the Broward County Board of County Commissioners as required by the Contract Administrator.
- 3.03.08 Consultant shall update Schematic Design drawings to reflect construction phasing as indicated in 1.01.02.
- 3.03.09 Consultant shall update project schedule to reflect construction phasing as indicated in 1.01.02
- 3.03.10 Consultant shall update statement of probable cost to reflect construction phasing as indicated in 1.01.02.
- 3.03.11 Consultant shall provide the following environmental service:

Task 1. Services will include coordination of all environmentally related services specifically related to field efforts or preparation of specific reports, attend project meetings, respond to requests for information and communicate as needed to project team. Meetings will be attended as requested where design and construction contract documents will be coordinated and reconciled throughout project phases and for kickoffs

of new phases of work and to review project goals, continuing project issues, and review performance expectations for the respective phase of the project.

Task 2. Conduct assessment efforts to further establish areas of the site, excluding petroleum impacted areas, where regulated constituents were reported to be present at concentrations of concern in soil and groundwater samples collected. Assess distribution of impacted soil and groundwater within the central portion of the fuel farm and surrounding the maintenance shops at the south side of the site. Include potential vapor issues through re-sampling of vapor points that remain at the site and sampling of new vapor points installed to provide additional information regarding the presence of vapors in the subsurface.

- a. **Fuel Farm.** Analytical results of soil samples collected from within the central portion of the fuel farm reported the presence of arsenic and TRPH. Groundwater samples reported the presence of arsenic in samples collected from the central area. Provide 10 soil borings within the former fuel farm to observe and screen soils and collect soil samples for laboratory analysis to further assess for constituents of concern (COCs) identified within samples collected from this area. 6 shallow groundwater interface monitoring wells will be installed to a depth of approximately 12 feet bgs to intersect the groundwater interface at approximately 4 feet bgs and facilitate the collection of groundwater samples for analysis of COCs. One deep monitoring well will be installed, to a depth of approximately 25 feet bgs to collect a groundwater sample for the constituents of concern.
- b. **Building (Bldg) 67.** Analytical results of soil and groundwater samples collected from this area reported the presence of benzo(a)anthracene in a groundwater sample at a concentration above its GCTL. It is estimated that 10 soil borings and 5 shallow monitoring wells will be advanced within this area to further assess for constituents of concern identified within samples collected from this area. One deep monitoring well will be installed, to a depth of approximately 25 feet bgs to collect a groundwater sample for the COCs.
- c. **Bldg 68.** Analytical results of soil and groundwater samples collected from this area reported the presence of arsenic in soil and groundwater and a suite of petroleum constituents in a groundwater sample at concentrations above its GCTL. It is estimated that 5 soil borings and 5 shallow monitoring wells will be advanced within this area to further assess for constituents of concern identified within samples collected from this area. One deep monitoring well will be

installed, to a depth of approximately 25 feet bgs to collect a groundwater sample for the constituents of concern.

- d. **Bldgs 69 and 612.** Analytical results of soil and groundwater samples collected from this area reported the presence of Benzo(a)pyrene (BaP) and arsenic in soil samples at concentrations above their SCTL and arsenic and benzene in a groundwater sample at concentrations above its GCTL. It is estimated that 10 soil borings and 10 shallow monitoring wells will be advanced within this area to further assess for COCs identified within samples collected from this area. One deep monitoring well, to a depth of approximately 25 feet bgs to collect a groundwater sample for the COCs.

- e. **Soil Sampling.** The soil borings will be advanced utilizing direct-push drilling technology (Geoprobe®) to an anticipated depth of approximately 6 feet bgs, which is expected to be approximately 2 feet beneath the groundwater interface. Soil samples will be collected in two-foot intervals from the surface to the bottom of the soil boring for visual inspection and screened for volatile organic vapors using a properly calibrated organic vapor analyzer (OVA) equipped with a Photo Ionization Detector (PID). The PID will allow for the assessment of organic vapor concentrations in soil samples. Observations of staining, odor, lithology and OVA readings from inspection of soil samples are to be presented summarized on soil boring logs. Locations of borings are to be documented using global positioning system (GPS) coordinates. One soil sample of each soil boring collected from above the anticipated depth to groundwater will be selected for laboratory analysis based on the OVA screening results and field observations. If indications of impacts are not observed from the field evaluation, the soil sample selected from the soil boring for laboratory analysis will be selected from the interval just above the groundwater interface as this interval, referred to as the smear zone, commonly accumulates constituents of concern in response to groundwater fluctuations. Soil samples will be placed into pre-cleaned, laboratory provided containers, stored in a chest with ice and delivered using chain-of-custody protocol to a Florida Department of Health (FDOH)-certified and National Environmental Laboratory Accreditation Program (NELAP)-compliant subcontracted laboratory for analysis of constituents of concern. Samples will be analyzed in the Laboratory Analytical Program section.

- f. **Vapor Sampling.** Consultant will conduct vapor sampling within the area of the ASTs to assess for the potential presence of volatile organic compounds (VOC) and methane from nine locations within the approximate area of the proposed maintenance building and surrounding area. It is unknown if vapor points previously installed remain intact or if new/additional vapor points are needed to be installed. This scope provides for the sampling of nine locations that will include reusing previous sampling points or installing new ones at appropriate locations. Vapor points will also be assessed for the presence of methane using a Landtec GEM 5000 Plus Landfill Gas Monitor on two occasions. Vapor points will be constructed in boreholes advanced via direct push drilling (DPT) drilling techniques to a depth of approximately ½ -1 foot above the groundwater interface, estimated at approximately 6-8 feet bgs. The sampling points will be constructed with 5-feet of 1-inch diameter polyvinyl chloride (PVC) well screens that have a barbed fitting at the top to connect to small bore (0.25 inches O.D.) Teflon®-lined sample tubing. A sand filter pack will be placed within the annulus to a height of six inches above the screened interval. A one-foot thick layer of dry, granular (No. 20) bentonite will be placed in the borehole annulus above the sand pack followed by a layer of bentonite hydrated with deionized water to one-foot below land surface. The remaining annulus will be completed with neat, cement grout. A Swagelok® connection fitting will be attached to the end of the tubing. Soil vapor points will be allowed to equilibrate overnight after installation. Prior to sample collection, a minimum of three volumes of air will be evacuated followed by a tracer test. One purge volume includes the internal tubing volume, volume of sand pack void space, and volume of dry bentonite void space. A helium tracer gas leak test will be conducted prior to sampling. The tracer gas serves as a quality assurance/quality control (QA/QC) method to verify the integrity of the soil vapor point seal. A field instrument capable of measuring helium concentrations down to 25 parts per million will be used to verify the presence and concentration of tracer gas. The protocol for using a tracer gas is to enclose the tubing and ground interface with a shroud and saturate the shroud atmosphere with helium. Approximately three purge volumes will be manually evacuated through Teflon® lined tubing that passes through the shroud. Purge samples will be screened for helium to assess for leaks in the well seal after removal of each well volume. If helium concentrations are less than ten percent of the helium concentration in the shroud, the annulus will be considered to be sufficiently sealed.

Upon completion of purging and allowing the vapor pin to equilibrate for several hours, a laboratory supplied, batch certified 1.0-liter (or 6-liter) Summa canister will be connected to the vapor pin with silicone tubing using Swagelok® fittings. Each sample canister will be filled using a dedicated flow controller and set to a sample rate of less than or equal to 200 milliliters per minute. An in-line vacuum gauge will be installed to the sample controller to verify initial vacuum levels within the canister and as an indicator that final equalization has been reached (i.e. sampling is complete)..The vapor samples collected will be analyzed by EPA Method TO-15 to assess for the presence of VOCs.

g. Groundwater Sampling. The monitoring wells will be constructed as follows:

- Installation of 10-feet of 1-inch diameter, 0.010-inch machine slotted PVC well screen with a threaded bottom cap;
- Installation of 1-inch diameter, threaded, flush-joint PVC riser pipe to extend above surface grade; and,
- Addition of well graded 20/30 silica sand for annular sand pack from the bottom of the boring to a height of 1-2 feet above the screened interval.
- Placement of neat cement grout within the upper 1 – 2 feet of borehole to extend to 4 inches below the surface.
- Installation of an 8-inch diameter handhole set within concrete where it is finished with a watertight locking cap.

The monitoring wells will be purged for development, then shallow groundwater samples will be collected using the quiescent sampling method in accordance with Florida Department of Environmental Protection (DEP) / Standard Operating Procedures (SOP) 001/01, FS2200, where a peristaltic pump is utilized to draw groundwater to the surface for introduction into parameter specific samples provided by the laboratory. Stability data including pH, temperature, conductivity, dissolved oxygen, and turbidity will be collected to document connectivity with the surrounding aquifer and groundwater sampling logs will be prepared for each sampling location. As metals are being sampled the potential for groundwater analytical results to be affected by turbidity in the groundwater samples collected, groundwater samples will be field filtered with an inline 1-micron glass filter to assist in accounting for sediments that may be entrained in the samples as an artifact of the sampling method. Samples will be placed into pre-cleaned, laboratory provided containers, stored in a chest with ice and delivered using chain-of-custody protocol to a FDOH-certified and NELAP-compliant subcontracted laboratory for analysis of constituents of concern.

Details of the selected parameters are provided below in the Laboratory Analytical Program section.

Due to the potential for metals to adsorb onto sediments/ fines that may be entrained in groundwater samples, the groundwater samples will be analyzed for total and dissolved metals to assist accounting for potential sediment contribution. The dissolved analyses require that the groundwater samples be filtered in the field with a 1-micron in line glass filter.

Purge/development water will be allowed to infiltrate on unpaved areas or evaporate on paved areas in the vicinity of the groundwater sample locations. Boreholes will be backfilled to grade with a mixture of soil cuttings from the borehole and clean silica sand and finished with surfacing material to match the surrounding area. If indications of elevated concentrations of regulated constituents are obvious, the development water will be stored temporarily onsite in labeled 55-gallon drums pending the results of the laboratory analyses. The drum labels will identify the apparent contents of the drum and the initial accumulation date.

All non-dedicated sampling equipment and field instruments will be decontaminated after each sample is collected using a non-phosphate soap wash followed by a potable water rinse

- h. Septic System Sampling.** Consultant will collect water and/or sludge samples from the septic tanks that will be abandoned to understand if regulated substances remain within the septic system/ tank. The sampling effort will be conducted prior to the proper abandonment as the abandonment requires that the bottom of the tank be opened so that the tank does not hold liquids. It is important to understand if regulated substances contained within the tank exists so they can be removed prior to abandonment and not released to the environment. Consultant will collect samples of up to five sludge and five water samples of materials remaining within the tanks for analysis of parameters of concern as described in the Laboratory Analytical Program section
- i. Laboratory Analytical Program.** Soil and groundwater samples collected during the investigation will be submitted to the analytical laboratory under standard chain-of-custody procedures for standard turnaround time of 5 – 7 business

days. The laboratory analytical program as requested by the client is described as follows:

<u>Analysis*</u>	<u>Sample Type</u>	<u>No. of Samples</u>	<u>Method</u>
Fuel Farm			
<u>VOCs</u>	<u>Soil</u>	<u>10</u>	<u>EPA Method 8260</u>
<u>PAH</u>	<u>Soil</u>	<u>10</u>	<u>EPA Method 8270</u>
<u>Arsenic</u>	<u>Soil</u>	<u>20</u>	<u>EPA Method 6010</u>
<u>TRPH</u>	<u>Soil</u>	<u>20</u>	<u>FL-PRO Method</u>
<u>VOCs</u>	<u>Groundwater</u>	<u>20</u>	<u>EPA Method 8260</u>
<u>PAH</u>	<u>Groundwater</u>	<u>20</u>	<u>EPA Method 8270</u>
<u>Arsenic, Total and Dissolved</u>	<u>Groundwater</u>	<u>20</u>	<u>EPA Method 6010</u>
<u>TRPH</u>	<u>Groundwater</u>	<u>20</u>	<u>FL-PRO Method</u>
<u>VOC</u>	<u>Vapor</u>	<u>9</u>	<u>EPA TO-15</u>
Maintenance Buildings			
<u>VOCs</u>	<u>Soil</u>	<u>25</u>	<u>EPA Method 8260</u>
<u>PAH</u>	<u>Soil</u>	<u>25</u>	<u>EPA Method 8270</u>
<u>Arsenic</u>	<u>Soil</u>	<u>25</u>	<u>EPA Method 6010</u>
<u>TRPH</u>	<u>Soil</u>	<u>25</u>	<u>FL-PRO Method</u>
<u>VOCs</u>	<u>Groundwater</u>	<u>46</u>	<u>EPA Method 8260</u>
<u>PAH</u>	<u>Groundwater</u>	<u>46</u>	<u>EPA Method 8270</u>
<u>Arsenic, Total and Dissolved</u>	<u>Groundwater</u>	<u>46</u>	<u>EPA Method 6010</u>
<u>TRPH</u>	<u>Groundwater</u>	<u>46</u>	<u>FL-PRO Method</u>
<u>VOCs</u>	<u>Septic Tank</u>	<u>10</u>	<u>EPA Method 8260</u>
<u>SVOC</u>	<u>Septic Tank</u>	<u>10</u>	<u>EPA Method 8270</u>
<u>RCRA Metals</u>	<u>Septic Tank</u>	<u>10</u>	<u>EPA Method 6010/7470A</u>
<u>TRPH</u>	<u>Septic Tank</u>	<u>10</u>	<u>FL-PRO Method</u>

* Volatile organic compounds (VOC); Semi-Volatile organic compounds (SVOC); Polynuclear Aromatic Hydrocarbons (PAH); Total Recoverable Petroleum Hydrocarbons (TRPH); Resource Conservation and Recovery Act (RCRA) Metals

Consultant shall include additional sampling of the monitoring wells as part of the assessment efforts as may be required to verify analytical results.

- j. **Survey.** Monitoring well top of casings will be surveyed by Consultant's Florida Licensed Land Surveyor to enable calculation of groundwater flow within the work areas.
- k. **Investigative Derived Waste.** Soil cuttings and development / purge water from impacted soil borings and monitoring wells will be containerized in 55-gallon drums for proper disposal. The wastes will be characterized through laboratory analysis and, upon receipt of approval from the disposal facility, the drums will be picked and transported to a licensed facility for proper disposal. It is assumed that the wastes will meet the criteria for non-hazardous disposal.
- l. **Report Preparation.** Upon completion of site activities, Consultant will prepare an Expanded Limited Site Assessment report that will include the following:
 - Documentation of field activities;
 - Site plan showing pertinent site features;
 - Soil boring logs;
 - Groundwater sampling logs;
 - Soil, Groundwater and Vapor Analytical laboratory results;
 - Data evaluation and presentation of pertinent findings; and
 - Recommendations concerning further action, if necessary.

Assessment will be performed in accordance with Chapter 62-780, Florida Administrative Code (FAC) or ASTM E1903-11.

Task 3 - Performance of Test Pits /Removal of Underground Storage Tanks

- a. **Test Pits.** Consultant will conduct exploratory excavations (or test pit) in the approximate area of the subsurface anomaly identified during the GPR investigation and within the areas of the suspect former underground storage tanks (USTs) (three areas) as follows:
 - There are concerns that this anomaly may be the location of USTs that were located to the east side of Bldg. 67.

- The other test pits will be excavated to the east of Bldg. 68 and west of Bldg. 69, where additional USTs were reportedly located. The area to the east of Bldg. 68, where four vents line remain but no building plans indicted the size or type of USTs, was reported to be impacted with petroleum hydrocarbons, which supports the former use of one or more USTs. The area to the west of Bldg. 69 was shown in building plans to contain two USTs of unknown size, each with its own dispenser.
- The area to the east of Bldg. 612., is the location of a septic drainfield and groundwater impacts were reported for this location in Consultant's LSI. This area may be further investigated through excavation if additional soil and groundwater impacts are reported to be present during expanded assessment efforts.

Consultant will mobilize a field crew and excavation equipment to conduct an exploratory excavation in the approximate location of the observed anomaly and other areas of concern. Consultant understands that existing pavement surfacing will be damaged during these activities. Consultant will excavate through known site soils but may need to stop excavation activities if stone or gravel typical of exfiltration trenches is encountered, so as not to damage current drainage systems.

Consultant will observe soil samples collected from the excavation for visible indications of impacted materials (staining, odor, etc) and screen these soil samples for evidence of petroleum hydrocarbon impacts and potential health and safety concerns. utilizing an OVA equipped with a PID. Consultant will obtain photographs from the different depths of the excavation and the materials. Based on our experience with UST areas, anticipating excavating to a depth of approximately 6 feet bgs within an area of approximately 5 feet wide by 10 feet long.

The materials excavated will be backfilled into the original excavation, unless OVA screening and/or evidence of staining and/or odors warrants segregation and staging of the material pending further characterization. The backfilled material will be compacted using machinery to the approximate grade. Compaction or density testing is not included.

Repaving is included within the scope of work and will include up to 70 square feet for each of the three areas.

Budgetary numbers are provided if excavated soils cannot be reused and require characterization and disposal. Consultant recommends that the asphalt and surface

materials be staged by the Port in a secure location within the fuel farm for handling during site redevelopment.

During the excavation activities, the excavation area will be clearly demarcated and isolated from the site operations to prevent access by non-authorized personnel. Each of the two excavation activities will be completed within one working day and an open excavation will not be left overnight.

- b. **Underground Storage Tank Removal and Closure Assessment.** As it is assumed that the USTs remain to the east of Bldg. 67, and their presence will be confirmed during the performance of test pits, Consultant is including the activities to permit and undertake the removal of the 2,000-gallon gasoline UST and a 550-gallon UST from this location.

Consultant will contract the removal of the USTs and piping (UST system) by a State of Florida licensed Pollutant Storage System Contractor (PSSC). The removal process will include the following:

- Permitting through BCEPGMD and the Port Everglades.
- Removal of surfacing and exposing the tops of the USTs.
- Cleaning the interior of the USTs and coordination of a vacuum truck to pump out residual petroleum for proper disposal at a licensed facility.
- Excavation of impacted soil from the UST pit - assumed to be up to 75 tons of impacted soils.
- Transportation and disposal of up to 75 tons of impacted soils. Budgeting for soils to be considered hazardous waste due to presence of TCLP lead. If proven to be non-hazardous, disposal will be at a local landfill permitted to accept non-hazardous petroleum contaminated waste.
- Backfill of excavation with imported fill.
- Place fill in lifts and compact to 98%. Densities to be taken for each lift.
- Replace asphalt surfacing of approximately 300 square feet.

Consultant will direct and oversee the removal effort and as part of the removal oversight, Consultant will document the proper cleaning of the USTs prior to removal and will be onsite to meet with representatives of the local regulatory agency, BCEPGMD as part of the UST system removal process.

The closure assessment activities will be conducted in general accordance with the FDEP's *Instructions for Conducting Sampling During Underground Storage Tank Closure* document dated April 2016 (UST Closure Guidance).

The PSSC will clean and remove the USTs for scheduled inspection by BCEPGMD (to be coordinated by the PSSC), after which the USTs will be transported offsite for proper disposal or recycling at a licensed facility. Manifests / receipts are to be provided to Consultant by the PSSC to document the disposal of liquids from the cleaning of the UST and the UST system disposal as part of the closure process per Chapter 62-761, FAC.

c. UST System Closure Assessment

- 1. Field Screening.** Prior to the removal of the UST system after the surfacing material has been removed, Consultant will collect soil samples for observations and field screening of organic vapors using a properly calibrated OVA/PID. As the USTs are exposed and removed from the excavation, soil samples will be collected from the sidewalls and bottom of the excavations for field screening using the OVA /PID.

In accordance with the Closure Guidance, soil samples will be collected for screening and potential analysis as follows per UST system component:

- USTs – Soil screening locations will be spaced on an approximately 5-foot grid pattern with discrete soil samples collected approximately 2 feet bgs and 5 feet bgs based on the anticipated depth to groundwater.
- UST System Piping – Soil screening locations (soil borings) will be spaced approximately every 20 feet of fuel piping with soil samples collected approximately one foot below the piping and/or above the groundwater table interface, whichever is first encountered.
- Dispensers – Soil screening locations (soil borings) will be placed either directly below (if possible) or next to each fuel dispenser island with soil samples collected for screening at approximately 2-foot intervals to a minimum depth of 2 feet bgs or to the groundwater table interface, whichever is encountered first.

If organic vapors are identified above the 10 parts per million (ppm), action level further evaluation and sampling will take place to understand if the soils are impacted with petroleum hydrocarbons. Consultant will, with approval from the Port Everglades project manager or representative, direct the PSSC to excavate up to 75 tons of impacted soils from the site and stockpile (bermed and on plastic sheeting) them for proper handling and disposal. Stockpiled soils will be covered with plastic sheeting to minimize the potential impacts of erosive forces from wind and rain.

2. **Soil Sampling.** Three soil samples will be collected for laboratory analysis from the former piping run, the former dispenser island and the UST excavation in accordance with the UST Closure Guidance. This scope of work also includes the collection and analysis of seven confirmation soil samples to verify that the impacted soils have been adequately removed.

The soil samples collected from each portion of the UST system will be placed into pre-cleaned, laboratory provided containers, stored in a chest with ice and delivered using chain-of-custody protocol to a Florida Department of Health (FDOH) certified and National Environmental Laboratory Accreditation Program (NELAP) compliant subcontracted laboratory for analysis of constituents of concern. Details of the selected parameters are provided below in the Laboratory Analytical Program section.

3. **Groundwater Sampling.** Subsequent to the removal of the USTs, Consultant will install two temporary monitoring wells using a direct push technology (DPT) drilling rig within the backfilled UST excavation and the former dispenser island to collect representative groundwater samples from each potential source area. The temporary monitoring wells will be constructed with a pre-packed monitoring well screen, or similar, where a 1-inch diameter by 5-foot long section of 0.010 inch machine slotted polyvinyl chloride (PVC) well screen is surrounded with a 20/30 grade sand pack that is held to the screen with a stainless steel wire mesh. The screened section is threaded to a 5-foot section of 1-inch PVC solid riser that is capped at the bottom. Upon completion of the installation of the temporary monitoring wells, the temporary monitoring wells will be developed until the water runs clear of sediments.

Groundwater samples will be collected using the quiescent sampling method in accordance with the FDEPs Standard Operating Procedures for Field Activities, DEP-SOP-001/01, FS2200, where a peristaltic pump is utilized to draw groundwater through dedicated tubing to the surface for introduction into parameter specific samples provided by the laboratory. Stability data including pH, temperature, conductivity, dissolved oxygen, and turbidity will be collected to document connectivity with the surrounding aquifer and groundwater sampling logs will be prepared for each sampling location. All non-dedicated sampling equipment and field instruments will be decontaminated prior to collection of each sample using a non-phosphate soap wash followed by a potable water rinse.

Samples will be placed into pre-cleaned, laboratory provided containers, stored in a chest with ice and delivered using chain-of-custody protocol to a FDOH-certified and NELAP-compliant subcontracted laboratory for analysis of constituents of

concern. Details of the selected parameters are provided below in the Laboratory Analytical Program section.

Purge/development water will be spread on an impervious surface to evaporate or allowed to infiltrate back into the surrounding soils. If indications of elevated concentrations of regulated constituents are obvious, the development water will be placed in labeled 55-gallon drums for temporary onsite storage pending the results of the laboratory analyses. Costs for the drum or disposal of the drum are not included and at Contract Administrator's direction, to be covered from reimbursables, if impacted groundwater is encountered.

- 4. Laboratory Analytical Program.** Soil and groundwater samples collected during the UST and AST closure assessment will be submitted to the analytical laboratory under standard chain-of-custody procedures for standard turnaround time of 5 business days. Consultant has assumed that the areas of potential concern will require sampling and has provided an estimated number of soil and groundwater samples that will be collected from the site for laboratory analysis based on potential source areas (e.g. USTs, dispenser islands, piping) with an associated laboratory analysis budget. This estimated total also includes collection and analysis of eight soil samples that may be needed to verify that impacted soils encountered in the excavation were adequately removed; if these soil samples are not analyzed they would not be charged to the project. The laboratory analytical program including the parameters specified by the FDEP Closure Guidance includes the following analyses:

<u>Analysis</u>	<u>Sample Type</u>	<u>No. of Samples</u>	<u>Method</u>
<u>UST Closure Assessment</u>			
<u>Volatile Organic Compounds (VOCs)</u>	<u>Soil</u>	<u>3</u>	<u>EPA Method 8260</u>
<u>Polynuclear Aromatic Hydrocarbons (PAHs)</u>	<u>Soil</u>	<u>3</u>	<u>EPA Method 8270</u>
<u>Total Recoverable Petroleum Hydrocarbons (TRPH)</u>	<u>Soil</u>	<u>3</u>	<u>FL-PRO Method</u>
<u>Toxicity Characteristic Leaching Procedure Lead</u>	<u>Soil</u>	<u>3</u>	<u>EPA Method 1311/6010</u>
<u>VOCs</u>	<u>Groundwater</u>	<u>2</u>	<u>EPA Method 8260</u>
<u>PAHs</u>	<u>Groundwater</u>	<u>2</u>	<u>EPA Method 8270</u>
<u>TRPH</u>	<u>Groundwater</u>	<u>2</u>	<u>FL-PRO Method</u>
<u>Lead</u>	<u>Groundwater</u>	<u>2</u>	<u>EPA Method 6010</u>
<u>Ethylene Dibromide (EDB)</u>	<u>Groundwater</u>	<u>2</u>	<u>EPA Method 8011</u>
<u>Confirmation Soil Samples of Excavated Area (if required)</u>			
<u>VOC</u>	<u>Soil</u>	<u>7</u>	<u>EPA Method 8260</u>

<u>PAHs</u>	<u>Soil</u>	<u>7</u>	<u>EPA Method 8270</u>
<u>TRPH</u>	<u>Soil</u>	<u>7</u>	<u>FL-PRO Method</u>
<u>Lead/TCLP Lead</u>	<u>Soil</u>	<u>7</u>	<u>EPA Method 1311/6010</u>
<u>Estimated Number of Samples (Soil/Groundwater)</u>		<u>10/2</u>	

d. Report Preparation. Upon completion of site activities, a Tank Closure Assessment Report (TCAR) will be prepared that will include the following:

- Documentation of field activities;
- Site plan showing pertinent site features;
- Analytical laboratory results;
- Disposal manifests and closure forms, as applicable;
- Data evaluation and presentation of pertinent findings; and
- Recommendations concerning further action, if necessary.

Task 4. Geotechnical evaluation of organic material

Borings performed at the referenced project site indicates presence of organic silt, organic silty sand that was encountered extending between 8 to 16 feet below existing grade. Due to presence of this material, foundation bearing on existing soils will experience settlement that will exceed tolerable limits. To overcome this, Consultant’s geotechnical report recommended deep foundations consisting of auger cast-in-place piles or shallow foundations baring on soil after ground improvement. However, due to environmental concerns at the site, the client is considering removal and replacement of the organic silt material. To evaluate the extent of this material to approximately 50 feet outside the footprint of the building, the client has asked Consultant to perform additional soil borings.

The scope of services for the Geotechnical Engineering Evaluation to be provided by Consultant are summarized in the following paragraphs.

Field Program – Based on the proposed structures, our previous subsurface exploration within the project area, existing civil and structural plans, we propose the following scope for field exploration:

- Twenty (20) borings to a depth of 20 feet bgs within an area extending approximately 50 feet beyond the footprint of the proposed building.
- a. **Boring Layout and Elevations:** We will use handheld GPS equipment to locate borings with an estimated horizontal accuracy of +/-20 feet. Field measurements from existing site features may be utilized.
- b. **Subsurface Exploration Procedures:** We will advance soil borings with truck-mounted drill rig using rotary wash techniques as necessary depending on soil conditions. Five samples are obtained in the upper 10 feet of each boring and at intervals of 5 feet thereafter. We will obtain representative samples primarily by the split-barrel sampling procedure. In the split-barrel sampling procedure, a standard, 2-inch O.D., split-barrel sampling spoon is driven into the boring with a 140-pound automatic SPT (Standard Penetration Test) hammer falling 30 inches (ASTM D1586). We will record the number of blows required to advance the sampling spoon the last 12 inches of an 18-inch sampling interval as the standard penetration resistance value, N.

No borings will be terminated in soft soils with an SPT result of 5 bpf or less, fill soils or organic material, ensuring that the borings are extended beneath the organic material of concern. The samples will be placed in appropriate containers in accordance with ASTM D4220, taken to our soil laboratory for testing, and classified by a Geotechnical Engineer. In addition, we will observe and record groundwater levels during drilling and sampling. Samples will be retained for a period of 6 months after completion of drilling unless otherwise directed.

Our exploration team will prepare field boring logs as part of standard drilling operations including sampling depths, penetration distances, and other relevant sampling information. Field logs include visual classifications of materials encountered during drilling, and our interpretation of subsurface conditions between samples. Final boring logs, prepared from field logs, represent the Geotechnical Engineer's interpretation, and include modifications based on observations and laboratory tests.

- c. **Boring Completion:** We will backfill borings with cementitious grout upon completion.
- d. **Safety.** Consultant is not aware of environmental concerns at this project site that would create health or safety hazards associated with our exploration program; thus, our Scope considers standard OSHA Level D Personal Protection Equipment (PPE) appropriate. Our Scope of Services does not include environmental site assessment

services, but identification of unusual or unnatural materials encountered while drilling will be noted on our logs and discussed in our report.

Exploration efforts require borings (and possibly excavations) into the subsurface, therefore Consultant complies with local regulations to request a utility location service through Sunshine State One Call of Florida (SSOCOF). We consult with the owner/client regarding potential utilities, or other unmarked underground hazards. Based upon the results of this consultation, we consider the need for alternative subsurface exploration methods, as the safety of our field crew is a priority.

Private utilities should be marked by the owner/client prior to commencement of field exploration. Consultant will not be responsible for damage to private utilities not disclosed to us.

e. Engineering and Project Delivery. The geotechnical data report will provide the following:

- Site and Boring location plans
- Stratification based on visual soil classification
- Boring logs with field and laboratory data
- Water levels at the time of drilling
- Subsurface exploration procedures
- Description of subsurface conditions
- Evaluate extents of the organic silt material

The geotechnical recommendations in the report submitted July 10, 2020 for this project may need to be revised if a decision is made to remove and replace the organic silt.

Task 5. Coordination and Evaluation

Consultant will provide documents and specifications as part of the technical documents prepared in various sections of this scope for use by the development team. These services can be completed in advance of, and during redevelopment of the project site, however, construction limitations may be imposed due to the presence of impacted materials in areas of the site (i.e. stormwater exfiltration). Consultant will advise regarding options, timing, and costs of implementing services within this scope as well as subsequent phases which get directly into the remediation of the site.

Consultant will attend meetings on estimated biweekly basis, in person and telephonically, to support site development and to answer questions in association with implementing environmental remediation prior to, during, and subsequent to redevelopment of the site.

Task 6. Post Occupancy Evaluation

Consultant will provide a post occupancy evaluation of site conditions and operations 11 months after construction of the new facility is complete. Consultant's team will inspect environmental components installed as part of the construction (monitoring wells, remediation systems, vapor mitigation system) to verify that they are in proper operating conditions and operating in accordance with design specifications. Upon completion of the inspection, a Post Occupancy Evaluation report will be provided which summarizes the observations and findings.

Task 7 – Construction Materials Testing

The scope of work in the field will include verification for compliance with contract documents of the items incorporated into the project limited to operations related to earthwork operations. Scope is based on the information provided in the project plans provided.

1. During Earthwork Operations:

Consultant will provide qualified technicians as requested to sample soil materials from the site, obtain earthwork density readings and record those findings on daily reports.

In our laboratory, Consultant will perform the following tests when required:

- Sieve Analysis
- Atterberg Limits
- Organic Content
- Standard Proctor
- Modified Proctor
- Limerock Bearing Ratio (LBR)

2. During Concrete Operations:

Consultant will provide qualified technicians as requested to sample concrete. Consultant will perform the following tests:

- Concrete Compressive Strength

3. Engineering & Management Services:

Our services specifically exclude job site safety responsibility and our services do not relieve any contractor/subcontractor from complying with project specifications.

4. Reporting:

Documentation is critical to the success of any construction project. Consultant shall keep proper documentation of visual observations, direct measurements, photographic documentation, and field notes. This information which will be distributed to the team timely, will have to be properly reviewed by Consultant.

Consultant created its Construction Materials Engineering and Lab Management System (CMELMS) to report the data that will be generated during the field and lab testing. This system allows Consultant to distribute field and laboratory reports in real time and quickly sort through the information to consult on critical issues.

If tests made on our side indicate non-compliance with the contract documents or referenced specifications, we will promptly notify you so corrective action can be taken and documented. The test results information is quickly entered into the system and formal reports are produced.

(End of Phase II, Schematic Design)

3.04 Phase III - Design Development:

3.04.01 After written Notice to Proceed from Contract Administrator and based on the approved Programming report and any adjustments authorized by the Contract Administrator in Scope or Budget, Consultant shall prepare, submit and present for approval by the Contract Administrator, Design Development Phase documents, comprised of the following:

(A) "Project Transmittal Form" as required by Port Everglades' Seaport Engineering and Facilities Maintenance Division.

(B) Drawing and Specification Documents including the following:

1. Civil site plan(s) showing landscaping, drainage, water retention ponds, sewage disposal and water supply system, chilled water supply and return piping and such physical features that may adversely affect or enhance the safety, health, welfare, visual environment, or comfort of the occupants.

2. A conceptual site and building phasing plan that allows for the existing facility to remain in use during Phase 1. The Plan must show the coordination of the phasing across all disciplines.
3. A statement, signed and dated by Consultant or designated Subconsultant, included on the site plan identifying the number of existing trees, the number of required trees, and the number of new trees to be planted.
4. Soil testing results including a copy of the Geotechnical Engineer's report on the site including soil borings and other testing necessary to determine the subsurface conditions on site. When unusual soil conditions or special foundation problems are indicated, submit the proposed method of treatment and any recommendations for additional special testing.
5. Provide additional testing to determine the final remediation requirements. Prepare a remediation plan, coordinated with the geotechnical report to provide a soils solution that works with both the environmental requirements as well as the soil preparation for the foundations of the building. A final plan and specification including an overall schedule for the permitting and completion of the work.
6. Floor plan(s) including, but not be limited to, the following:
 - a. A floor plan drawn at an architectural scale that will allow the entire facility to be shown on one sheet, without break lines and which indicates project phasing as applicable to the Project.
 - b. Floor plans drawn at 1/8 inch or larger scale showing occupied spaces or special rooms with dimensions, equipment and furnishing layouts, sanitary facilities, stairs, elevators, and identification of accessible areas for the disabled.
 - c. A furniture and equipment plan at an architectural scale that will allow the entire facility (or respective floor of a multi-story building) on a single drawing sheet.
 - d. Floor plans for additions to an existing facility: Indicate the connections and tie-ins to the existing facilities, including all existing spaces, exits, plumbing fixtures and locations, and any proposed changes thereto. Distinguish between new and existing areas for renovation, remodeling, or an addition.

- e. Large scale plans (at a minimum of ¼ inch scale) for restrooms, kitchens, stairs, and other spaces that require detailed delineation of furniture, fixture and equipment. Provide detailed plans (at a minimum of ½ inch scale) for mechanical rooms, electrical rooms, PBX rooms, and elevator machine rooms.
- f. Reflected ceiling plan(s) (corresponding to scale, orientation and layout of building floor plans) indicating light fixture layout, air diffusers and return grilles, other ceiling mounted mechanical/plumbing system components, ceiling mounted electrical system components, proposed soffits, ceiling height changes, ceiling material changes, access panels, and other principal ceiling design features.
- g. Formatting (through the use of break lines as necessary) allowing the use of standard 24 inch by 36 inch drawing sheets. (Larger sheet sizes may be used only with advance written authorization of the Contract Administrator.)

- 7. Preliminary Room Finish Schedule.
- 8. Preliminary Door Schedule.
- 9. Life-safety plans to show exit strategy, rated doors, rated walls and partitions, emergency wall openings, ramps, vertical lifts and other life safety equipment applicable to the project such as working stage protection, range and fume hoods, eye wash, emergency showers, etc.
 - a. Indicate and provide information concerning occupancy type, construction type, building area(s) (in square feet), total building occupancy, fire zone, maximum travel distances allowed/provided, maximum dead end corridor allowed/provided, minimum exit corridor width allowed/provided, UL and/or other classification(s) of proposed finishes, determination that building has fire sprinklers, notations concerning installation of life safety equipment by certified specialty sub-contractors pursuant to Florida Administrative Code Rule 4a-b and section 489.105(n), Florida Statutes and other applicable rules and regulations.
 - b. By symbol, indicate exits (required/provided), fire extinguishers, fire alarm equipment, annunciator panels, smoke vents, master valves and emergency disconnects, emergency exit lighting, emergency power equipment, fire sprinklers, fire valve cabinets, exit signs, smoke and fire dampers, generator(s) and other life-safety equipment relevant to the facility.

- c. By symbol, indicate connections and tie-ins to existing equipment.
- 10. Updated ADA Plan(s) indicating the further development of the facility's accessible features.
 - a. Indicate the methods used to permanently define the means of egress, such as surface finish or color for open office and administrative spaces.
- 11. Plumbing fixture locations, fixture schedule and fixture unit calculations.
- 12. All exterior building elevations and sufficient building sections as necessary to fully illustrate and indicate the scale, massing and spatial relationships of the facility.
- 13. Typical building sections to show vertical dimensions, proposed construction materials, and relationship of finished floor to finished grades.
- 14. Preliminary Structural Drawings including plans and sections indicating systems, connections and foundations. These drawings may be structural roughs.
- 15. Mechanical Drawings including floor plans, reflected ceiling plans and diagrams of the facility's air conditioning (HVAC), plumbing, fire sprinkler and other mechanical building systems required for distribution and disposal of solids, fluids and gases within the facility. Include duct layout, air handling equipment, return air systems, fresh air intakes, air handling equipment, plumbing lines, equipment and fixtures, location of grease trap(s), LP gas tank location, natural gas pipe lay out, and any tie in or connection to existing utilities. Enhance systems description to include a description of proposed HVAC system equipment including the chiller, pumps, AHU's, cooling tower, electric duct heaters, etc. Ductwork may be presented as single line diagrams except for those areas in which ductwork or other air handling equipment is large, within tightly confined or unusually configured spaces, or within close proximity to other duct runs and/or equipment.
- 16. Electrical Drawings including reflected ceiling plans, lighting layouts for the outdoors and interior spaces, and a one-line diagram of the electrical distribution showing electrical outlets for all systems in all spaces. Indicate location of all the main components of the electrical system such as transformers, panels, and main switch board, and emergency generator, location of cable or closed circuit television head-ins, radio antennas, , master clock, and fire alarm panel. Include principal equipment and rack locations for computer networking, telecommunications and other communications/computer systems. Show locations of all primary building mechanical equipment such as chillers, air

handler units, etc. and their respective electrical connections. Provide plans which indicate preliminary locations of telephone, power and computer networking connections necessary for each space within the facility. Delineate preliminary cable tray after consulting with County to determine County's preference.

17. Landscape and Irrigation Drawings including preliminary designs for a code conforming landscape layout and supporting irrigation system. Landscape drawings should indicate preliminary locations of major planting areas (trees and planting beds), existing plant materials designated to remain and requiring protection, preliminary plant species selections, and any "special" landscape features. Irrigation system drawings should indicate preliminary system selections, water sources and schematic distribution concept.
18. Equipment and Furnishing Schedules: Indicating equipment and furnishing items that will be provided by the Contractor and those that will be provided by the Contract Administrator or others. Provide documents in hardcopy or electronic media as developed on either spreadsheet or database software. Format schedule on a "by room" basis to include the room numbers and room names established for each space. Assign a unique identifying number to each piece of furniture and/or equipment scheduled.
19. Equipment and Furnishing Drawings: Provide floor plans indicating the locations, scale and proposed arrangement of all furniture and equipment items including those that will be provided by the Contractor and those that will be provided by the Contract Administrator or others.
20. Specification Table of Contents:
 - a. Organized according to the Specification Section numbering system specified in the Construction Specifications Institute's 2014, six-digit format edition of MasterFormat current on the date of execution of the Contract.
 - b. Formatted to conform to the formats for the table of contents as established by the Construction Specifications Institute's Manual of Practice (latest edition).
 - c. Complete for Divisions 2 through 48 documenting project decisions and giving general description of all finishes, materials, and systems including civil, structural, HVAC, electrical, plumbing, and specialty items, including fire sprinklers, alarm systems, electronic controls and computer networking components.

- d. Provide "cut-sheets", product information, data, and samples as requested by Contract Administrator or as necessary to communicate Consultant's design intent to the Contract Administrator.
- e. Provide content edited on a project specific basis for the project described in this agreement. Specifications reflecting Consultant's other or past projects submitted in an unedited or partially edited form obvious to the Contract Administrator will be returned un-reviewed to Consultant. For any such returned outline specifications, Consultant shall prepare and re-submit at no additional cost to County replacement outline specifications edited to specifically describe the project described in this agreement.

(C) Florida Energy Efficiency Code for Building Construction (FEEC). FEEC forms, including calculations for mechanical systems, documenting energy efficiency ratio rating of HVAC equipment, electrical systems, insulation, and building envelope shall be submitted to the Contract Administrator for review and approval with the Phase II documents.

(D) Consultant shall advise Contract Administrator of any adjustments to the Programming and Schematic Design Phase estimate of probable construction cost. Consultant shall describe the reasons for adjustments, including a history of the events that lead to those adjustments.

(E) An updated Project Development Schedule reflecting development and anticipated schedules for all subsequent project activities.

(F) A letter from Consultant and each of the major technical disciplines and any necessary Subconsultants explaining how each previous review comment (as generated by the Contract Administrator and other reviewing agencies) concerning the Project have been addressed and corrected.

(H) A letter indicating, after coordination with Port Everglades' Seaport Engineering and Facilities Maintenance Division (and other agencies), the extent of any known or suspected asbestos containing materials or other potentially hazardous materials (PCB's, groundwater contaminants, etc.) which might require mitigation by County prior to or during construction of the Project. Establish and confirm responsibility for removing the asbestos or other hazardous materials in the design development documents and coordinate with Project Development Schedule, Statement of Probable Construction Cost and other documentation.

3.04.02 Staff from each of Consultant's major technical disciplines, and Subconsultants as necessary shall attend coordination, review and presentation meetings with the

Contract Administrator to explain the design concept and technical resolution of their respective building or site systems.

3.04.03 Consultant shall submit three copies and an electronic copy of all documents required under this Phase (except where otherwise specified), without additional charge, for approval by the Contract Administrator. The Contract Administrator shall review submitted documents and provide written review comments to Consultant within the time frames established on Attachment 1, Project Schedule. Consultant shall modify and resubmit to Contract Administrator until approved (if not initially satisfactory to the Contract Administrator) within 14 consecutive calendar days from the receipt of Contract Administrator's review comments such documents and drawings as required to fulfill the submittal requirements for this project phase as listed in the paragraphs above.

3.04.04 Consultant shall contact the city where the facility will be located and affected permitting agencies and divisions to set up meetings to present the project as an upcoming construction project to be reviewed and permitted. Meetings shall take place at the city offices for all agencies and division responsible for the review and approval of this project.

Consultant shall prepare and provide site plans, floor plans, sections, surveys, aerial photographs and any additional graphic documentation needed to present the project in its complete scope to the agencies and divisions responsible for permit issuance. At a minimum, attendees shall include the Consultant and design team members and the Contract Administrator or his designee.

At the very least, presentations, discussion and coordination with city agencies and divisions responsible for permitting this project shall include, but not be limited to:

- (A) Building Department
- (B) Fire Marshall
- (C) City Engineer
- (D) Planning and zoning

The intent of these meetings and presentations is to familiarize the agencies and divisions responsible for issuing permits of the scope of this project, establish requirements and understand regulatory elements that will need to be met in order to timely obtain all required permits. Consultant shall produce meeting minutes of the conversations and outcomes. As a result of the meetings, Consultant shall list the requirements needed to be incorporated in the project.

Consultant shall identify any requirements with the potential to add time for approvals, delay any portion of the process or add complexity or cost to the project. Consultant shall provide Contract Administrator a written list of the items that have

or can potentially have negative impact on the project. Consultant shall provide solutions to the identified options for consideration by the Contract Administrator.

3.05 Phase IV - Construction Documents:

3.05.01 After written Notice to Proceed from the Contract Administrator and based on the approved Design Development Phase documents and any adjustments authorized by the Contract Administrator, Consultant shall prepare for approval by Contract Administrator and in accordance with the Contract Administrator's requirements for format and organization, Final Construction Documents setting forth in detail the requirements for the construction of the Project. Consultant is responsible for the full compliance of the design with all applicable codes.

3.05.02 **50% Construction Documents Submittal:** Consultant shall make a 50% Construction Documents submittal, for approval by the Contract Administrator, which shall include three (3) sets and an electronic copy of the following:

(A) "Project Transmittal Form" as required by Port Everglades' Seaport Engineering and Facilities Maintenance Division.

(B) Updated Florida Energy Efficiency Code for Building Construction (FEEC) compliance forms. Submit five (5) copies signed and sealed by a State of Florida registered design professional with 50% Construction Documents submittal.

(C) Drawings:

1) Site Plan(s) and detailing which indicate:

a. Legal description, property lines, location of applicable easement lines, setback lines, other restrictive lines or limits, existing site features or amenities to remain, limits of Work area, locations of temporary structures, and staging areas and related Contractor facilities for use during execution of the Work.

b. Site Demolition plans.

c. Spot elevations, based on the civil grading plan, for the perimeter of the new additions, sidewalk, or any other areas pertinent to the drainage of rainwater.

d. Location of storm water and roof drainage systems, including catch basins, retention areas, piping, culverts, control devices and other system components.

- e. Parking lot lighting poles location and type.
 - f. Final location for manholes, handholes, pull boxes.
 - g. Layout of underground distribution systems (normal power emergency power, fire alarm, intercommunication, computer networking, television, telephone, radio (or other communications systems, antennas, etc.), security, control and spares.
 - h. Details of all curbing, typical parking spaces, parking collection system (regular and accessible), accessibility ramps and curb cuts, light fixtures, flagpole and fence foundations, and any other site improvement or condition pertinent to the scope of work.
 - i. Plans and details of new site equipment or furnishings including site improvements and equipment, pavements, accessory structures, signage, planters, seating areas and other site furniture, vehicular and parking equipment, landscape accessories, site and security lighting, security and pedestrian safety devices, traffic control devices, loading dock equipment, dumpster and recycling areas, and other equipment or improvements appropriate and necessary for the project as determined by the Contract Administrator.
- 2) A phasing plan to delineate the order of the construction and delineating staging and storage areas, temporary buildings or structures, temporary utilities, other temporary constructions, construction access (including parking and delivery locations), haul routes, site barriers, traffic control devices, and other area designations and protective measures to control and separate staff and the public from construction activities and traffic. Phasing plan shall allow for the existing facility to remain in operation during the construction of the new building.
- 3) Landscape plans and detailing including: a plant list clearly referenced and targeted, details for shrub and tree plantings, identification of plants and trees to remain (with associated plans and details of their protection, maintenance and care during the project), identification of plants to be removed or relocated (including details and specifications for their preparation, replanting, maintenance or disposal), and other necessary documentation to ensure healthy and vigorous plant growth.
- 4) Irrigation plans and details delineating the entire area of the Project, and addressing necessary connections, alteration, repair or replacement of any existing irrigation systems and irrigation requirements for plant materials provided or retained on site during the Project.

5) Full floor plans including:

- a. All dimensions and any target notes explaining the extent of Work, wall types, or other component, assembly or direction regarding the Construction.
- b. Note all chases and delineate all rainwater leaders.
- c. Show structural tie columns and coordinate with the floor plan.
- d. Target interior elevations.
- e. Delineate and note all built-in cabinetry or equipment.
- f. Identify room and door numbers with all spaces and doors having individual numbers.

6) Demolition Plans: Indicate required demolition activities.

- a. Provide separate demolition plan(s) and other drawings (elevations, sections, etc.) if the scope of work includes demolition which is too excessive to indicate drawings depicting new construction.
- b. Indicate notes on the extent of the demolition: address dimensions at locations where partial walls are being removed or altered, existing room names and numbers, existing partitions, equipment, plumbing, HVAC or electrical elements.
- c. Include notes dealing with repair of existing areas as a result of demolition.
- d. Delineate any modifications to existing buildings involving structural elements within the structural documents rather than on the architectural.
- e. Provide detailing for protective barriers and safeguards (indoor and outdoor) to provide separation of construction activities and protection of County's existing facilities.

7) Building elevations developed further than at the Design Development Phase and including delineation of building joints (including dimensionally located stucco control joints), expansion joints, material locations, elevation heights, color scheme, special finishes, and other building features.

- 8) Building and wall sections to establish vertical controls and construction types for the Project. Include clear graphics, and notes on construction assemblies and systems to be used, dimensions, heights. Provide associated detailing to further delineate solutions for connections.
- 9) Reflected ceiling plans indicating ceiling types, heights, light fixture types, speakers, outlets, alarms, mechanical diffuser locations, sprinkler heads and any other ceiling mounted device, equipment, fixture and finish. Delineate and detail any soffits or joint conditions between different materials. Ensure coordination with architectural, electrical, mechanical and plumbing disciplines and work of any applicable Subconsultants.
- 10) Roof plans:
- a. Indicating all roof penetrations, including drains, scupper, mechanical exhaust fans, any other equipment on the roof, slopes of roof with elevations shown, type of roofing system to be used, expansion joints, curbs, and other roof accessories.
 - b. Provide dimensions to locate the items noted previously and show detail targets where necessary to reference detailed drawings elsewhere in the drawings.
- 11) Building Sections and large-scale wall sections as appropriate to this level of document development and as required to establish vertical controls for the Project. Include clear graphics, and notes on construction assemblies and systems to be used, dimensions, heights. Provide larger scale detailing to delineate solutions for connections.
- 12) Interior elevations of appropriate room designs (where those rooms house casework, built-in furniture, variations in material finishes, wall mounted equipment or specialty items, graphics, artworks, plumbing, mechanical or electrical fittings, fixtures or equipment, or other improvement that cannot be shown as a standard detail for several similar rooms) including detail targets referencing cabinetry details, dimensions and heights, notes indicating type of equipment (and whether equipment is in or out of contract), wall materials, finishes, and accessories.
- 13) Details of casework as necessary to appropriately delineate custom or pre-manufactured casework. Provide appropriate schedules referencing manufacturer's numbers or catalogs, finishes, hardware and other construction characteristics.

14) Details of the following:

- a. Door jamb, head and sill conditions including delineation of required fire ratings for assemblies and components, electrical power requirements and connections to fire alarm, security and other building automation systems within the project or the existing facility.
- b. Wall and partition types including identification of rated assemblies and product limitations and tolerances relative to those ratings.
- c. Window head, sill and jamb conditions, and anchorage methods shown, in lieu of referencing to manufacturer's standards.
- d. Interior signage to include room and building identification, directional signage, directories, emergency exiting and equipment signs, occupancy and other code mandated signage, and any other items pertinent to the identification of the Project. Coordinate and delineate electrical connections and power requirements.
- e. Interior or exterior expansion control connections and related flashings, cover plates, applied sealants, etc.
- f. Waterproofing details required by code and in sufficient detail to demonstrate construction needs and constructability.
- g. Any other specialized items necessary to clearly express the intent of the project design.

15) Room finish, door and window schedules coordinated with the floor plans developed beyond the Design Development Phase.

16) Structural foundation and framing plans, with associated diagrams, schedules, notes, detailing and section drawings completed sufficiently to communicate the design intent and coordination with other disciplines.

17) Mechanical Drawings:

- a. Provide double line duct work layout and HVAC equipment layout drawings with related diagrams, schedules, notes, detailing and section drawings completed sufficiently to communicate the design intent and coordination with other disciplines.
- b. Provide plumbing equipment and fixture layout drawings with related diagrams, schedules, fixture schedules, notes, detailing and section

drawings completed sufficiently to communicate the design intent and coordination with other disciplines.

- c. Provide 1/2 inch scale plans, elevations and sections of the mechanical rooms showing service clearance, room openings, nominal equipment size, ceiling height, duct clearance between bottom of joist and top of ceiling and any ceiling mounted lighting fixtures, electrical equipment or other building assembly or component, etc.

18) Electrical: Provide drawings for the following systems:

- a. Lighting including circuiting and luminaire identification and switching. Also provide illuminance computer printout for all indoor typical indoor spaces and parking lots.
- b. Convenience outlets and circuiting, special outlets and circuiting, television outlets, and power systems and equipment.
- c. Provide riser diagrams for all electrical systems including fire alarm, cable television, computer networking/telephone. Also, provide for emergency and normal power distribution. Provide luminaire schedule.
- d. For Computer, Network, and Security systems, consultant will coordinate with the County and will show empty conduit runs as required for these items only. The County's vendors will install all low-voltage wiring for security and network.
- e. Panel schedule may be in preliminary form, but circuitry must be included.
- f. Applicable installation details.
- g. General legend and list of abbreviations.
- h. Voltage drop computation for all main feeders.
- i. Short circuit analysis
- j. Provide 1/2" scale floor plan and wall elevations for all electrical rooms.
- k. Indicate surge protector for main switchboard and electrical panels.

19) Updated Furniture and Equipment Plans and Furniture and Equipment Schedules indicating "In Contract" and "Not In Contract" furniture and

equipment items, loose furniture and systems furniture and their location within facility.

(D) Progress construction specifications:

1) Provide a Table of Contents Specification. Sections shall be organized to follow the Construction Specification Institute's (CSI) 6-digit sections or later edition of MasterFormat.

(E) An updated Project Development Schedule, formatted as a preliminary construction schedule reflecting continued Project development and illustrating anticipated schedules for all subsequent project activities including permitting and submittal coordination with all agencies having jurisdiction on the Project, project phasing, site mobilization, temporary facilities, general construction sequencing, anticipated substantial completion dates, County occupancy, and all other significant Project events. Format updated schedule as a Bar Chart (Gantt Chart) type schedule with milestones.

(F) A letter from Consultant and each of the major technical disciplines and any necessary Subconsultants or explaining how each previous comment concerning the project have been addressed and corrected.

3.05.03 Consultant shall make all changes to the documents as required by the Contract Administrator's review of the documents and resolve all questions of constructability, code compliance, compliance with Contract Administrator standards, or other issues raised by the Contract Administrator during its review of the documents. The Contract Administrator will retain the documents submitted at this phase.

3.05.04 Provide an updated cost estimate for the project.

3.06 100% Construction Documents Submittal:

3.06.01 Upon 100% completion of the Construction Documents, Consultant shall submit to the Contract Administrator three (3) copies and an electronic PDF of check sets of the Drawings, Specifications, reports, programs, a final up-dated Project Development Schedule, a final up-dated Statement of Probable Construction Cost and such other documents as reasonably required by the Contract Administrator. The 100% Construction Documents shall conform to the Contract Administrator's requirements, and all mandatory requirements cited by County (or its designated reviewers). 100% Construction Documents are considered permit ready or 'permissible' drawings and shall be comprised of complete and coordinated drawings, including coordination with all disciplines. Consultant shall, through the Seaport Engineering and Construction Division, coordinate project specific requirements with other participating County review agencies (Office of Economic and Small Business Development, Risk Management Division, County Attorney, etc.) and others listed below or having jurisdiction or special interest in the Project.

3.06.02 All documents for this phase shall be provided in both hard copy and in electronic media. The Contract Administrator will approve Phase III documents prior to submittal for permitting or bidding. Phase III contract documents shall be included with the Phase III submittal:

(A) "Project Transmittal Form" as required by County's Seaport Engineering and Facilities Maintenance Division.

(B) General Requirements:

- 1) Record Set. This submittal is the official record set and shall be the bid documents.
- 2) Signed and Sealed/Statements of Compliance: Only complete documents, properly signed and sealed by Consultant and respective Subconsultants, will be accepted for review; in addition, these documents shall contain a statement of compliance by the architect or engineer of record that "To the best of my knowledge these drawings and the project manual are complete, and comply with the Florida Building Code and pertinent Broward County amendments thereto".
- 3) When requested by the Contract Administrator, engineering calculations for mechanical, electrical, and structural systems shall be submitted separately from drawings and the project manual.
- 4) Changes to the Contract Documents may be made by addenda or resubmittal of documents graphically indicating the changes. Addenda shall be signed

and sealed by the design professionals and submitted to the Contract Administrator in duplicate as they occur during the bidding process. Documents resubmitted shall bear the appropriate signatures and seals.

(C) Drawings: The drawings shall include, in addition to the Phase III 50% document requirements specified above, the following:

- 1) Site plans including, but not limited to, area location map, legal description of property, demolition, excavation, utilities, finish grading, landscaping, mechanical, electrical, civil/structural, and architectural site plans.
- 2) Plans and details including, but not limited to:
 - a. Title sheet utilizing Port Everglades' Seaport Engineering and Facilities Maintenance Division's standard cover sheet format including a table of contents and statement of compliance by the architect and engineer(s) of record.
 - b. Abbreviations and Symbols: Each discipline shall have a list of abbreviations, schedule of material indications, and schedule of notations and symbols at the beginning of their section of the plans. (Alternatively, Consultant may provide a complete, fully coordinated set of abbreviations, material indications, notations and symbols for the entire project following the cover sheet.)
 - c. Information Available to Bidders: Drawing sheets such as surveys, "as-built" drawings, and other graphic material provided and clearly marked as "Information Available to Bidders" shall be provided within the drawing set after coordination with Port Everglades' Seaport Engineering and Construction Division.
 - d. Architectural sheets including floor plans, door, window and finish schedules, roof plans, elevations, sections, and details.
 - e. Civil/Structural sheets including paving; drainage; foundation plans; floor plans; roof plans; structural plans; sections; details; and, pipe, culvert, beam and column schedules.
 - f. Mechanical sheets including floor plans; elevations, sections; details; riser and other diagrams; kitchen exhaust hoods; and, equipment, fan, fixture and other necessary schedules and drawing information with an indication that the mechanical/electrical systems from the Phase II FEEC/LCCA analysis have been incorporated into the documents.

- g. Electrical sheets including floor plans; sections; elevations; details; riser and other diagrams; fixture, panel and other schedules; and other drawing information with an indication that the mechanical/electrical systems from the Phase II FEEC/LCCA analysis have been incorporated into the documents.
- h. Landscape Architecture, Irrigation, and other SUBConsultant prepared sheets including plans, sections, elevations, details, diagram, schedules and other drawing information necessary to communicate the complete and integrated scope of work related to that discipline.
- i. Soil remediation plans and specifications

(D) Project Manual. Consultant shall review and coordinate with the Contract Administrator regarding the preparation of the following:

- 1) The necessary bidding information, the bidding forms, the conditions of the contract and Division 1 with respect to the foregoing documents and regarding any other agreements necessary for construction of the project, including documents made necessary by the Bidding Method chosen by the Contract Administrator. However, in no case will Consultant amend or delete items from these documents without prior written approval from Contract Administrator.
- 2) A project specific set of Division 1 specifications based upon guide documents provided by the Contract Administrator (or, in the absence of Contract Administrator guide specification documents, from Consultant's own specifications as previously coordinated with the Contract Administrator), including all schedules, lists and inventories as required to complete the Contract Administrator's guide documents including Contractor's submittal schedules, warranty schedules, salvage schedules, etc.
- 3) Final specification sections for Divisions 1 through 48 organized and formatted as required for the set of Phase III 100% progress specifications.
- 4) Approved alternate bid items, if required and authorized by the Contract Administrator, to bring the project within the Fixed Limit of Construction Cost (FLCC) which would permit Contract Administrator in its sole discretion to accept or reject portions of the construction of the Project.

(E) An Updated Statement of Probable Construction Cost as indicated by time factor, changes in requirements, or general market conditions.

- (F) A letter from Consultant and each of the major technical disciplines and any necessary Subconsultants explaining how each previous review comment (as generated by the Contract Administrator and other reviewing agencies) concerning the Project have been addressed and corrected.
- 3.06.03 If the Latest Statement of Probable Construction Cost exceeds the Fixed Limit of Construction Cost for construction, Consultant shall review the materials, equipment, component systems and types of construction included in the Contract Documents and may recommend changes in such items and reasonable adjustments in the scope of the Project (to be made at no additional cost to County).
- 3.06.04 Consultant shall provide a construction documents phase Probable Construction Cost estimate prepared by an independent cost estimator. Consultant shall utilize the most recently prepared cost estimate or Statement of Probable Construction Cost to compare costs and identify areas where costs have risen or been reduced.
- 3.06.05 Consultant shall make all required changes or additions and resolve all questions on the documents. The 100% complete Check Set shall be returned to the Contract Administrator. Upon final approval by the Contract Administrator Consultant shall furnish three record copies, signed and sealed by the Florida registered design professionals responsible for their preparation of all Drawings, Specifications and other documents required during this project phase to the Contract Administrator without additional charge.
- 3.06.06 Consultant shall, with the Contract Administrator's assistance, file the required documents for approval by governmental authorities having jurisdiction over the Project (including Broward County and municipalities and their constituent departments, the South Florida Water Management District, and other state, local or federal agency with jurisdictional authority over the Project) and obtain certifications of "permit approval" by reviewing authorities prior to the commencement of Phase IV and early enough to ensure that the eventual contractor is not delayed by permit processing by Broward County, a municipality or other jurisdictional agency. Consultant (and pertinent Subconsultants) shall provide the original documents or reproducible copies as may be required for submittal to any and all governmental authorities. The Consultant will assist the Contract Administrator and the Construction Manager in the submission of all plans for a building permit. The Construction Manager will file applications Building Permits.
- (A) Consultant (and pertinent Subconsultants) shall attend and provide representation at all review meetings, workshops, hearings and Commission/Council meetings concerning the project as conducted by other jurisdictional agencies. Consultant shall submit documents, attend meetings and provide other support as necessary to fully participate in any submittals,

resubmittals, review meetings, presentations or negotiations required to obtain jurisdictional approval for the project.

(B) Any changes to the Project Drawings or Project Manual or other supporting document made necessary by jurisdictional reviews shall be made by Consultant (and pertinent Subconsultants) at no additional cost to County.

3.06.07 Staff from each of Consultant's major technical disciplines and Subconsultants as necessary shall attend coordination, review and presentation meetings with the Contract Administrator to explain the development of the design concept and technical resolution of their respective building or site systems for both the Phase III 50% and Phase III (100%) Submittals.

3.06.08 The Contract Administrator's review and approval of the drawings, specifications, calculations and other construction documents shall not relieve Consultant of any responsibility for their accuracy, adequacy and completeness.

3.07 Phase V – Permitting, Bidding and Award of Contract

3.07.01 Bid Documents Approvals and Permitting: Upon obtaining all necessary approvals of the Construction Documents, approval by the Contract Administrator of the latest Statement of Probable Construction Cost, and a specific Notice to Proceed with the Bidding and Award phase of the project, Consultant shall assist Contract Administrator in awarding construction contracts. Bidding and award of the construction contract will take the form of a Negotiated Agreement as further detailed below. Consultant shall continue the process of obtaining approvals for permits, where the Consultant's process results in permits. Where applications for plan reviews and applications for permits have not already been completed and submitted, Consultant shall prepare those applications for signature by the Contract Administrator. Where applications, submittals or reviews have been started during earlier phases, Consultant shall continue to pursue responses to comments and requirements by agencies responsible for issuing permits. Consultant shall pursue all avenues necessary to clear all comments and complete all revisions, with the specific intent of having the Contractor(s) pull permits without delay.

3.07.02 Construction Award: Negotiated Agreement. Construction is planned to be by Managing General Contractor, Construction Management at Risk, which is a negotiated form of construction agreement.

3.07.03 Consultant shall assist the Contract Administrator in conducting negotiations with a Managing General Contractor (Construction Manager) or other similar entity to establish a Guaranteed Maximum Price and other contractual issues related to the establishment of a construction contract with the Managing General Contractor.

- 3.07.04 Consultant will incorporate the Contract Administrator's standard form construction documents (as provided by the Contract Administrator for alternative construction delivery) for this into the Project Manual and shall make final modifications to the Project Manual to reflect results of Contract Administrator's negotiations with the Managing General Contractor. Contract Administrator will coordinate any deviations from the standard form construction documents in advance with Consultant and County's Office of the County Attorney.
- 3.07.05 Consultant shall assist the Contract Administrator and the Contractor in obtaining permits, approvals and authorizations from jurisdictional agencies with authority over the Project. Consultant shall, as requested by the Contract Administrator, meet on an as-needed basis with jurisdictional agencies in order to clarify or explain submitted documents and to ascertain the scope and intent of review comments made by those jurisdictional agencies. Consultant shall provide graphic and written documents as necessary to facilitate these jurisdictional reviews, including issuing revised drawings and specifications in response to review comments and other concerns generated by those jurisdictional agencies without additional cost to County.
- 3.07.06 Consultant shall assist the Contract Administrator's review of the Managing General Contractor's bidding activities and make recommendations concerning the conduct and result of that bidding. These activities shall include investigating the qualifications of bidders and provision of a written recommendation for bid award. Consultant shall review and, upon request of the Contract Administrator, prepare Contract Price Element Adjustment Memoranda made necessary by the Contractor's bidding activities, changes requested by the Contract Administrator, and other circumstances affecting the Project's GMP structure.
- 3.07.07 Consultant shall provide to the Contract Administrator two (2) reproducible copies of the finalized construction contract documents, including all drawings and specifications. The Contract Administrator will be responsible for printing the documents and distributing them to the Managing General Contractor. The Contract Administrator reserves the right to instruct Consultant to print the construction contract documents (including drawings and specifications) and distribute them to the Managing General Contractor, either through its open agreements with printing firms or as a reimbursable service through Consultant.
- 3.07.08 Consultant shall render interpretations and clarifications of the drawings and specifications in a written format, supplemented by appropriate graphics, acceptable to the Contract Administrator.
- 3.07.09 Consultant shall attend coordination meetings, negotiation meetings, pre-bid conferences and bid openings as scheduled by the Contract Administrator and the Managing General Contractor.

3.07.10 Consultant shall prepare addenda, if any are required, for the Contract Administrator to issue to the Managing General Contractor. No addenda shall be issued without the Contract Administrator's approval. If dimensional changes or extensive graphic changes are required, the full drawing sheets shall be revised and issued as addendum drawings. Extensive modifications to specification section(s) shall be prepared as replacements of the entire specification section(s).

3.07.11 Consultant shall advise and consult with Contract Administrator in awarding and assisting in the preparation of any agreements necessary for the construction of the project, including, without limitation, that form of agreement between County and Contractor.

3.07.12 If the Guaranteed Maximum Price exceeds County's funds available for the Project, the Contract Administrator will either: (A) approve the increase in Project cost and award a contract or, (B) reject the negotiations with the Managing General Contractor and initiate negotiations with alternatively selected firms within a reasonable time with no change in the Project, (C) direct Consultant to revise the Project scope or quality, or both, as approved by the Contract Administrator, and reinitiate negotiations with the Managing General Contractor, or (D) suspend or abandon the Project.

3.07.13 Under 3.07.12(C) Consultant shall, without additional compensation, modify the Construction Documents as necessary to bring the Guaranteed Maximum Price within County's available funds for the Project. The Contract Administrator may recognize exceptional construction market cost fluctuations before exercising the option provided in 3.07.12(C). The Contract Administrator agrees to discuss this issue with Consultant prior to exercising this option.

3.06.14 If an estimate or cost analysis was required the Contract Administrator for a previous phase of the Project, Consultant shall utilize the previously established independent cost estimator, or a replacement acceptable to the Contract Administrator to analyze bids and to assist in the preparation of any modified documents that may be required to ensure successful negotiations with the Managing General Contractor.

3.08 Phase V - Administration of the Construction Contract:

3.08.01 The Construction Phase will begin with County's award of the Construction Contract (to a Contractor, Managing General Contractor or other alternately selected construction entity) and will end when the Contractor's final Payment Certificate is approved by the Contract Administrator. During this period, Consultant shall provide Administration of the Construction Contract as set forth in the construction

contract documents (hereafter referred to and defined as the "Contract Documents") between County and the Contractor.

3.08.02 Consultant, as the representative of the Contract Administrator during the Construction Phase, shall advise and consult with the Contract Administrator and shall have authority to act on behalf of the Contract Administrator within the limits established by this Agreement and the Contract Documents. Consultant shall contemporaneously provide Contract Administrator with copies of all communications between Consultant and Contractor and others concerning matters material to the cost, time, sequence, scope, performance or requirements of the project. Documents or materials which cannot be faxed to the Contract Administrator shall be delivered to the Contract Administrator within 24 hours of receipt or generation by Consultant.

3.08.03 Consultant and Consultant's respective Subconsultants shall attend all key construction events as necessary to ascertain the progress of the Project and to determine in general if the Work is proceeding in accordance with the Contract Documents and the Project Schedule. A minimum of at least one site visit per week will be required by Consultant. In addition to the required weekly site visit, Consultant shall make additional site visits as required to ascertain the progress and quality of the Contractor's installation or construction of key building systems, assemblies and components, attend pre-installation conferences and other site meetings as established by the Contract Documents, and to assist the Contract Administrator as requested in other site related administration of the Contract. The Subconsultant(s) will be required to visit the site at least once a week when their respective portion of the work is in progress.

(A) Consultant shall visit the site at least once per week on an ongoing periodic basis to become familiar with the progress and quality of the Work and to determine if the Work is proceeding in accordance with the Contract Documents and Project Schedule. Consultant shall coordinate the timing of these visits with the Contract Administrator's Representative so as to permit joint observations of the progress of the Work and discussions about Project issues. On the basis of on-site observations as a Consultant, Consultant shall keep Contract Administrator informed of the progress and quality of the Work. Consultant shall promptly submit to Contract Administrator a detailed written report of the results of each visit to the site, and copies of all field reports and notes of meetings with contractor, subcontractors of any tier or suppliers.

(B) Consultant shall, based upon its on-site visits, promptly report to the Contract Administrator any defects and deficiencies in the Work coming to the attention of Consultant and shall endeavor to guard County against defects and deficiencies in the Work. This obligation is not reduced or limited by the fact that others, such as County's staff, are undertaking inspection for or on behalf of

County. Consultant shall make on-site observations utilizing the same personnel over the course of the Work and shall, if requested by the Contract Administrator, replace personnel whom the Contract Administrator has found to be incompetent or to whom the Contract Administrator otherwise reasonably objects.

(C) Consultant shall not have control over or charge of and shall not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work.

3.08.04 Consultant shall at all times have access to the Work where ever it is in preparation or progress. Consultant and the Subconsultants shall review and advise the Contract Administrator as to whether the Contractor is making timely, accurate, and complete notations on the "Project Record Documents" and maintaining various other administrative records as required by the Contract Documents. In addition, the Contract Administrator may at its discretion require Consultant and all Subconsultants to regularly submit additional written materials or forms to the Contract Administrator relating to or regarding the Project or its progress.

3.08.05 Consultant shall assist the Contract Administrator in determining the amounts owing to contractor based on observations at the site and on evaluations of Contractor's Applications for Payment and shall certify Certificates for Payment in such amounts as provided in the Contract Documents and in such form as the Contract Administrator may request. The certification of a Certificate for Payment shall constitute a representation by Consultant to the Contract Administrator, based on Consultant's observations at the site and on the data comprising Contractor's Application for Payment, that the Work has progressed to the point indicated; that the quality of the Work is in substantial accordance with the contract documents (subject to an evaluation of the Work for substantial conformance with the Contract Documents upon substantial completion, to the results of any subsequent tests required by or performed under the Contract Documents, to minor deviations from the Contract Documents correctable prior to completion, and to any specific qualifications stated in the Certificate for Payment); and that Contractor is entitled to payment in the amount certified. However, the certification of a Certificate for Payment shall not be a representation that Consultant has made any examination, other than information which has come to Consultant's attention, to ascertain how and for what purpose Contractor has used the moneys paid by County.

3.08.06 All interpretations and advisory decisions of Consultant shall be consistent with the intent of, and reasonably inferable from, the Contract Documents and shall be in writing or in the form of drawings. In the capacity of interpreter Consultant shall endeavor to secure faithful performance by both County and Contractor and shall not show partiality to either.

3.08.07 Consultant shall have authority to recommend rejection of Work which does not conform to the Contract Documents. Consultant shall not have authority to stop the Work without approval of the Contract Administrator. Whenever, in Consultant's reasonable opinion, it is necessary or advisable for the implementation of the intent of the Contract Documents, Consultant may recommend special inspection or testing of the Work in accordance with the provisions of the Contract Documents, whether or not such Work be then fabricated, installed or completed, but Consultant shall take such action only after consultation with the Contract Administrator. Consultant's monitoring of such additional special testing or inspections is a part of the Basic Services. Contract Administrator shall furnish all such tests inspections and reports that are required by law or by the Contract Documents or that it has previously approved in writing, without waiving its right to reimbursement from Contractor. However, neither this authority of Consultant nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty of responsibility of Consultant to Contractor or other third parties performing portions of the Work.

3.08.08 Consultant shall promptly review and take other appropriate action upon Contractor's submittals such as shop drawings, product data and samples, but only for conformance with the design concept of the Contract Documents. Such action shall be taken within twenty-one (21) days of receipt by Consultant unless the Contract Administrator and Consultant otherwise mutually agree.

(A) Consultant's review shall not constitute review or approval of safety precautions or of construction means, methods, techniques, sequences or procedures. Consultant shall maintain a log of all submittals made and shall compare the submittals with Contractor's progress schedule. Consultant shall not approve changes to the contract or substitutions through the regular submittal process but will utilize those respective methods specified in the Contract Documents.

3.08.09 Consultant shall coordinate with and assist the Contract Administrator concerning Contract Modifications including the development, review, recommendation for approval, and processing of Contract Price Element Adjustment Memoranda (CPEAM's), Change Orders and Amendments to the construction contract including County's or other jurisdictional authority's required review of such Contract Modifications for Code Compliance, Consultant shall:

(A) Meet with the Contract Administrator prior to the preparation of CPEAM's, change order items or Amendments to ensure that proposed changes comply with applicable codes.

(B) Reconcile Consultant's analysis of proposed Change Order amounts with an analysis provided by the independent cost estimator and provide the Contract Administrator with a recommendation concerning the respective cost studies.

- (C) Submit written and graphic information documenting proposed changes for formal review by County and municipal or other jurisdictional agencies for code compliance and any necessary permitting.
- (D) Consultant shall review and indicate concurrence through signing CPEAM forms, change orders and Amendments for County's authorization in accordance with the Contract Documents, shall have authority to order minor changes in the Work not involving an adjustment in the contract sum or an extension of the contract time and which are not inconsistent with the intent of the Contract Documents. Such minor changes shall be effected by written order issued through Contract Administrator. The Basic Services shall include providing recommendations concerning proposed change orders and minor changes, and the preparation and processing of change orders and construction change directives.
- (E) Consultant shall process, prepare and issue request for proposals and other contract modification documents in a timely manner and not allow the period required for evaluation, preparation or to issue such documents to exceed 21 days. Consultant shall provide written notification to the Contract Administrator concerning those modification documents requiring more than 21 days processing time with an attached explanation of the circumstances requiring longer processing time.
- (F) All final decisions with respect to substitutions, change orders, and other contract modifications shall be at the sole determination of County.

3.08.10 Consultant shall conduct thorough site observations, make recommendations and otherwise assist Contract Administrator in determining the dates of substantial completion and final completion, shall review, approve and forward to the Contract Administrator for the Contract Administrator's review, written warranties and related documents required by the Contract Documents and assembled by Contractor, and shall certify a final certificate for payment. At substantial completion, Consultant shall prepare a punch list of observed items requiring correction, completion or replacement by Contractor. Consultant shall administer the Contractor's submittal of various closeout submittals including warranty documents, operations and maintenance materials, extra materials, and other closeout submittals as required by the Contract Documents. Consultant and the Subconsultants shall verify and confirm the Contractor's successful demonstration of equipment and systems and the training of County's personnel as required by the Contract Documents. Consultant shall inspect the Project upon final completion to determine compliance with the Contract Documents and, upon so determining, prepare and execute the required forms and other documents indicating that the Work is completed in compliance with the Contract Documents.

3.08.11 Consultant shall review, approve and certify Contractor's submittal of as-built survey documentation, (including Computer Aided Design (CAD) and/or other hardcopy or electronic media documents) as may be required by jurisdictional agencies with authority over the Project.

3.08.12 Consultant shall within sixty (60) days of final acceptance provide the Contract Administrator with prints and electronic media copies of the original drawings, which Consultant has revised to conditions based on information furnished by the Contractor (redlined prints and other "as-built" information) as Project Record Documents. The Contractor's original marked drawings shall be submitted to the Contract Administrator with the updated prints and electronic media files prepared by Consultant. These prints and electronic media copies shall become the property of County. Submittal of these documents to the Contract Administrator is a condition of final payment to Consultant. Electronic media shall comply with Attachment 2, Electronic Media Submittal Requirements.

3.08.13 Consultant shall prepare change orders and related documents required by changes (whether increases or decreases) in the scope of the project as requested by the Contract Administrator for unforeseen conditions and Contract Administrator requested changes only and not for any changes due to the error or omission of Consultant.

3.09 Phase VI - Warranty Administration and Post-Occupancy Services:

3.09.01 For one year following substantial completion of the Project, Consultant shall assist the Contract Administrator, without additional compensation, in securing correction of defects, and shall in the eleventh month make inspections of the project with the Contract Administrator and report observed discrepancies to Contract Administrator and Contractor.

3.09.02 Consultant, with Subconsultants who contributed to the design of the Project, shall participate in a Post-Occupancy Walkthrough and Evaluation which will be scheduled by Port Everglades' Seaport Engineering and Construction Division at a time subsequent to the eleventh month warranty inspection specified above. During this Walkthrough and Evaluation, Consultant shall:

(A) Assist the Contract Administrator in reviewing the built Project on site;

(B) Participate in and assist County's Seaport Engineering and Facilities Maintenance Division in conducting interviews with principal building occupants and users;

(C) Generate written commentary concerning the relative success or failure of the facilities design; specified materials, equipment and systems; the project's

design, bidding and construction process; construction cost, schedule and quality concerns that affected the Project, the effectiveness of administrative and managerial procedures utilized by County, Consultant and the Contractor; and recommendations concerning future design and construction of the same or similar building types.

(D) Assist Port Everglades' Seaport Engineering and Facilities Maintenance Division in preparing and distributing a Post-Occupancy Evaluation Report that presents the findings and recommendations generated during the Post-Occupancy Walkthrough and Evaluation.

(E) Participate in presentations of the Post-Occupancy report as required to the Broward County Board of County Commissioners, County Administrator, the Contract Administrator and the public as required.

4.01 Optional Services:

4.01.01 Optional Environmental Services

- A. Vapor mitigation services. Consultant will design a Vapor Mitigation System (VMS) to be incorporated into the design of the proposed maintenance buildings. The footprints of the building estimated to total 93,617 square feet (sq. ft.) (77,777 sq. ft. for the footprint of the main building and 15,840 sq. ft. for the Storekeepers (warehouse)). The soil vapor mitigation system should be incorporated in the design and construction of the foundation, in-ground utilities, and plumbing systems. Therefore, Consultant will review the LSI data along with existing geotechnical and environmental information to develop the design parameters for the VMS.
- Plans and Specifications - Prepare plans and specifications for a sub-slab VMS installation for the proposed maintenance buildings. The design of the VMS will include developing plans and specifications, including a title sheet/site plan/general notes, building membrane and venting plan, membrane details, membrane specifications, venting details, and tenant improvement details.
 - The plans and specifications will be provided for use in construction bid documents.
 - Pre-construction meeting: Consultant will attend a pre-construction meeting conducted by Contractor (MGC), and assist with the coordination of the VMS installer and utility contractors (plumbing, electrical, etc.). This meeting will be conducted to familiarize construction personnel with the VMS system components and installation, and to identify potential areas of conflict and/or concern.

Consultant will utilize soil, soil gas, and groundwater analytical data generated during the performance of assessment activities within the site for use in the evaluation and design of the VMS system. As the site is not covered with surfacing materials, vapor point/ soil gas data does not fully represent site conditions that will be present at the site after the site is fully redeveloped.

The gas venting and vapor barrier components are proposed using the GeoSeal® products and manufacturer certified installation contractors. Consultant will locate system vent lines, pipe sleeves, and pipe chases to the roof of the building(s).

Consultant will provide the necessary support needed to assist contractor during construction. This will include coordination with the GC, its subcontractors, and the VMS installation contractors to ensure efficient installation of the VMS system, and to meet the requirements of the manufacturer's warranty.

- Installation Monitoring - Observe the construction of the VMS installation during installation to assure that it is constructed as specified in the construction documents and manufacturer's specifications.
- Quality Control Testing and Monitoring - After completion of the VMS installation, Consultant will oversee smoke testing to evaluate system integrity. If holes are observed during the testing, they will be repaired per manufacturer's specification. Consultant will also conduct quality control testing of the membrane thickness by measuring coupon samples collected per manufacturer specified frequency.
- Membrane Installation Summary - Upon completion of the VMS membrane installation, Consultant will provide a signed and sealed letter report summarizing the installation of the system membrane. Consultant will also provide a copy of installation forms and completion letter as provided by the installer, and as-built drawings to assist with applicable warranty.
- Post System Installation Summary - At the completion of the project, Consultant will conduct post installation inspections, and provide a 'punch list' for any tasks necessary to complete the project. Upon completion, Consultant will submit a letter to Port Everglades, indicating that the VMS system installation was completed in accordance with the project plans and specifications as well as the procedures recommended by the manufacturer and all quality control requirements are met.
- Operation, Monitoring, and Maintenance Plan - An Operations Monitoring and Maintenance (OM&M) plan will be prepared by Consultant describing the VMS system operation and monitoring requirements in order to maintain system

effectiveness. This plan will be developed for use by Broward County Port Everglades designated personnel, and their assigns, for the long-term operation and reporting through the life of the VMS. This OM&M Plan is intended for incorporation and compliance with applicable Florida Department of Environmental Protection and Broward County regulatory programs and reporting requirements, as well as routine building maintenance requirements.

B. Preparation of soil and groundwater management plan. The Soil and Groundwater Management Plan (SGMP) will be signed, sealed and issued by the Consultant for the site to provide protocols for properly handling impacted soil and groundwater encountered during site development activities. The SGMP will provide contractors working the site directions and guidelines for managing soil, groundwater and stormwater that comes in contact with impacted soil during the redevelopment project. The SGMP prepared for the site will include, but not be limited to, the following components:

- Requirements for site personnel working with impacted materials.
- Guidelines for handling excavated soil and groundwater so they are handled properly, and the material does not affect the environment, general public or site workers.
- The SMP will include protocols for preparation of areas for staging and stockpiling of excavated materials, reuse of excavated soils and/or testing for disposal of soils at a licensed disposal facility, and testing of imported fill soils.
- Guidelines for minimizing dust and erosion of exposed soils to include the use of water trucks for keeping soil wet, use of sediment barriers, and protection of stormwater inlets. Air quality may be assessed for exposure to regulated substances in the breathing zone and/or fugitive dusts to evaluate dust control methods. It should be noted that the Erosion and Sediment Control Plan, and the Dust Control and Air Monitoring Plan are to be prepared as part of the SGMP.
- Specify requirements for handling stormwater that comes into contact with impacted soil and accumulates on site.
- Specify requirements for management of effluent disposal associated with dewatering, if conducted. The Contractor will be responsible for developing project specific dewatering plans for permitting through the South Florida Water Management District and BCEPGMD.
- Recommendations for sequencing of construction efforts to minimize handling of impacted materials will be provided based on development plans, and specify the soils encountered / removed, will need be managed in accordance with the approved SMP.
- The contractor is responsible for filing a Notice of Intent (NOI), using permit form

- number 62-621.300, to use a National Pollutant Discharge Elimination System (NPDES) Permit for Stormwater Discharge, permit number 62-621.300 administered by the Florida Department of Environmental Protection (FDEP). The permit requires preparation and implementation of a site-specific Stormwater Pollution Prevention Plan (SWPPP) prepared by the Consultant. SWPPP will use best management practices (BMPs) including specifications for placement of stormwater, erosion, and sediment controls to avoid potential water quality violations. The BMPs must be consistent with guidelines contained in the State of Florida Erosion and Sediment Control Designer and Reviewer Manual, FDOT and FDEP (2013).
- Consultant will participate in technical / preconstruction meetings monthly, as well as preconstruction conference calls and meetings with project team members and regulatory staff, on an as-needed basis. Consultant will provide onsite review of site operations to verify that the contractor is complying with the SGMP.
- C. SGMP implementation / inspections and oversight. Consultant will provide twice monthly inspections for an estimated 2 years to observe compliance with the SGMP. Consultant will review contractor documentation prepared to document compliance with the SGMP and related plans, to assist in reduce the mishandling of materials that could be costly to the owner.
- D. Remedial action planning. A plan to demonstrate the efficacy of their product on the site-specific groundwater impacts. These analyses may include the following:
- Collection of in-situ parameters by Consultant such as oxidation-reduction potential (ORP), pH and dissolved oxygen.
 - Laboratory analysis for geochemical remediation indicators.
 - Bench-Scale testing of up to six groundwater samples with multiple in-situ petroleum hydrocarbon remediation products.

Based on the results of these Bench-Scale studies, Consultant will develop a detailed analysis and comparison of the available in-situ injection options, including likely effectiveness and estimated costs, anticipated product loading rates and effectiveness in the shallow and intermediate zones, including identifying potentially varying site conditions and responses to in-situ injection.

- E. Pump Test Plan including Groundwater Contaminant Treatment System (Pilot Test Plan) Prior to initiation of field efforts, Consultant will prepare and submit a Pilot Test Plan to BCEPGMD for approval. The Pilot Test Plan will be designed to evaluate the

hydrogeologic conditions and potential groundwater pumping / recharge rates during a field effort with a duration of approximately one week. The Pilot Test will involve the following activities:

- Evaluation of nearby sites for anticipated hydraulic conductivity rates.
- Installation of one recovery well within the central portions of the shallow groundwater impact zones.
- Mobilization of a mobile, trailer-mounted remediation system including a groundwater pump with ancillary equipment and in-line air stripper unit and granulated activated carbon (GAC) vessels for one week. Consultant anticipates containerizing treated groundwater in a Baker (frac) tank prior to discharge to the onsite drainage system or to an approved Broward County Sewer discharge location, which may include installation of a water meter.
- Extraction of groundwater from the recovery wells to evaluate pumping rates, radius of influence (ROI) in surrounding monitoring wells.
- Analysis of 25 groundwater samples for constituents of concern to evaluate effectiveness of remedial system and verify effluent is allowable for discharge.

The information obtained from the Pilot Test will be utilized for development of the full-scale remedial design including, but not limited to, pumping rates, recharge rates, air stripper performance/destruction rates and anticipated granular activated carbon (GAC- a potential treatment method) loading rates.

- F. Preparation of a Remedial Action Plan. Based on the findings of the bench-scale studies, Pump Test/Pilot Test and the feasibility analysis, Consultant will prepare a RAP for approval by BCEPGMD and FDEP. The objective of the remedial action is to reduce petroleum hydrocarbon contaminants within impacted groundwater of the site to below GCTLs or Natural Attenuation Default Concentrations (NADCs), to consider natural attenuation monitoring for the last portion of the remedial effort. The RAP will be designed to address the COCs reported to be present in soil and groundwater samples collected from the site. The RAP will provide the following:

- Evaluation of rationale for the active remediation methods selected, including:
 - Long-term and short-term human health and environmental effects
 - Implementability
 - Operation and maintenance requirements
 - Reliability
 - Feasibility

- Estimated time required to achieve cleanup
- Evaluation of influent / initial contaminant concentrations and cleanup criteria to support the design of the selected technology.
- Evaluation of transmissivity and distribution and extent of impacted groundwater to understand required radius of influence of pumping systems or radius of influence of injected chemicals.
- Calculation of flow rate and corresponding radius of influence.
- Calculations and design of remediation systems including motor sizes, air flow, flow rate, equipment selection, construction details, site considerations, and operational details.
- The schedule for operation, maintenance and monitoring of the remediation system (if required).
- Design of a Groundwater Monitoring Plan to include selected monitoring wells and analytical parameters.
- Preparation of final plans and specifications that can be included in bidding documents; the plans will provide budgeted fees, timeframes for permitting and timeframes for implementation, operation, monitoring and regulatory approval for closure.

**EXHIBIT A – SCOPE OF SERVICES, ATTACHMENT 1
PROJECT SCHEDULE**

ACTIVITY	DATE REQUIRED OR ESTIMATED TIME PERIOD (Calendar Days after NTP)
Phase I: Programming	
Consultant’s Document Preparation & Submittal:	90 Days
County Review:	14 Days
Consultants Correction and Resubmittal:	14 Days
Phase II: Schematic Design	
Consultant’s Document Preparation & Submittal:	90 Days
County Review:	14 Days
Consultants Correction and Resubmittal:	14 Days
<u>Phase III: Design Development</u>	
<u>Consultant’s Document Preparation & Submittal:</u>	<u>120 Days</u>
<u>County Review:</u>	<u>14 Days</u>
<u>Consultants Correction and Resubmittal:</u>	<u>14 Days</u>
<u>Phase IV: Construction Documents</u>	
<u>IIIa: 50% Construction Documents Submittal</u>	
<u>Consultant’s Document Preparation & Submittal:</u>	<u>120 Days</u>
<u>County Review:</u>	<u>14 Days</u>
<u>Consultants Correction and Resubmittal:</u>	<u>14 Days</u>
<u>IIIb: 100% Construction Documents</u>	
<u>Consultant’s Document Preparation & Submittal:</u>	<u>120 Days</u>

County Review: 14 Days

Consultants Correction and Resubmittal: 14 Days

Phase V: Permitting, Bidding and Award of Contract

Va: Permitting

Consultant's Document Preparation & Submittal: 60 Days

Vb: Bidding and Award of Contract

Consultant's Document Preparation & Submittal: 60 Days

Phase VI: Administration of the Construction Contract

Consultant's Document Preparation & Submittal: 547 Days

**Phase VII: Warranty Administration
and Post-Occupancy Services** 365 Days

EXHIBIT A, SCOPE OF SERVICES ATTACHMENT 1A – BIM STANDARDS OF CARE

General Provisions.

The Model shall be developed to include the systems described below as they would be built, the processes of installing them, and to reflect final as-built construction conditions. The deliverable Model at all phases shall be developed to include as many of the systems described below as are necessary and appropriate to the design stage. The BIM Model shall be provided in an editable form and from its inception shall include automatic model positioning using a common reference point (Point of Origin), based on “Florida State Plane Coordinates” derived from the project survey.

The Model shall be developed using Building Information Modeling (“BIM”) supplemented with Computer Aided Design (“CAD”) content as necessary to produce a complete set of Construction Documents.

The following Level of Development (LOD) descriptions are summaries of Level of Development Specification for Building Information Models as developed by BIMForum. (<http://bimforum.org/lod>). LOD identifies the specific content requirements and associated authorized uses for each Model Element at six progressively detailed levels of completeness. Each subsequent LOD builds on the previous level and includes all the characteristics of previous levels.

The parties shall utilize the appropriate Levels of Development (LOD) described below in completing the Model, which establishes the required LOD for each Model Element at each phase of the Project. The following list is a simplified summary of the adopted Levels of Development:

- 100 – Conceptual symbols
- 200 - Approximate geometry, Generic systems
- 300 - Precise geometry with clearances
- 350 - Precise geometry interfaces, clash detection with subcontractor input.
- 400 – Fabrication/Installation Detail (shop drawings)
- 500 - As-built field verification

LEVEL OF DEVELOPMENT (LOD) – EXPANDED DESCRIPTIONS

LOD 100: Schematic Phase (Basic Service)

Model Content Requirements: Overall building massing indicative of area, height, volume, location, and orientation may be modeled in three dimensions or represented by other data.

Potential Uses

- a. Analysis: The Model may be analyzed based on volume, all spaces, area and orientation by application of generalized performance criteria assigned to the representative Model Elements.
- b. Cost Estimating: The Model may be used to develop a cost estimate based on current area, volume or similar conceptual estimating techniques (e.g., square feet

of floor area, etc.).

- c. Schedule. The Model may be used for project phasing and overall duration.

LOD 200: Design Development Phase (Basic Service)

Model Content Requirements: Model Elements are modeled as generalized systems or assemblies with approximate quantities, size, shape, location, and orientation. Non-geometric information may also be attached to Model Elements. Partitions and simple furniture models shall be included at this phase.

Potential Uses

- a. Analysis. The Model may be analyzed for performance of selected systems by application of generalized performance criteria assigned to the representative Model Elements.
- b. Cost Estimating. The Model may be used to develop cost estimates based on the approximate data provided and conceptual estimating techniques (e.g., volume and quantity of elements or type of system selected).
- c. Schedule. The Model may be used to show ordered, time-scaled appearance of major elements and selected systems.

LOD 300: Construction Document Phase ~~50%~~ 75% & 100% (Basic Service)

Model Content Requirements: Model Elements are modeled as specific assemblies accurate in terms of quantity, size, shape, location, and orientation. Non-geometric information may also be attached to Model Elements.

Facility Management information: Consultant will be required to input all new products installed under the scope of work for this project in conformance with an agreed upon list in Omniclass Table 23 format per Table 1 herein. ~~County and Consultant to meet to refine the scope of the COBie information following issuance of the Schematic Phase NTP.~~

Potential Uses

Suitable for the generation of traditional construction documents and shop drawings.

- a. Analysis. The Model may be analyzed for performance of selected systems by application of specific performance criteria assigned to the representative Model Elements.
- b. Cost Estimating. The Model may be used to develop cost estimates based on the specific data provided and industry estimating techniques.
- c. Schedule. The Model may be used to show ordered, time-scaled appearance of detailed elements and systems.
- d. Clash Detection. The Model may be used to identify architectural and

engineering conflicts for primary systems and elements. Areas of study include HVAC ductwork and equipment, structural elements, above ground plumbing and drainage piping, fire sprinklers and risers.

~~**LOD 350:** Construction Phase (Contractor to provide this LOD using Consultants model unless County elects Consultant to provide as Optional Service)~~

~~Model Content Requirements: Model Elements are modeled as constructed assemblies actual and accurate in terms of size, shape, location, quantity, and orientation. Clearances and access requirements to be included in model elements where applicable, (e.g. VAV access, HVAC access panels, equipment door swings, maintenance panel access, etc.). Non-geometric information may also be attached to modeled elements.~~

~~Facilities Management information: Consultant to provide complete BIM model(s) to Contractor for its use containing Construction Operations Building Information Exchange (COBIE) standards in conformance with Table 1 herein. Contractor to complete COBie information in accordance with LOD 500.~~

Potential Uses

- ~~a. Clash Detection. The model may be used to coordinate the configuration, installation and positioning of all building elements.~~
- ~~b. Facility Management. The Model may be utilized for maintaining, altering, and adding to the Project. Update and confirm preliminary COBie data.~~
- ~~c. Analysis. The Model may be analyzed for performance of selected systems by application of specific performance criteria assigned to the representative Model Elements.~~
- ~~d. Cost Estimating. The Model may be used to develop cost estimates due to change in project scope based on the specific data provided and estimating techniques.~~
- ~~e. Schedule. The Model may be used to show ordered, time-scaled appearance of detailed elements and systems.~~

Detailed BIM Delivery Breakdown for Level 300 and 350:

1. **Architectural/Interior Design**. The Architectural systems Model may vary in level of detail for individual building elements, but at a minimum the model must include all features that would be included on a quarter inch (1/4"=1'0") scaled drawing. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Additional minimum Model requirements include:
 - a. Spaces. The Model shall include spaces defining actual net square footage and net volume, and holding data to develop the room finish schedule including room names

- and numbers. Include program information to verify design space against programmed space, using this information to validate area quantities.
- b. Walls and Curtain Walls. Each wall shall be depicted to the exact height, length, width, materiality and ratings (thermal, acoustic, fire) to properly reflect wall types. The Model shall include all walls, both interior and exterior, and the necessary intelligence to produce accurate plans, sections and elevations depicting these design elements.
 - c. Doors, Windows and Louvers. Doors, windows and louvers shall be depicted to represent their actual size, type and location. Doors and windows shall be modeled with the necessary intelligence to produce accurate window and door schedules.
 - d. Roof. The Model shall include the roof configuration, drainage system, penetrations, specialties, and the necessary intelligence to produce accurate plans, building sections and wall sections where roof design elements are depicted.
 - e. Floors. The floor slab(s) shall be developed in the Structural Model and then referenced by the Architectural Model.
 - f. Ceilings. All heights and other dimensions of ceilings, including soffits, ceiling materials, or other special conditions shall be depicted in the Model with the necessary intelligence to produce accurate plans, building sections and wall sections where ceiling design elements are depicted.
 - g. Vertical Circulation. All continuous vertical components (i.e., non-structural shafts, architectural stairs, handrails and guardrails) shall be accurately depicted and shall include the necessary intelligence to produce accurate plans, elevations and sections in which such design elements are referenced.
 - h. Architectural Specialties. All architectural specialties (i.e., toilet room accessories, toilet partitions, grab bars, lockers, and display cases) and millwork (i.e., cabinetry and counters) shall be accurately depicted with the necessary intelligence to produce accurate plans, elevations, sections and schedules in which such design elements are referenced.
 - i. Signage. The Model shall include all signage and the necessary intelligence to produce accurate plans and schedules.
 - j. Schedules. Provide door, window, hardware sets using Builders Hardware Manufacturers Association (BHMA) designations, flooring, wall finish, and signage schedules from the Model, indicating the type, materials and finishes used in the design.
- ~~2. Furniture. The furniture Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4"=1'0") scaled drawing, and have necessary intelligence to produce accurate plans. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Representation of furniture elements is to be 3D. Examples of furniture include, but are~~

~~not limited to, desks, furniture systems, seating, tables, and office storage.~~

~~a. Furniture Coordination. Furniture that makes use of electrical, data or other features shall include the necessary intelligence to produce coordinated documents and data. Models shall be sufficient to enable their use to demonstrate complete furniture mounted electrical and data installation locations.~~

3. **Equipment.** The Model may vary in level of detail for individual elements. Equipment shall be depicted to meet layout and clearance requirements with the necessary intelligence to produce accurate plans and schedules, indicating the configuration, materials, finishes, mechanical, electrical requirements and all other related utilities. Examples of equipment include but are not limited to copiers, printers, refrigerators, ice machines, microwaves, and equipment specifically related to the operations and functions of the facility.

- a. Schedules. Provide furniture and equipment schedules from the model indicating the materials, finishes, mechanical, and electrical requirements.

4. **Structural** The Structural systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4"=1'0") scaled drawing. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Additional minimum Model requirements include:

- a. Floor Slabs. Structural floor slabs shall be depicted with all necessary recesses, curbs, pads, closure pours, and major penetrations accurately depicted. Major penetrations shall include A/C duct chases and pipes larger than 6" dia. only.
 - b. Structural Steel. All steel columns, primary and secondary framing members, and steel bracing for the roof and floor systems (including decks), including all necessary intelligence to produce accurate structural steel framing plans, related building/wall sections, and schedules.
 - c. Cast-in-Place Concrete. All walls, columns, beams, including necessary intelligence to produce accurate plans and building/wall sections, depicting cast-in-place concrete elements.
 - d. Precast/Tilt up/CMU. All walls, columns, beams, including necessary intelligence to produce accurate plans and building/wall sections, depicting such elements.
 - e. Expansion Joints. Joints shall be accurately depicted.
 - f. Shafts. All shafts, including necessary intelligence to produce accurate plans and building/wall sections depicting these design elements.
 - g. Openings and Penetrations. All major openings and penetrations that would be included on a quarter inch (1/4"=1'0") scaled drawing.

5. **Mechanical.** The Mechanical systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4"=1'0") scaled drawing. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Small diameter (less than 1-1/2" NPS) field-routed piping is not required to be depicted in the Model. Additional minimum Model requirements include:
 - a. **HVAC.** All necessary heating, ventilating, air-conditioning and specialty equipment, including air distribution for supply, return, ventilation and exhaust ducts, control systems, chillers, registers, diffusers, grills, and hydronic baseboards with necessary intelligence to produce accurate plans, elevations, building/wall sections and schedules.
 - b. **Mechanical Piping.** All necessary piping and fixture layouts, and related equipment, including necessary intelligence to produce accurate plans, elevations, building/wall sections, and schedules.

6. **Plumbing.** All necessary plumbing piping and fixture layouts, floor and area drains, and related equipment, including necessary intelligence to produce accurate plans, elevations, building/wall sections, riser diagrams, and schedules.
 - a. **Equipment Clearances.** All Mechanical equipment clearances shall be modeled for use in interference management and maintenance access requirements.
 - b. **Elevator Equipment.** All necessary equipment and control systems, including necessary intelligence to produce accurate plans, sections and elevations depicting these design elements.

7. **Electrical/Telecommunications/Data.** The Electrical and Telecommunications systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4"=1'0") scaled drawing. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Small diameter (less than 1-1/2"Ø) field-routed conduit is not required to be depicted in the Model. Additional *minimum* Model requirements include:
 - a. **Interior Electrical Power and Lighting.** All necessary interior electrical components (i.e., lighting, receptacles, special and general purpose power receptacles, lighting fixtures, panel boards, cable trays and control systems), including necessary

- intelligence to produce accurate plans, details and schedules. Lighting and power built into furniture/equipment shall be modeled.
- b. Special Electrical. All necessary special electrical components (i.e., security, mass notification, public address, nurse call and other special electrical occupancy sensors, and control systems), including necessary intelligence to produce accurate plans, details and schedules.
 - c. Grounding. All necessary grounding components (i.e., lightning protection systems, static grounding systems, communications grounding systems, and bonding), including necessary intelligence to produce accurate plans, details and schedules.
 - d. Telecommunications/Data. All existing and new telecommunications service controls and connections, both above ground and underground, with necessary intelligence to produce accurate plans, details and schedules. Cable tray routing shall be modeled without detail of cable contents.
 - e. Equipment Clearances. All Electrical equipment clearances shall be modeled for use in interference management and maintenance access requirements.
8. **Fire Protection**. The fire protection system Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4"=1'0") scaled drawing. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Small diameter (less than 1-1/2" NPS) field-routed piping is not required to be depicted in the Model. Additional minimum Model requirements include:
- a. Fire Alarms. Fire alarm/mass notification devices and detection system shall be indicated with necessary intelligence to produce accurate plans depicting them.
 - b. Fire Protection System. All relevant fire protection components (i.e., branch piping, sprinkler heads, fittings, drains, pumps, tanks, sensors, control panels) with necessary intelligence to produce accurate plans, elevations, building/wall sections, riser diagrams, and schedules. All fire protection piping shall be modeled.

~~**LOD 400**: BIM for Construction Administration (Optional Service).~~

~~**LOD 500**: BIM for Facility Management (Contractor agreements only).~~

~~LOD 500 BIM shall be provided by Contractor or Managing General Contractor (MGC). Contractor or MGC shall submit a fully complete LOD-500 BIM model to the A/E Consultant for the extraction of COBie in Excel format.~~

~~Model Content Requirements: Model Elements are modeled as constructed assemblies actual and accurate in terms of size, shape, location, quantity, and orientation. Non-geometric information may also be attached to modeled elements. Facilities Management information~~

completed with all requested information developed to Construction Operations Building Information Exchange (COBIE) and LOD 500 standards.

Potential Uses

- a. Facility Management. The Model may be utilized for maintaining, altering, and adding to the Project.
- b. Project Record Documents. As built data accurately portrayed in the BIM model for future reference and reuse.

COBie Data

Within 30 days from the issuance of NTP, during PHASE I – Schematic Design, Testing & Analysis Phase, the County and Consultant shall finalize and select items from the following Omniclass 23 table to establish the basis of COBie elements to be tracked and delivered in the completed model.

23-13-00	Structural and Exterior Enclosure Products
23-15-00	Interior and Finish Products
23-17-00	Openings, Passages, and Protection Products
23-21-00	Furnishings, Fixtures and Equipment Products
23-23-00	Conveying Systems and Material Handling Products
23-27-00	General Facility Services Products
23-29-00	Facility and Occupant Protection Products
23-31-00	Plumbing Specific Products and Equipment
23-33-00	HVAC Specific Products and Equipment
23-35-00	Electrical and Lighting Specific Products and Equipment
23-37-00	Information and Communication Specific Products and Equipment

Table 1.0 – Selected Excerpt from Omniclass Table 23

EXHIBIT A, SCOPE OF SERVICES ATTACHMENT 2 - Electronic Media Submittal Requirements

Preamble

The Contract Administrator will be utilizing electronic media as the principal way it develops, communicates and archives information concerning its various construction programs. To that end, County's standard Professional Services Agreements for consultant services require submittal of documents produced on electronic media. The County encourages Building Information Model (BIM) based design and documentation to the maximum extent possible, especially for all major projects including all new construction. For projects utilizing BIM delivery, Consultant will include native format and IFC BIM deliverables at all project milestones, with any supplementary two-dimensional (2D) deliverables to be derived from the model. Further it is the intent of the County to require open-standard facility management data as a project deliverable at all milestones. Requirements for that media are listed below.

Section 1 Definitions and Identifications

The following definitions and identifications set forth below apply unless the context in which the word or phrase is used requires a different definition:

- 1.1 **BIM**: Building Information Model(ing). BIM is not a specific product or technology, instead it's a collection of software applications designed to facilitate coordination and project collaboration. BIM is also a process for developing design and construction documentation by virtually constructing a building, bridge or other form of infrastructure – before anything is built.
- 1.2 **CAD or CADD**: Computer Aided Design and Drafting.
- 1.3 **COBie**: Construction Operations Building Information Exchange specifications as administered through the buildingSMART alliance, National Institute of Building Sciences, Washington, DC. http://www.nibs.org/?page=bsa_cobie.
- 1.4 **Compatible Data**: Data that can be accessed directly by the target BIM or CADD system upon delivery to the County, without further translation or post-processing of the electronic digital data files. It is the responsibility of Consultant to ensure this level of compatibility.
- 1.5 **IFC**: Interoperability Foundation Classes, open sharable standards for building information as defined by the buildingSMART alliance, National Institute of Building Sciences, Washington, DC. <http://www.buildingsmart.org/compliance/certified-software>
- 1.6 **LOD**: Level Of Development Specification for Building Information Models. See Attachment 1a – BIM Standards of Care and the BIMForum LOD Specification for additional information. <http://bimforum.org/lof>

Section 2 Electronic Media

2.1 General Requirements:

2.0.1 All Work, including drawings, surveys, maps, details or other drawing or graphic information to be provided in electronic media by Consultant shall be accomplished and developed using Computer-Aided Design and Drafting (CADD), or Building Information Modeling (BIM), or a coordinated combination of both as determined by the Contract Administrator and may also include other software and procedures conforming to the following criteria.

2.2 BIM and CADD Graphic Formats:

2.2.1 Provide all BIM and CADD data in any of the following software formats:

- a. Autodesk, Inc. Revit 2016 or higher.
- b. Autodesk, Inc. AutoCAD release 2016 or higher.
- c. Alternative compatible BIM software formats that conform to the requirements of Section 2.2 of this Attachment 1 if accepted in writing by the County's Contract Administrator.
- d. Alternative compatible CADD software formats that conform to the requirements of Section 2.2 of this Attachment 1 if accepted in writing by the County's Contract Administrator.

2.2.2 BIM data required for Contract submittals shall be provided in native .rvt format as well as .ifc format in conformance with IFC (Industry Foundation Classes) IFC2x3 V.2.0 or higher, as established by the buildingSMART International Alliance for Interoperability. Use of BIM vendor's or systems that incorporate the International Alliance for Interoperability IFC standard above must be approved in writing in advance by the County's Contract Administrator and comply with this Attachment.

2.2.3 Building Positioning to be accomplished for the intended project site by using "Auto – by Shared Coordinates" process or similar. Obtain State Plane Coordinates from Project survey information and utilize this same positioning process for all BIM files.

2.2.4 CADD data required for Contract submittals shall be provided in native .dwg format or be contained within the structure of the BIM data required in Section 2.2.2.

2.2.5 Copies of all BIM drawing sheets or other CADD submittals intended for hardcopy plotting or printing shall be provided by Consultant and subconsultants in portable document format (pdf). Final document submittals must also include drawing web format (.dwf) electronic media of above.

- a. Consultant must ensure that all digital files and data (e.g., constructs, elements, base files, prototype drawings, reference files and images, blocks, attribute links, pen settings and all other files external to the drawing itself) are compatible with the Contract Administrator's target BIM and/or CADD system (i.e., BIM and CADD

software, platform, database software), and adhere to the standards and requirements specified herein.

2.2.6 Target platform: A personal computer with Windows 7 operating system that meets or exceeds the minimum manufacturer's requirements to operate the version of software utilized for the project.

2.2.7 Any non-graphical database delivered with prepared drawings must be provided in relational database format compatible with Microsoft Access 2014 or higher, or other compatible SQL format database. All database tables must conform to the structure and field-naming guidance provided upon request by the Contract Administrator.

- a. Maintain all linkages of non-graphical data with graphic elements, relationships between database tables, and report formats.

2.2.8 BIM Content:

- a. Provide all Building Information Modeling (BIM) models in conformance to the General Service Administration's (GSA) "Building Information Modeling Guide 02 -Spatial Program Validation," dated May 21, 2015 or later. Provide space identification, charts and information in conformance with this Guide.
- b. See also Attachment – 1a, BIM Standards of Care.

2.2.9 CADD Standards:

- a. Standard plotted drawing size: 24 inch x 36 inch sheets.
- b. Coordinate with the Contract Administrator concerning the standard file naming protocol to be utilized.
- c. Drawing Set Organization and Sheet Identification per the United States National CAD Standard - V5. Provide dots in lieu of dashes at all uses.

2.2.10 CADD Layering:

- a. Conform to the guidelines defined by the American Institute of Architect's (AIA) standard document, "CAD Layer Guidelines", 2nd edition or later.
- b. Layering: The Contract Administrator may, from time to time, supplement the AIA CAD Layer Guidelines with the Contract Administrator's specific requirements for Facilities Management and other related information. Obtain latest Contract Administrator specific layering from Contract Administrator prior to production of documents and incorporate into drawings.

2.2.11 Attribute Definitions:

- a. Obtain latest guidance from the Contract Administrator concerning attribute definition, database linking and other information embedding requirements prior to production of documents.

2.2.12 Deviations from Standards:

- a. Submit a written request for approval of any deviations from the Contract

Administrator's established electronic media standards. Pre-coordinate the development, use and submittal of 3-D modeling, Building Information Models (BIM), photo-realistic renderings, animations, presentations and other visualization/information tools utilized during the design and construction process to ensure compatibility of submittal with County's uses and information systems.

- b. No deviations from the Contract Administrator's established BIM/CADD standards will be permitted unless prior written approval of such deviation has been received from the Contract Administrator.

2.3 Non-BIM/CADD Graphic Format:

2.3.1 Provide digital photography files and other miscellaneous graphics in JPEG or PNG format.

2.4 Non-Graphic Format:

2.4.1 Provide word processing files in Microsoft Word 2013 or higher compatible file formats including all fonts, typefaces, bit-map and vector graphics and other information necessary for remote printing.

2.4.2 Provide spreadsheet files in Microsoft Excel 2013 or higher for windows compatible file formats including all fonts, typefaces, bit-map and vector graphics and other information necessary for remote printing.

2.4.3 Provide database files in relational database format compatible with Microsoft Access 2013 or higher, or other compatible SQL format database including all tables, form and report formats, fonts, typefaces, bit-map and vector graphics and other information necessary for remote printing. Ensure integrity of relational database structure.

2.5 Delivery Media and Format:

2.5.1 Submit copies of all BIM/CADD data and other electronic files developed under this contract on electronic digital media as required for project phase submittals.

2.5.2 Provide electronic digital data and files on labeled CD or DVD media. Flash drives are acceptable alternatives and shall contain identifying County project information in their disk name. Other media will not be accepted without Contract Administrators approval.

2.5.3 The electronic digital media shall be in the format which can be read and processed by the Contract Administrator's target CADD or BIM system.

2.5.4 The external label for each electronic digital media shall contain, as a minimum, the following information:

- a. The Project Number, Project Title and date.
- b. The Facility Name
- c. The format and version of operating system software.
- d. The name and version of utility software used for preparation (e.g., compression/decompression) and copying files to the media.
- e. A list of the filenames, (a separate sheet will be accepted).

2.5.5 Before a BIM/CADD file is placed on the delivery electronic digital media, the following procedures shall be performed:

- a. Ensure that drawing sheets, viewports, paperspace, line weights, fonts, and other drawing components are correctly configured for Contract Administrator's viewing and plotting.
- b. Make sure all reference files are attached without device or directory specifications.
- c. Compress and reduce all design files using PKZIP, WINZIP or other compatible file compression/decompression software approved by the Contract Administrator. If the file compression/decompression software is different from that specified above, then an electronic digital media copy of the file compression/decompression software shall be purchased for the Contract Administrator and provided to the Contract Administrator with the delivery media.
- d. Include all files, both graphic and non-graphic, required for the project (i.e., color tables, pen tables, font libraries, block libraries, user command files, plot files, and other elements of drawing definition). All blocks not provided as Contract Administrator-furnished materials must be provided to the Contract Administrator as a part of the electronic digital deliverables.
- e. Make sure that all support files such as those listed above are in the same directory and that references to those files do not include device or directory specifications.
- f. Include any standard sheets (i.e., abbreviation sheets, standard symbol sheets, or other listing) necessary for a complete project.
- g. Document any fonts, tables, or other similar customized drawing element developed by Consultant or not provided among the Contract Administrator-furnished materials. The contractor shall obtain Contract Administrator approval before using anything other than the Contract Administrator's standard fonts, linetypes, tables, blocks, or other drawing elements available from the Contract Administrator.

2.6 Submittals:

2.6.1 Submit as Project Record Documents specified above and as required for project phase submittals and project record documents.

2.6.2 Submit electronic media with a transmittal letter containing, as a minimum, the following information:

- a. The information included on the external label of each media unit (e.g., CD, DVD, flash drive, etc.), along with the total number being delivered, and a list of the names and issue dates of all files on the media.
- b. Confirm that all delivery media are free of known computer viruses and malware. The release or version date of the virus-scanning software shall be the current version that has detected the latest known viruses at the time of delivery of the digital media.
- c. The following "Plot File Development and Project Documentation Information" as an enclosure or attachment to the transmittal letter provided with each electronic digital media submittal:
 1. List of all new figures, symbols, tables, schedules, details, and other blocks created for the project, which were not provided to Consultant with the Contract Administrator-furnished materials, and any associated properties.
 2. List of all database files associated with each drawing, as well as a description and documentation of the database format and schema design.
 3. Recommended modifications which will be necessary to make the data available for GIS use.

2.7 Ownership:

2.7.1 County will have unlimited rights under the Professional Services Agreement of which this document is a part to all information and materials developed under these and other contractual requirements and furnished to the Contract Administrator and documentation thereof, reports, and listings, and all other items pertaining to the work and services pursuant to this agreement including any copyright.

2.7.2 Unlimited rights under this contract are rights to use, duplicate, or disclose text, data, drawings, and information, in whole or in part in any manner and for any purpose whatsoever without compensation to or approval from Consultant except where otherwise limited within the Contract.

2.7.3 The Contract Administrator will at all reasonable times have the right to inspect the work and will have access to and the right to make copies of the above-mentioned items.

2.7.4 All text, electronic digital files, data, and other products generated under this contract shall become the property of County except where otherwise limited within the Contract.

2.8 Contract Administrator-Furnished Materials to the Construction Contractor:

2.8.1 The Contract Administrator and Consultant may make various electronic information available to the Contractor during the Pre-Construction and Construction phases of the Project. To this end, Consultant shall make the following information available to the Contractor in electronic format:

- a. **Work-files:** Selected work product files, copies of BIM and/or CAD files, reports, spreadsheets, databases, specifications, drawings and other documentation of Consultant's work in progress may be provided to the Contractor, Managing General Contractor, or other County consultant on an as required basis. Consultant shall cooperate and facilitate the exchange of these electronic media documents.
- b. **Where electronic media submittals of final site surveys are required:** Provide electronic copies of any existing site survey data already on electronic media conforming to Section 2.2 of this Attachment.
- c. **Where Electronic Project Record Documents are required,** Consultant will provide the Contractor one set of contract drawings in an electronic file format conforming to Section 2.2 of this Attachment, to be used for as-built drawings at the Contractor's option. Make electronic file drawings available on media in conformance with Section 2.5 of this Attachment.

2.9 Other Digital Information:

2.9.1 A variety of digital information may be generated by participants in the design process including the Contract Administrator, Consultant, Subconsultants, Contractor, subcontractors, the Contract Administrator's commissioning authority, local jurisdictional authorities and other project team members.

2.9.2 Consultant shall facilitate and participate in this digital exchange of information by conforming to the standards expressed above.

End of Attachment 2: Electronic Media Submittal Requirements

**EXHIBIT B
MAXIMUM BILLING RATES**

Project No: PNC2116532P1
 Project Title: Consulting Services for Consolidated Facilities Maintenance Building
 Consultant: CPZ Architects, Inc.
 Sub Consultant Name: Keith and Associates, Inc.

TITLE	MAXIMUM HOURLY RATE (\$/HR)	X	MULTIPLIER	=	MAXIMUM BILLING RATE (\$/HR)
Principal	\$84.74		2.95		\$249.98
Senior Project Manager	\$84.74		2.95		\$249.98
Project Manager I	\$50.00		2.95		\$147.50
Project Manager II	\$60.00		2.95		\$177.00
Project Manager III	\$75.00		2.95		\$221.25
Assistant Project Manager	\$40.00		2.95		\$118.00
Construction Manager	\$65.00		2.95		\$191.75
Senior Traffic Engineer	\$65.00		2.95		\$191.75
Engineer I	\$30.00		2.95		\$88.50
Engineer II	\$35.00		2.95		\$103.25
Engineer III	\$45.00		2.95		\$132.75
RPR Inspector I	\$30.00		2.95		\$88.50
RPR Inspector II	\$40.00		2.95		\$118.00
RPR Inspector III	\$55.00		2.95		\$162.25
Senior Surveyor & Mapper	\$60.00		2.95		\$177.00
Surveyor I	\$40.00		2.95		\$118.00
Surveyor II	\$50.00		2.95		\$147.50
Technician I	\$22.00		2.95		\$64.90
Technician II	\$30.00		2.95		\$88.50
Technician III	\$40.00		2.95		\$118.00
Senior Planner	\$55.00		2.95		\$162.25
Planner	\$40.00		2.95		\$118.00
Senior Landscape Architect	\$75.00		2.95		\$221.25
Arborist	\$55.00		2.95		\$162.25
Landscape Designer I	\$30.00		2.95		\$88.50
Landscape Designer II	\$40.00		2.95		\$118.00
Landscape Designer III	\$50.00		2.95		\$147.50
Senior Utility Coordinator	\$75.00		2.95		\$221.25

TITLE	MAXIMUM HOURLY RATE (\$/HR)	X	MULTIPLIER	=	MAXIMUM BILLING RATE (\$/HR)
Subsurface Utility Location Manager	\$55.00		2.95		\$162.25
Subsurface Utility Field Supervisor	\$32.00		2.95		\$94.40
Utility Coordination Manager	\$45.00		2.95		\$132.75
Utility Coordinator	\$35.00		2.95		\$103.25
Administrative I	\$25.00		2.95		\$73.75
Administrative II	\$35.00		2.95		\$103.25

UNIT PRICE

ITEM	UNIT	BILLING RATE (\$/UNIT)
Survey Crew - 2 Person	Per Crew	\$110.00
Survey Crew - 3 Person	Per Crew	\$160.00
Survey Crew - 4 Person	Per Crew	\$200.00
Survey Crew - Scanner	Per Crew	\$300.00
Subsurface Designation	Per Crew	\$200.00
Vacuum Excavations Pervious	Per Hole / Each	\$300.00
Vacuum Excavations Impervious	Per Hole / Each	\$450.00

Negotiated Multiplier of 2.95 is calculated as follows:

OVERHEAD = HOURLY RATE X OVERHEAD (130.14)%

FRINGE = HOURLY RATE X FRINGE (37.72) %

PROFIT = (HOURLY RATE + OVERHEAD + FRINGE) X PROFIT (10.00)%

MULTIPLIER = (HOURLY RATE + OVERHEAD + FRINGE + PROFIT) / HOURLY RATE 2.95

2017 FAR Audit – Overhead 130.14%, Fringe 37.72%

**EXHIBIT B
MAXIMUM BILLING RATES**

Project No: PNC2116532P1
 Project Title: Consulting Services for Consolidated Facilities Maintenance Building
 Consultant/ **DESIGN MANAGEMENT SERVICES, INC.**
 Sub Consultant Name:

TITLE	MAXIMUM HOURLY RATE (\$/HR)	X	MULTIPLIER	=	MAXIMUM BILLING RATE (\$/HR)
Principal (President)	\$58.50		2.31		\$135.14
Principal (VP)	\$58.50		2.31		\$135.14
Project Manager	\$45.00		2.31		\$103.95
Senior Engineer LEED AP Sr. Staff	\$45.00		2.31		\$103.95
Secretary	\$22.50		2.31		\$51.98

Multiplier of 2.31 is calculated as follows:

OVERHEAD = SAFE HARBOUR FRINGE & OVERHEAD (110)%

OPERATING MARGIN = (HOURLY RATE + OVERHEAD + FRINGE) X OPERATING MARGIN (10.00)%

MULTIPLIER = (HOURLY RATE + OVERHEAD + FRINGE + OPERATING MARGIN)/ HOURLY RATE

**EXHIBIT B
MAXIMUM BILLING RATES
SAFE HARBOR**

Project No:
Project Title: Consulting Services for Consolidated Facilities Maintenance Building
Consultant/
Subconsultant Name: CMS-Construction Management Services, Inc.

TITLE	MAXIMUM HOURLY RATE (\$/HR)	X	MULTIPLIER	=	MAXIMUM BILLING RATE
			2.31		(\$/HR)
Project Manager	\$44.87	X	2.31	=	\$103.65
Chief Estimator	\$40.00	X	2.31	=	\$ 92.40
Senior Estimator	\$36.00	X	2.31	=	\$ 83.16

Multiplier of 2.31 is calculated as follows:

OVERHEAD = SAFE HARBOR FRINGE & OVERHEAD (110%)

OPERATING MARGIN = (HOURLY RATE + OVERHEAD + FRINGE) X OPERATING MARGIN (10.00)%

MULTIPLIER = (HOURLY RATE + OVERHEAD + FRINGE + OPERATING MARGIN) /

HOURLY RATE) =2.31

Consultant has elected to use "Safe Harbor" combined fringe benefit and overhead rate of 110% in accordance with Section 5.2.5.

**AMENDED EXHIBIT D
SCHEDULE OF SUBCONSULTANTS**

<u>Architect</u>	<u>CPZ Architects, Inc.</u> 4316 W. Broward Boulevard Plantation, Florida 33317 Florida State of Incorporation Chris Zimmerman 954-792-8525 Chris@cpzarchitects.com
<u>Structural</u>	<u>MUEngineers, Inc.</u> 3440 NE 12 th Avenue Oakland Park, FL 33334 Marcus Unterweger 954-324-4730 Florida State of Incorporation Munterweger@MUEngineers.com
<u>MEP</u>	<u>Delta G Consulting Engineers</u> 707 NE 3 rd Ave. Suite 200 Ft. Lauderdale, FL 33304 George SanJuan 954-527-1112 ext. 10 Florida State of Incorporation Gsanjuan@deltatag.net
<u>Civil/Survey</u>	<u>KEITH and Associates, Inc.</u> 301 East Atlantic Blvd Pompano Beach, Florida Traci Scheppske 954-788-3400 Florida State of Incorporation TraciS@keithteam.com
<u>Environmental Specialist</u>	<u>Terracon Consultants, Inc.</u> 1225 Omar Road West Palm Beach, FL 33405 Lucas Barroso-Giachetti 561-494-7006 Lucus.Barroso-Gianchetti@terracon.com
<u>LEED</u>	<u>Design Management Services</u> 100 Enterprise Drive Rockaway, NJ 07866 Michelle Raigosa 732-588-0636 Michelle@dms.eco
<u>Cost Estimating</u>	<u>CMS-Construction Management Services, Inc.</u> 10 Fairway Drive, Suite 301 Deerfield Beach, FL 33441 Florida State of Incorporation Keith Emery 954-481-1611 Kemery@cms-construction-services.com

**Exhibit F
Work Authorization**

Agreement Title: _____
Agreement Date: _____
Contract Number: _____
Work Authorization No. _____
Consultant: _____

This Work Authorization is between Broward County and Consultant pursuant to the Agreement. Consultant affirms that the representations and warranties in the Agreement are true and correct as of the date this Work Authorization is executed by Consultant. In the event of any inconsistency between this Work Authorization and the Agreement, the provisions of the Agreement shall govern and control.

The time period for this Work Authorization will be from the date of County's Notice to Proceed until [____ (____)] days after the Notice to Proceed, unless otherwise extended or terminated by the Contract Administrator.

Services to be provided:

COMPOSE SIMPLE SUMMARY

See Exhibit A for additional detail.

The applicable not-to-exceed amount stated in the Agreement for the work at issue is: \$[_____].

The total fee for goods and services under this Work Authorization is: \$[_____]
("Total Fee").

The Total Fee shall be invoiced by Consultant upon written acceptance by County of all goods and services provided under this Work Authorization.

(Signatures appear on the following page.)

