

**NOTICE TO DESIGN PROFESSIONALS / CONTRACTORS
REQUEST FOR LETTERS OF INTEREST
HIAWASSEE MAINLINE PHOTOVOLTAIC
PROJECT 408-422, CONTRACT NO. 001675**

Central Florida Expressway Authority (CFX) requires the services of a Design/Build team in connection with the design and construction of Contract No. 001675, Hiawassee Mainline Photovoltaic, Project 408-422. Shortlist consideration will be given to only those teams who are qualified pursuant to law, and as determined by CFX based on information provided, as described below, and who have been prequalified by FDOT and the State of Florida Construction Industry Licensing Board to perform the indicated types/groups of work identified below.

DESCRIPTION OF SERVICES: The services to be provided consist of, but are not necessarily limited to, design and construction of two Elevated Photovoltaic Farms; one Elevated Photovoltaic Farm for the Hiawassee Data Center (Site 1); and one Elevated Photovoltaic Farm for the Hiawassee Mainline Plaza Toll (Site 2). The Design/Builder shall perform all investigations, coordination and design to produce final approved construction plans for the photovoltaic farm, drainage, mounting and rack structures, electrical distribution system, utility interconnection, necessary permitting, and traffic control. Further, the Design/Builder shall also be responsible for the furnishing and installation of the photovoltaic farms, mounting structures, inverters, wiring, transformers, and other electrical components needed to ensure a complete and proper connection to meter numbers 2821772 (Site 1) and 2791026 (Site 2) for a Net Metering application. The selected design/build team shall make available the necessary personnel, facilities, supplies, materials and resources to perform the required services.

PREQUALIFICATION REQUIREMENTS: Proposers are required to be prequalified in the work types required for the Project. Prequalification requirements are as follows:

1. Florida State License demonstrating the credential of Master Electrician, Electrical Contractor, or Certified Solar Contractor (CVC, CWC).
2. Provide documentation demonstrating a minimum of five (5) examples of successful design & installation of solar photovoltaic systems with at least three (3) installations within the State of Florida.
3. Registered with the State of Florida (sunbiz.org).

The technical qualification requirements of Florida Administrative Code (FAC) Chapter 14-75 and all qualification requirements of FAC Chapter 14-22, based on the applicable category of the Project, applies as noted below.

It is recommended but not required that the construction team member (Prime Contractor) be qualified on its own or through prequalified Sub-Contractor under Rule 14-22, FAC in all of the following Work Classes. A copy of the current Certificate of Qualification in each class shall be submitted with the Letter of Interest:

1. Electrical Work
2. Drill Shaft (as applicable)
3. Underground Utilities (Electric)
4. Utility Work

It is recommended but not required that the professional services team member (Design Firm) shall be qualified on its own or through prequalified subconsultants under Rule 14-75, FAC in the following major type of work. A copy of the Notice of Qualification shall be submitted with the Letter of Interest:

- 4.1.1 Miscellaneous Structures
- 6.3.3 Intelligent Transportation Systems Communications
- 9.1 Soil Exploration
- 9.2 Geotechnical Classification Lab Testing
- 9.4.1 Standard Foundation Studies
- 9.5 Geotechnical Specialty Lab Testing

LETTERS OF INTEREST SUBMITTAL REQUIREMENTS: Teams wishing to be considered shall submit six (6) sets of a Letter of Interest package using Times New Roman font, 12 pitch, single spacing and one (1) compact disk with an electronic version in pdf format with a resolution of 300 dots per inch (dpi). The letter shall be a maximum of five (5) pages, 8½” x 11”, exclusive of prequalification documentation, attachments, resumes and an organizational chart as detailed below. The packages shall include the following:

1. Photovoltaic Design Experience

The Design Firm shall have a minimum of five (5) years of photovoltaic design experience including Elevated Ground Mount applications. At least five (5) references for similar photovoltaic design projects completed during the past ten (10) years shall be submitted to verify required experience. Project information shall include relevant experience, year completed and contract amounts. References shall include name of owner’s contact person, telephone number and physical address.

2. Design / Build Experience

- A. The Contractor shall have been a prime contractor on a minimum of five (5) design/build projects similar to the type described. References for these projects shall be submitted to verify required experience. References shall include brief project description, name of owner’s contact person, telephone number, and physical address. For the projects listed, the Contractor shall provide detailed information regarding the number of change orders issued for each of the projects and the percentage of the final contract amount represented by change orders.

- B. The Design Firm shall have been the designer on a minimum of three (3) design/build projects in the State of Florida similar to the type described. References for these projects shall be submitted to verify required experience. References shall include Design Firm role, brief project description, name of owner's contact person, telephone number, and physical address.
5. Resumes shall be submitted separately but are limited to one 8½" x 11" page each. Resumes are not counted against the five (5) page limitation. Provide resumes for each of the following seven (7) key staff positions, as applicable:
- Contractor Project Manager
 - Contractor Design-Build Coordinator
 - Contractor Electrician
 - Design Firm Project Manager
 - Design Firm Engineer of Record
 - Design Firm Electrical Engineer
6. A one (1) page organization chart (11" x 17") shall be provided and will not count against the five (5) page limitation.

Letters of Interest shall disclose the existence of any active or pending litigation or administrative proceeding between any members of the Design/Build team, including subcontractors and subconsultants, and the Central Florida Expressway Authority. In the event a Letter of Interest is submitted by a Design/Build team which discloses such litigation, the final cumulative scoring totals of the submitted package shall be reduced by the amount of points outlined below.

Failure to submit any of the above required information may be cause for rejection of the package as non-responsive.

REFERENCE DOCUMENTS: In addition to this Request for Letters of Interest, the Draft Scope of Services document is also being made available for download through the CFX web site as provided below. Instructions for downloading can be found on the web site and registration is required in order to download the documents: [CFX Procurement Login](#).

SHORTLIST PROCESS: CFX's Evaluation Committee will shortlist a minimum of three (3) teams based on its evaluation and scoring of the Letters of Interest and qualifications information received. If less than three (3) teams submit responses, CFX, at its sole discretion, may elect to continue the selection process or re-advertise the project. Scoring of the submittals will be as follows: Photovoltaic Design Experience - 30 points; Photovoltaic Construction Experience - 35 points; Design/Build Experience - 35 points; Disclosure of active or pending litigation or administrative proceedings – 30-point reduction. The three (3) teams with the highest point totals will be shortlisted. More than 3 teams may be shortlisted at the Committee's option.

Shortlisted teams will proceed to the next step in the process that includes preparation and submittal of a Price Proposal. CFX will provide the shortlisted teams with a Design Criteria package for use in preparing the Price Proposal. The low responsive and responsible Price Proposal will be recommended to the CFX Board for award of the contract.

CODE OF ETHICS: All consultants selected to work with CFX are required to comply with the CFX's Code of Ethics, a copy of which may be viewed on CFX's web site at www.cfxway.com.

EQUAL OPPORTUNITY STATEMENT: The Central Florida Expressway Authority, in accordance with the provisions of Title VI and Title VII of the Civil Rights Act of 1964, hereby notifies all firms and individuals that it will require affirmative efforts be made to ensure participation by minorities.

DISADVANTAGED/MINORITY/WOMEN BUSINESS ENTERPRISE PARTICIPATION: Disadvantaged/Minority/Women Business Enterprises will not be discriminated against on the basis of race, color, sex, or national origin in consideration for qualification or an award by CFX. CFX has established a 15% participation objective for D/M/WBE firms for each project.

INSPECTOR GENERAL: By submission of a Letter of Interest, the Consultant understands and shall comply with subsection 20.055(5) Florida Statutes.

NON-SOLICITATION PROVISION: From the first date of publication of this notice, no person may contact any CFX Board Member, Officer or Employee or any evaluation committee member, with respect to this notice or the services to be provided. All such requests for information shall be made to the CFX Contact Person indicated below. Refer to the lobbying guidelines of CFX on the CFX website for further information regarding this Non-Solicitation Provision.

LETTER OF INTEREST RESPONSE DEADLINE:

April 13, 2020 at 1:30 p.m., Orlando local time

CFX CONTACT PERSON:

Ms. Aneth Williams
Director of Procurement
Telephone: (407) 690-5365

LETTER OF INTEREST RESPONSE ADDRESS:

Central Florida Expressway Authority
4974 ORL Tower Road
Orlando, FL 32807

Re: Hiawassee Mainline Photovoltaic Design/Build Services
Project No. 408-422, Contract No. 001675

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Aneth Williams
Director of Procurement

**CERTIFICATION REGARDING PROHIBITION AGAINST
CONTRACTING WITH COMPANIES PURSUANT TO FLORIDA
STATUTE SECTION 287.135(2)**

I hereby certify, pursuant to Section 287.135(2), Fla. Stat., that:

		TRUE – mark X	FALSE – mark X
1.	The company named below is not on the Scrutinized Companies that Boycott Israel List, created pursuant to s. 215.4725, or engaged in a boycott of Israel.	_____	_____
2.	The company named below is not on the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to s. 215.473.	_____	_____
3.	The company named below is not engaged in business operations with Syria.	_____	_____
4.	The company named below is not engaged in business operations with Cuba.	_____	_____

Company Name

By: _____

Title: _____

(Note: Failure to execute and submit this form may be cause for rejection of the LOI as non-responsive.)

Note:

Pursuant to Section 287.135(3)(a)4, if the company is found to have submitted a false certification as provided under subsection (5), been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or been engaged in business operations in Cuba or Syria, the contract may be terminated for cause at the option of CFX.

Pursuant to Section 287.135(3)(b), if the company is found to have been placed on the Scrutinized Companies that Boycott Israel List or is engaged in a boycott of Israel, the contract may be terminated for cause at the option of CFX.

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Scope of Services

For

Hiawassee Mainline Photovoltaic Arrays
Orange County

CFX Project Number: 408-422

Contract No.: 001675

DRAFT

March 6, 2020

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ATTACHMENTS

The Attachments listed below are hereby incorporated into and made a part of this Scope of Services as though fully set forth herein.

Attachment A - Hiawassee Pond Drainage Site PV Conceptual Drawings (PDF)

Attachment B - Landscaping Plans

Attachment C - Site 1 and 2 Drainage Calculations

Attachment D – ITS Technical Special Provisions

Attachment E – Site 2 Geotechnical Report

Attachment F – Electrical Diagrams for Data Center and Hiawassee Mainline

NOTE TO BIDDERS – ATTACHMENTS B-F ABOVE ARE NOT INCLUDED IN THE ADVERTISEMENT DRAFT SCOPE OF SERVICES. ATTACHMENTS B-F ABOVE WILL BE PROVIDED AT THE TIME OF SHORTLISTING

1 Design Criteria Introduction

This Scope of Services includes the criteria for the design of several components, as noted below, associated with design and construction of the photovoltaic arrays for the Hiawassee Mainline Plaza and Data Center.

The Design/Builder shall perform all investigations, coordination and design to produce final approved construction plans for the photovoltaic array, drainage, mounting and rack structures, electrical distribution system, utility interconnection, necessary permitting, and traffic control. The Design/Builder shall provide signed and sealed construction plans for the photovoltaic array and corresponding components.

1.1 Project Description

Photovoltaic Array:

The photovoltaic array shall be designed and constructed at Site 1, within the corresponding dry pond (ID NO. 408-504/506A C). The Design/Builder shall also design and construct a second photovoltaic array within Site 2, Pond ID NO. 408-504/506A B. Each array shall be designed and constructed to meet minimum technical requirements as outlined in section 3, Technical Criteria, of the scope of services. The Design/Builder shall be responsible for the furnishing and installation of the array, mounting structures, inverters, wiring, transformers, and other electrical components needed to ensure a complete and proper connection to meter numbers 2821772 (Site 1) and 2791026 (Site 2) in a Net Metering configuration.

Mounting and Rack Structures:

The Design/Builder shall construct all mounting and rack structures for the photovoltaic panels and the balance of system equipment. These structures shall not be impacted by windspeeds of up to 150 miles per hour and shall ensure the photovoltaic array and electrical components are a minimum of three feet above a flood height corresponding to a 25-year flood with a 96-hour duration for each site. The design build team shall verify the drainage calculations showing a store elevation of 10-foot depth to the bottom of each pond. The Design/Build team shall be responsible for ensuring that corrosion will not impact the performance of the system over the course of the 30-year array lifetime.

Toll Plazas and Connection:

The Design/Builder shall be responsible for obtaining an interconnection agreement from the utility, Duke Energy. The Design/Builder shall furnish and install all electrical components needed to have the array be utility interactive. The system shall be designed to attach through meter number 2821772 for Site 1, and meter number 2791026 for Site 2.

Right-of-Way:

The Design/Builder shall obtain all right-of-way and easement required for the project through the Central Florida Expressway Authority. The Design-Builder shall not use any property outside of the right-of-way identified for the design for either temporary or permanent construction.

Geotechnical:

The Design/Builder is responsible for its own geotechnical investigations, analysis, reporting and implementation.

Temporary Traffic Control:

The Design/Builder shall develop and implement an acceptable temporary traffic control plan (TTCP). The temporary traffic control plan shall maintain all of the interchange movements at all times, unless approved by CFX. The Temporary Traffic Control shall comply with the CFX Design Practices. Every effort shall be made to minimize impacts to the motoring public during construction.

Utilities:

The Design/Builder shall obtain an interconnection agreement from Duke Energy and comply with all requirements of the agreement. The Design/Builder is responsible for all utility relocations and coordination for all utilities within the project limits.

2 Design/Builder Qualifications

The Design/Builder shall demonstrate or employ the services of a Vendor who can demonstrate to the Engineer and the Owner that they specialize in the design and operation of photovoltaic array systems. The Design/Builder must meet the following list of qualifications:

1. Provide documentation in the form of a Florida State License demonstrating the credential of Master Electrician, Electrical Contractor, or Certified Solar Contractor (CVC, CWC).
2. Provide documentation demonstrating a minimum of five (5) examples of successful design & installation of solar photovoltaic systems with at least three (3) installation within the State of Florida. All projects shall be within the last three (3) years.
3. Registered with the State of Florida (sunbiz.org).
4. Bonding Capacity: proposer to submit letter stating their current bonding capacity, performance bonding and completion guarantee capability; source of historical debt financing in the bank or capital markets inclusive of institutional equity.

Below is a list of FDOT pre-qualifications applicable to the proposed photovoltaic system. The Design/Builder should note in their proposal the appropriate prequalification work class for the Designer and the Builder. Although FDOT pre-qualification is not required, having pre-qualification will be an advantage.

Design/Professional Services

Type of Work 4.1.1: Miscellaneous Structures

Type of Work 6.3.3: Intelligent Transportation Traffic Engineering Systems Communications

Type of Work 9.1: Soil Exploration

Type of Work 9.2: Geotechnical Classification Lab Testing

Type of Work 9.4: Foundation Studies

Type of Work 9.5: Geotechnical Specialty Lab Testing

Construction Services

Electrical Work

Drill Shaft

Underground Utilities (Electric)

Utility Work

2.1 Design/Builder Financial Information

The Design/Builder shall provide three (3) years of audited financial reporting for the Design/Builder or, if applicable, any proposed guarantor. Financial information should include, at a minimum, a Balance Sheet, Statements of Income, and Statements of Cash Flows, with accompanying footnotes.

3 Governing Regulations

The services performed by the Design Build Firm shall be in compliance with all applicable manuals and guidelines, including the CFX, NEC, NFPA, IEEE, FDOT, FHWA, AASHTO, Standard Building Code, and additional requirements specified in this document. Except to the extent consistent with the specific provisions in this document or as otherwise noted below, including updates of the following Manuals and Guidelines, shall be used in the performance of this work. The most recently published standard or reference must be used unless a specific year is mentioned below.

1. National Fire Protection Agency 70 – National Electric Code (NEC) latest approved code, with local amendments
2. IEEE 1547: Standard for Interconnecting Distributed Resources with Electric Power Systems
3. Codes and standards associated with Duke Energy for the interconnection.
4. Florida Department of Transportation Roadway Plans Preparation Manuals (PPM)
5. Florida Department of Transportation Design Standards
6. Florida Department of Transportation Drainage Manual
7. Florida Department of Transportation Soils and Foundations Handbook
8. Florida Department of Transportation Structures Manual
9. Florida Department of Transportation Production Criteria handbook CADD Structures Standards
10. Florida Department of Transportation's Utility Accommodation Manual
11. CFX ITS Design Standards

3.1 PV Specific Regulations

Below is a list of regulations and codes pertaining to photovoltaic systems specifically. This list does not cover all regulations that the Design/ Builder shall comply with but can be used for reference.

1. NEC 2014 – Article 690
2. IEEE Emerald Book – Powering and Grounding
3. IEEE Gold Book – Power Systems Reliability

4 Technical Criteria

4.1 General

The Design/Builder shall prepare the Photovoltaic Array Package for the Hiawassee Data Center Site 1, ID NO. 408-504/506A C and a second photovoltaic array for the Hiawassee Mainline Plaza at Site 2, Pond ID NO. 408-504/506A B. This work effort includes the technical and site analysis needed to prepare a complete set of Elevated Photovoltaic Farm Plans, Temporary Traffic Control Plans, Permits, and other necessary documents.

Proposal pricing shall include costs associated with a minimum of two-year comprehensive warranty from a creditworthy entity for all non-module balance of plant equipment including design, labor and materials, and fitness for purpose.

4.2 Design Analysis: Site 1

The Design/Builder shall develop and submit a signed and sealed Photovoltaic Array Performance Analysis Report for review and concurrence by CFX.

Any deviation from the Governing Regulations and/or CFX's Design Practices will require approval from CFX. The Design/Builder shall submit such requests to CFX for their consideration. If not accepted by CFX, then the Design/Builder shall modify the design so that all design criteria and practices are met. Deviations from AASHTO criteria will not be considered by CFX for this Project. CFX will not consider any deviation from the required design criteria prior to the submission of the Proposal.

The photovoltaic array design for Site 1 shall be developed to meet the minimum performance specifications and design specifications cited below.

4.2.1 Minimum Performance Specifications:

- PV array capacity: 320 kW
- Life of PV system: 30 years
- Average annual PV system degradation: 0.5% per year
- Module efficiency: 17%
- Panel temperature coefficient: -0.45% per degree Celsius
- Racking system can withstand winds up to 150 miles per hour.
- Racking system is a minimum of three feet higher than a flood height corresponding to a 25-year flood with a 96-hour duration.
- Balance of system components are a minimum of three feet higher than a flood height corresponding to a 25-year flood with a 96-hour duration.
- Rated inverter efficiency: 95%

4.2.2 Design Specifications:

- Monocrystalline modules
- Elevated fixed tilt racking system
- String inverters
- Connection to meter number 2821772.
- All components constructed within dry pond (ID NO. 408-504/506A C) or right-of-way areas.
- Panels must face true solar south.
- The solar energy system must have either “no potential for glare” or “low potential for after-image” (as defined by FAA Glint and Glare calculations) for vehicles traveling on SR 408.
- The solar energy system must have either “no potential for glare” or “low potential for after-image” (as defined by FAA Glint and Glare calculations) for residential locations in the vicinity of the project.

4.3 Design Analysis: Site 2

All Design/Builder responsibilities shall remain the same for the design and construction of the second array, but the array shall be designed to meet the minimum performance specifications and design specifications cited below.

4.3.1 Minimum Performance Specifications:

- PV array capacity: 250 kW
- Life of PV system: 30 years
- Average annual PV system degradation: 0.5% per year
- Module efficiency: 17%
- Panel temperature coefficient: -0.45% per degree Celsius
- Racking system can withstand winds up to 150 miles per hour.
- Racking system is a minimum of three feet higher than a flood height corresponding to a 25-year flood with a 96-hour duration.
- Balance of system components are a minimum of three feet higher than a flood height corresponding to a 25-year flood with a 96-hour duration.
- Rated inverter efficiency: 95%

4.3.2 Design Specifications:

- Monocrystalline modules
- Elevated fixed tilt racking system
- String inverters
- Connection to meter number 2791026.

- All components constructed within dry pond (ID NO. 408-504/506A B) or right-of-way areas.
- Panels must face true solar south.
- The solar energy system must have either “no potential for glare” or “low potential for after-image” (as defined by FAA Glint and Glare calculations) for vehicles traveling on SR 408.
- The solar energy system must have either “no potential for glare” or “low potential for after-image” (as defined by FAA Glint and Glare calculations) for residential locations in the vicinity of the project.

4.4 **Geometric**

The Design/Builder shall preserve as many of the existing trees located within the construction area through coordination of design and construction activities. The Design/Builder shall prepare a design that minimizes landscaping impacts, identify any potential vegetation that will negatively impact the planned PV array and coordinate with CFX for tree tagging prior to the disturbance of any vegetation or trees within this loop ramp area.

5 **Drainage Modifications**

5.1 **General**

The Design/Builder shall be responsible for the modifications to the drainage and stormwater management systems, if needed. The water flow through each outfall and drainage shall not be impacted from the constructed array and associated components. Each outfall shall have a radius of at least 20 feet where no components of the design shall be constructed. Additionally, A site layout showing the outfall and drainage areas is provided for reference (Attachment – A).

If required, the Design/Builder shall obtain the stormwater management permit from the St. Johns River Water Management District (SJRWMD). The Design/Builder shall construct the stormwater management system in accordance with the permit. If the stormwater management system is revised from that outlined in the permit, the Design/Builder shall be responsible for all required permit modifications, including all associated costs. No additional time will be granted for processing of modified permits.

6 **Structure Criteria**

6.1 **General**

Photovoltaic mounting racks shall be constructed in accordance with the governing regulations outlines in section 2 of the scope of services. The racking systems shall be spaced so that the shading caused by each array of modules does not impact the performance of another array. The modules shall face true south and have an unobstructed solar window from 9am to 3pm, solar time.

The Design-Builder shall be responsible for the design and construction of the racking system so that the arrays will be a minimum of three feet above a flood height corresponding to a 25-year flood with a 96-hour duration and will not be impacted by windspeeds of up to 150 miles per hour.

6.2 Design Analysis

The Design/Builder shall submit final signed and sealed documentation by a licensed Professional Engineer in the State of Florida prepared during the development of the structures plans for photovoltaic array site layout, mounting racks, and mounting for inverters, wiring, and transformers.

The Design/Builder shall ensure that the final Geotechnical recommendations and reports required for final design are submitted with the 100% structures plans.

6.3 Construction Limitations

The Design/Builder shall meet the following limitations in their design and construction of the photovoltaic array.

1. There must be a dirt service road of at least 15 feet in width that runs from the nearby highway to each of the drainage spots shown in Attachment A for maintenance.
2. All photovoltaic paneling and mounting racks shall be constructed a minimum of 10 feet from retaining walls and project area boundaries.
3. All drainage structures, shown in Attachment A, shall have a minimum of 20-foot radius around each location where no components or structures will be constructed.

6.4 Utility Interconnection

The Design/Builder shall obtain and meet the requirements for a net metering interconnection agreement from Duke Energy. The Design/Builder shall be responsible for the connection of the photovoltaic array to meter number 2821772 for Site 1, and 2791026 for Site 2.

6.5 Foundations

The Design/Builder shall design and construct foundational support for the photovoltaic racking system. The foundational support shall be in compliance with the governing regulations as outlined in section 2 of the scope of services.

6.5.1 Geotechnical Investigation

The Design-Builder shall be responsible for obtaining all geotechnical information necessary to design the photovoltaic array structures and to prepare construction plans. The Geotechnical Report and Plan sheet shall be signed and sealed by a licensed Professional Engineer in the State of Florida.

6.6 Balance of System Components

The Design/Builder shall design and construct all needed balance of system components including fasteners, brackets, enclosures, racks, and other structural supports for the installation of the photovoltaic array components. Balance of system components shall be constructed a minimum of three feet above a flood height corresponding to a 25-year flood with a 96-hour duration and shall not be impacted from winds of up to 150 miles per hour.

7 Temporary Traffic Control

7.1 Traffic Control Analysis:

The Design/Builder shall design a safe and effective Temporary Traffic Control Plan (TTCP) to move vehicular traffic during all phases of construction. The areas shall include, but are not limited to, construction phasing, utility relocation, drainage structures, signalization, ditches, front slopes, back slopes, drop offs within clear zone, and traffic monitoring sites. Special consideration shall be given to the drainage system when developing the construction phases. Positive drainage must be maintained at all times.

The TTCP shall be prepared by a certified designer who has completed the FDOT's Advanced MOT training course, and in accordance with the FDOT's Design Standards and the Roadway Plans Preparation Manual. Any deviations from the Standard Index shall be completed by a Professional Engineer licensed in the State of Florida and shall be submitted and approved by CFX.

7.2 Temporary Traffic Control Plans:

The Design/Builder shall coordinate all construction activities with adjacent project(s).

The Design/Builder shall utilize Standard Plans Index Series 102 Maintenance of Traffic of the FDOT's Standard Plans for Road Construction where applicable. Should these standards be inadequate, a detailed Temporary Traffic Control Plan (TTCP) shall be developed. The

Design/Builder shall prepare plan sheets, notes, and details for CFX approval to include the following: typical section sheet(s), general notes and construction sequence sheet(s), typical detail sheet(s), traffic control plan sheet(s). After CFX approval the Design/Builder shall provide a TTCP that is signed and sealed by a Professional Engineer registered in the State of Florida.

The following additional traffic control criteria shall be maintained by the Design-Builder:

- The Design/Builder shall coordinate with toll plaza managers 72 hours prior to performing any traffic control work within 2,000 feet of a toll plaza.
- Existing posted speeds shall be maintained at all times during construction.
- Minimum lane widths to be accommodated at all times include:
 - SR 408: inside 12' lane, outside 12' lane
- Minimum shoulder widths shall be maintained at all times during construction as per the FDOT Standard Plans for Road Construction.
- The Design/Builder shall be responsible for providing a law enforcement officer during all lane closure operations and during all night operations.
- CFX property affected by the construction work shall be restored to a condition equal to or better than existing pre-construction condition unless specifically exempt in the plans. All cost shall be incidental to existing pay items.
- It is the Design/Build team's responsibility to remove all unused barricades, signs, and/or warning devices to the appropriate storage facility upon completion of their use for the designed traffic control operation. During restricted hours of operation, unused MOT signs may remain in place, but shall not face traffic and shall be completely covered so as not to be readable.
- The Design/Build team is advised that lane closures are permitted at the following times:
 - SR 408 – Florida Turnpike to I-4 : 9 PM to 6 AM
 - The Design/Build team is advised that lane closures are not permitted from 5:00 A.M. to 11:00 P.M. on the ramps. If the Director of Construction or CFX Designee determines any lane closure is causing extended traffic congestion. The Director of Construction or CFX Designee may direct the contractor to open the lane closure until traffic returns to an acceptable flow. Either the Director of Construction or CFX Designee will determine when the flow of traffic is acceptable.
- Delay costs to the Design/Build team will result if all travel lanes and ramps are not open to traffic during the times outside of the permitted lane closure hours. The DB Team shall plan operations such that all equipment and materials installed by the team for lane closures are removed from the clear

zone and travel lanes are reopened to traffic. For Mainline and Ramp closures that occur outside the permitted lane closure hours, a lane rental fee will be assessed to the contractor in the amount of \$1,000 per Lane/Ramp for each minute that any Lane/Ramp is not open to traffic.

- Lane rental fees will be assessed and will continue to accrue until subject Lane/Ramp is open to a traffic flow as recorded by CFX. CFX shall have the right to apply as payment on such fees any money that is due to the DB team by CFX. At the discretion of the Director of Construction and/or CFX Designee, lane rental fees will not be charged for failure to open traffic lanes/ramps if such cause is beyond the control of the DB team, i.e. catastrophic events, and accidents not related or caused by the DB team's operations.

7.3 Traffic Control Restrictions:

There will be NO LANE CLOSURES ALLOWED between the hours of 6:00 AM to 9:00 PM. The time required for set up and removal of lane closures shall occur within the allowable lane closure times. A lane may only be closed during active work periods. Rolling barricades will be allowed during the approved lane closure hours. The Design/Builder shall have only one through lane closed in each direction on SR 408 during the permitted lane closure hours. All lane closures shall not exceed two (2) miles in length, inclusive of required tapers. Ramp closures are not permitted unless approved by CFX. The Design/Builder shall complete and submit the anticipated lane closure form to CFX a minimum of 14 calendar days prior to the start of the proposed lane closure. All lane closures, including approved ramp closures, must be reported to the local emergency agencies, the media and the CFX information officer. Also, the Design/Builder shall develop the Project to be able to provide for all lanes of traffic to be open in the event of an emergency or if the lane closure causes a driver delay greater than 20 minutes.

NO LANE CLOSURES are allowed on the Project during the events below

- Bike Week
- Daytona Races
- Camping World Stadium Events
- University of Central Florida Home Football Games

The Design/Builder shall provide a uniformed off-duty law enforcement officer with a marked vehicle during the set up and removal of all lane closure operations.

8 Toll Plaza

The proposed photovoltaic array system shall be designed and constructed to support the power load of the Hiawassee Mainline Toll Plaza and Data Center. The Design/Builder is responsible for avoiding impacts to all existing toll collection equipment and toll collection communication equipment within the project limits for the duration of the construction. Toll collection shall be maintained at all times. Any impacts to the toll collection system caused by construction activities associated with this project shall be the responsibility of the Design/Builder. CFX reserves the right to use on staff maintenance contractors to rectify any damage or other impacts caused by the Design/Builder and deduct any associated costs for the repairs from payments due to the Design/Builder.

9 Utilities

The Design/Builder is required to conduct all utility coordination and scheduling of the relocation of the utilities, if necessary, as a result of their design.

The Design/Builder's Utility Coordination Manager shall be responsible for managing all utility coordination, including, but not limited to, the following:

1. Ensuring that all utility coordination and activities are conducted in accordance with the requirements of the Contract Documents.
2. Identifying all existing utilities and coordinating any new installations.
3. Reviewing proposed utility permit application packages and recommending approval/disapproval of each permit application based on the compatibility of the permit as related to the Design/Builder's plans.
4. Scheduling and attending utility meetings, preparing and distributing minutes of all utility meetings, and ensuring expedient follow-up on all unresolved issues.
5. Distributing all plans, conflict matrices and changes to affected Utility Agency/Owners and properly coordinating this information.
6. Identifying and coordinating the execution and performance under any agreement that is required for any utility work needed in with the Project.
7. Preparing, reviewing, approving, signing, coordinating the implementation of and submitting to CFX for review, all Utility Agreements.
8. Resolving utility conflicts.
9. Performing Constructability Reviews of plans prior to construction activities with regard to the installation, removal, temporary removal, de-energizing, deactivation, relocation, or adjustment of utilities.
10. Providing periodic Project updates to CFX as requested.
11. Coordination with CFX on any issues that arise concerning reimbursement of utility work costs.

9.1 Utility Work Schedules

The Utility Adjustments shall be governed by the Florida Department of Transportation's Utility Accommodation Manual, Florida Statutes and Florida Administrative Code.

No Utility Work Schedules are provided as no utility adjustments are anticipated. The Design-Builder shall be responsible for Utility Work Schedules if required by their design.

9.2 Electrical Service Interconnection

The Design/Builder is responsible for the design and installation of the proposed buried electric raceway for the photovoltaic array and associated electrical connections in accordance with CFX ITS Design Standards and Specifications and Duke Energy Specifications as found at the Florida State section of the link: <https://www.duke-energy.com/home/products/renewable-energy/generate-your-own>. The costs to the Design/Builder may include but are not limited to conduits, pull boxes, manholes, electrical service wire, all coordination efforts with Duke Energy, and any fees imposed by Duke Energy for the interconnection agreement. The interconnection agreement will be between Duke Energy and CFX.

The Design/Builder shall meet all Duke Energy interconnection agreement requirements as set out for a net metering configured Tier 3 system (>100 kW and <2000 kW) as found at the Duke link above. Typically, Florida Utilities, including Duke Energy, follow a three step process with associated fees and system studies for the interconnection process, namely Feasibility Study, System Impact Study and a Facility Study. All information regarding the agreement and current procedures can be found at the link provided above. The Design/Builder shall be responsible for creating a Duke Energy account and completing all necessary steps required for the Tier 3 interconnection agreements associated with each of the two solar generation sites for this project.

The Design/Builder shall locate all electric service points (from the meter to the load center) within the construction area.

10 Schedule and Plan Progression Requirements

The Proposed Contract Duration shall be submitted with the Bid Price Proposal.

10.1 Schedule

The Design/Builder shall submit a Schedule, in accordance with the General Conditions.

The Design/Builder's Schedule shall allow for up to fifteen (15) business days (excluding weekends and CFX observed Holidays) review time for the CFX's review of all submittals.

10.2 Schedule of Values

The Design/Builder is responsible for submitting estimates requesting payment. Estimates requesting payment will be based on the completion or percentage of completion of tasks as defined in the schedule of values. Final payment will be made upon final acceptance by CFX of the Project. The Design-Builder must submit the schedule of values to CFX for approval. No estimates requesting payment shall be submitted prior to CFX approval of the schedule of values.

Upon receipt of the estimates requesting payment, CFX will make judgment on whether or not work of sufficient quality and quantity has been accomplished by comparing the reported percent complete against actual work accomplished.

10.3 Phase Plan

The Design/Builder shall prepare and submit 100% and Final Signed and Sealed plans for the components listed above for review and approval by the CFX. The Design/Builder shall wait until approval on the final signed and sealed plans has been received from CFX before beginning any construction. Any work that is started before the approval of the final signed and sealed plans is subject to rejection from CFX at the Design/Builder's expense. The general requirements governing the progression and schedule are:

1. The design plans must be submitted and approved. Plans will be returned to the Design/Builder within twenty-one (21) business days (excluding weekends and CFX observed Holidays) with approvals or request for additional information. This turnaround is based upon complete and accurate submittals being made by the Design/Builder in accordance with the most current submittal schedule approved by the CFX. Any work undertaken by the Design/Builder prior to approval is at its own risk.
2. Shop drawings approved by the Engineer of Record shall be furnished to CFX for acceptance prior to the installation of the components.
3. A hard copy of all final signed and sealed plans and Technical Special Provisions (with all corrections/changes made to the 100% submittals) and a disk of the CADD files shall be submitted to the CFX as part of the Final Plans Submittal.
4. No construction activity which affects traffic flow in any way shall be undertaken prior to the submittal and approval of the traffic control plans for

that phase of work.

5. As-Built and Record drawings shall be submitted to CFX before Final Acceptance of the project. These plans shall include GIS locates of the installed infrastructure which follows the CFX ITS Technical Special Provisions.

10.4 Commissioning and Acceptance Testing

During the start-up, a CFX representative shall observe and verify each system performance. Required commissioning and acceptance test services includes insuring the PV systems achieve performance objectives.

11 Permits

The Design/Builder shall be responsible for obtaining, paying for, and following all necessary permitting required for the project.

All construction activities shall be in accordance with the permits. The Design/Builder will be responsible for preparing final designs and proposing construction methods that conform to the permits obtained. It shall be the responsibility of the Design/Builder to modify affected permits, including the responsibility of payment of all required permit fees. All permits, including dewatering, required for a particular construction activity will be acquired by the Design/Builder prior to commencing the particular construction activity. Delays due to incomplete or erroneous permit application packages, agency rejection, agency denials, agency processing time, or any permit violations, will be the responsibility of the Design/Builder, and will not be considered sufficient reason for a time extension or additional compensation.

Any fines levied by permitting agencies shall be the responsibility of the Design/Builder.

The Design/Builder shall also submit to CFX As-built Certifications required by the permitting agencies as part of the notification of completion of construction. The certificates shall be signed and sealed by a professional land surveyor or professional engineer registered in the State of Florida.

11.1 Design Analysis and Permitting

The Design/Builder will be responsible for preparing designs and proposing construction methods that are permissible. The Design/Builder shall be responsible for any required permit fees. All permits required for a particular construction activity will be acquired prior to commencing the particular construction activity. Delays due to incomplete or erroneous permit application packages, agency rejection, agency denials, agency processing time, or any permit violations, except as provided herein, will be the responsibility of the Design/Builder, and will not be considered sufficient reason for a time extension or

additional compensation. As the permittee, CFX is responsible for reviewing, approving, signing, and submitting the permit application package including all permit modifications, or subsequent permit applications.

The Design/Builder shall be responsible for modifying the issued permits as necessary to accurately depict the final design. The Design/Builder shall be responsible for any necessary permit time extensions or re-permitting in order to keep the environmental permits valid throughout the construction period. The Design/Builder shall provide the CFX with draft copies of any and all permit applications, including responses to agency Requests for Additional Information, requests to modify the permits and/or requests for permit time extensions, for review and approval by the CFX prior to submittal to the agencies.

Any modifications to the drainage structures shall be prepared in accordance with Chapter 373 and 403, Florida Statutes, Chapters 40 and 62, F.A.C.; Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, 23 CFR 771, 23 CFR 636, and parts 114 and 115, Title 33, Code of Federal Regulations.

Preparation of all documentation related to the acquisition of all applicable permits will be the responsibility of the Design/Builder. Preparation of complete permit packages will be the responsibility of the Design/Builder. The Design/Builder is responsible for the accuracy of all information included in permit application packages. As the permittee, CFX is responsible for reviewing, approving, and signing, the permit application package including all permit modifications, or subsequent permit applications. Once the CFX has approved the permit application, the Design/Builder is responsible for submitting the permit application to the respective permitting agency. A copy (electronic and hard copy) of any and all correspondence with any of the permitting agencies shall be sent to the CFX. If any agency rejects or denies the permit application, it is the Design/Builder's responsibility to make whatever changes necessary to ensure the permit application is approved. The Design/Builder shall be responsible for any necessary permit extensions or re-permitting in order to keep the permits valid throughout the construction period. The Design/Builder shall provide the CFX with draft copies of any and all permit applications, including responses to agency Requests for Additional Information, requests to modify the permits and/or requests for permit extensions, for review and approval by the CFX prior to submittal to the agencies.

The Design/Builder will be required to pay all permit fees. Any fines levied by permitting agencies shall be the responsibility of the Design/Builder. The Design/Builder shall be responsible for complying with all permit conditions.

11.2 Probable Permits

Below is a list of potential permits and regulatory concerns that are applicable to this project. This is not an exhaustive list of all required permits and codes to be obtained and followed but can be used

for reference. The Design/Builder shall be responsible for identifying and following all permits and code needed for the design and construction of the photovoltaic systems.

1. Clean Water Act (CWA)
2. Environmental Resource Permit (ERP)
3. National Pollutant Discharge Elimination System (NPDES) Permit
4. City of Orlando floodplain development permit
5. Storm water management permit
6. City of Orlando city building permits
7. Endangered Species Act (ESA)
8. Migratory Bird Treaty Act (MBTA)
9. Bald and Golden Eagle Protection Act (BGEPA)
10. Flood Disaster Protection Act (FDPA)
11. Storm Water Pollution Prevention Plan (SWPPP) permitting
12. Florida Historical Resources Act (FHRA)
13. FAA Compliance

The Design/Builder shall be responsible for identifying if the construction conducted will be conducted in a designated floodplain or wetlands and obtain the necessary permitting for the design and implementation of the photovoltaic arrays. The Design/Builder shall identify if endangered species or protected animals will be impacted under the codes of the ESA, MBTA, and BGEPA and must obtain permitting if required.

12 Survey

The Design/Builder shall perform all surveying services necessary to complete the Project. The Design/Builder shall be responsible for verification of existing conditions, including research of all existing CFX records and other information. By execution of the contract, the Design/Builder specifically acknowledges and agrees that the Design/Builder is contracting and being compensated for performing adequate investigations of existing site conditions sufficient to support the design developed by the Design/Builder and that any information is being provided merely to assist the Design/Builder in completing adequate site investigations. Notwithstanding any other provision in the contract documents to the contrary, no additional compensation will be paid in the event of any inaccuracies in the preliminary information.

13 Geotechnical

The Design/Builder is responsible for conducting its own geotechnical investigations for all components of the project. There have been preliminary geotechnical investigations and those for Site 2 are provided for reference. The geotechnical investigations shall encompass the entire right-of-way and designated dry pond for this project.

14 **Submittals**

Plans must meet the minimum contents of a particular phase submittal prior to submission for review. The particular phase of each submittal shall be clearly indicated on the cover sheet. Component submittals must be accompanied by sufficient information for adjoining components or areas of work to allow for proper evaluation of the component under review.

14.1 **100% Submittal**

The Design/Builder shall submit 100% Design Plans for review. The following material shall be developed and submitted for review:

1. Traffic Control Plans
 - a. Detailed plans with required traffic control devices for all phases of construction, with detouring requirements. Plans shall include signing, pavement markings, barricades, barriers, cones, and detour signing as appropriate.
 - b. Phasing plan
2. Electrical Plans
 - a. Load Calculations: Provide the estimated project electrical load based upon the design loads known at the completion of the design. Provide individual circuit loads, tabulated in volt-ampere or KVA for each panelboard, motor control center, and switchboard.
 - b. Cable Size: Provide cable sizing calculations based on the completed design load calculations. Cable sizing calculation shall clearly indicate all load factors and installation factors required for proper cable sizing. Recommended cable sizes shall be clearly identified.
 - c. Short Circuit: Provide an updated short circuit calculation based upon the completed design configuration. An updated impedance diagram shall also be provided.
 - d. Voltage Drop: Provide an updated voltage drop calculation based upon the completed design configuration.
 - e. Lightning Protection: Provide lightning and surge protection plans for the system.
3. Site Drawings
 - a. Site plan drawings shall be updated to reflect the completed design. Thorough information shall be shown to describe features as necessary for the project.
 - b. Site plan drawings shall include at a minimum the location of all proposed devices, power tie in point for each solar array (finalized and documented with utility owners), underground infrastructure, conduit, pullboxes, electrical wire size, details and general notes.
 - c. One-Line Diagram: The one-line diagram shall reflect the completed design. The

diagram shall include complete descriptions of all components including size and ratings of devices.

4. Permitting
 - a. Plans to be consistent with the approved permits or include permit modifications
5. Structural Plans
 - a. Mounting Racks Structure Plans
 - b. Structure Design Calculations
6. Design Methodology Report
 - a. Document the power requirements/output of each Solar Array
 - b. Provide project specific equipment data sheets and cut sheets
 - c. Provide Power coordination correspondence with Utility Providers
 - d. Voltage Drop Calculations
 - e. Short Circuit Analysis
 - f. Arc Flash Analysis
 - g. Glint and Glare Analysis for Roadway Vehicles, based on FAA methodology using "Sims Industry Forge Solar PV Planning and Glare Analysis software" or equal.
7. Equipment List
 - a. Provide a list of all equipment and components being used on the project and note if they have or have not been used in previous projects completed by the Design/Builder.
8. Warranties
 - a. Identify all warranties to be transferred to CFX. All major components shall be covered under a minimum 5-year warranty.

When the review comments have been resolved and documented by the designer, the plans are ready to proceed to completion.

14.2 Signed and Sealed Plans

Final signed and sealed plans will be delivered to the CFX Project Manager a minimum of ten (10) calendar days prior to construction of that component. Once all comments have been satisfactorily resolved as determined by the CFX, the CFX Project Manager will initial, date and stamp each submittal as "Released for Construction". Only signed and sealed plans which are stamped "Released for Construction" by the CFX Project Manager are valid. All work that the Design/Builder performs in advance of the CFX release of Plans will be at the Design/Builder's risk.

14.3 Shop Drawings

The Design/Builder shall be responsible for the preparation and approval of Shop Drawings. Shop Drawings shall be in conformance with the Governing Regulations of this Design

Criteria. Shop drawings for the structures shall be provided to CFX for review. The Shop Drawings shall bear the stamp and signature of the Design/Builder's Engineer of Record (EOR), and Specialty Engineer as appropriate. CFX shall review the Shop Drawing(s) within 21 calendar days of receipt to evaluate compliance with project requirements and provide any findings to the Design/Builder. CFX's procedural review of Shop Drawings is to assure that the Design/Builder's EOR has approved and signed the drawing, the drawing has been independently reviewed and is in general conformance with the plans. CFX's review is not meant to be a complete and detailed review. Upon review and approval of the Shop Drawing, CFX will initial, date, and stamp "Released for Construction" or "Released for Construction as Noted".

Shop Drawing submittals must be accompanied by sufficient information for adjoining components or areas of work to allow for proper evaluation of the Shop Drawing(s) submitted for review.

14.4 As-Constructed Record Drawings

As-Constructed Record Drawings (signed & sealed) shall be submitted at the completion of construction detailing the final adjustments that were made to the design plans during the course of construction. The Record Drawings shall be prepared by the Design/Builder, with the appropriate signing and sealing by their EOR.

The Design-Builder shall furnish to the CFX, upon Project completion, the following:

- 1 set of 11" X 17" signed and sealed plans
- CADD files in MicroStation conformed to reflect as-built conditions
- 3 sets of 11 "X 17" copies of the signed and sealed plans
- 3 sets of signed and sealed final documentation
- One Final Project CD's (native files and pdfs of plans and documentation)

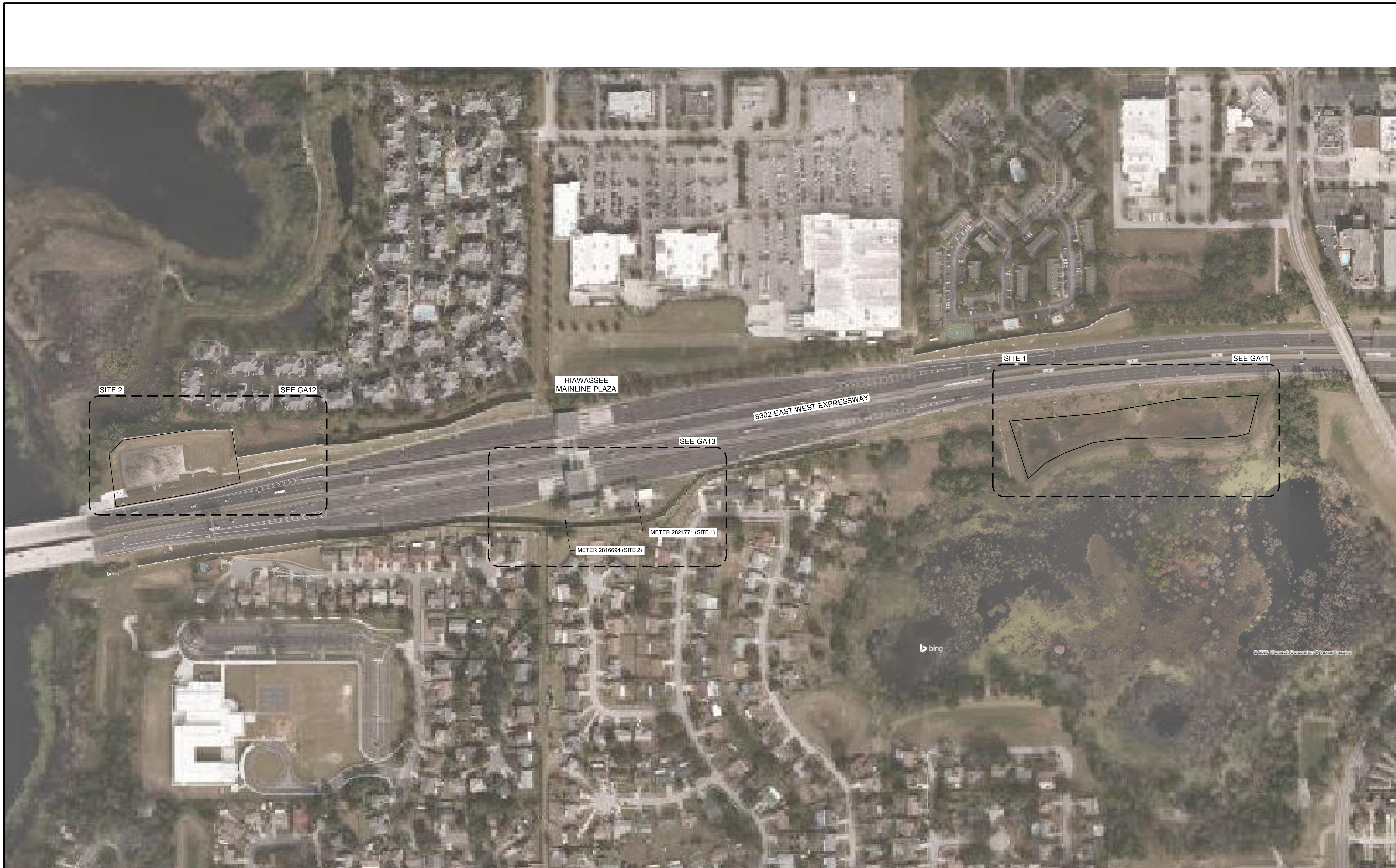
The Design/Builder's Professional Engineer in responsible charge of the Project's design shall professionally endorse (signed and sealed and certified) the record prints, the special provisions and all reference and support documents for all elements. The professional endorsement shall be performed in accordance with the FDOT Plans Preparation Manual.

The Design/Builder shall complete the record set as the Project is being constructed. The record set becomes the as-builts at the end of the Project. All changes shall be signed and sealed by the appropriate EOR. The record set shall reflect all changes initiated by the Design/Builder or the CFX in the form of revisions. The record set shall be submitted on a Final Project CD upon Project completion.

Additionally, the Design/Build team shall complete and submit GIS data of the installed infrastructure before final acceptance. The GIS information shall follow CFX ITS Technical Special Provision 612.

Attachment A

Hiawassee Pond Drainage Site PV Conceptual Drawings (PDF)



GENERAL ARRANGEMENT PLAN
OVERALL



KEYNOTES:

1. PV PANEL LAYOUT REPRESENTS A GENERAL LAYOUT. EACH RESPONDENT SHALL PROVIDE A SPECIFIC PV PANEL LAYOUT BASED ON ACTUAL EQUIPMENT PROPOSED.
2. THERE SHALL BE A KEEP OUT RADIUS OF AT LEAST 20 FEET CENTERED AROUND EACH OF THE DRAINAGE OUTFALLS.
3. A MAINTENANCE ROAD, WITH A WIDTH OF AT LEAST 15 FEET, SHALL RUN FROM SR.408 TO CLOSE BY TO EACH OF THE DRAINAGE OUTFALLS.



GENERAL ARRANGEMENT PLAN
SITE 1



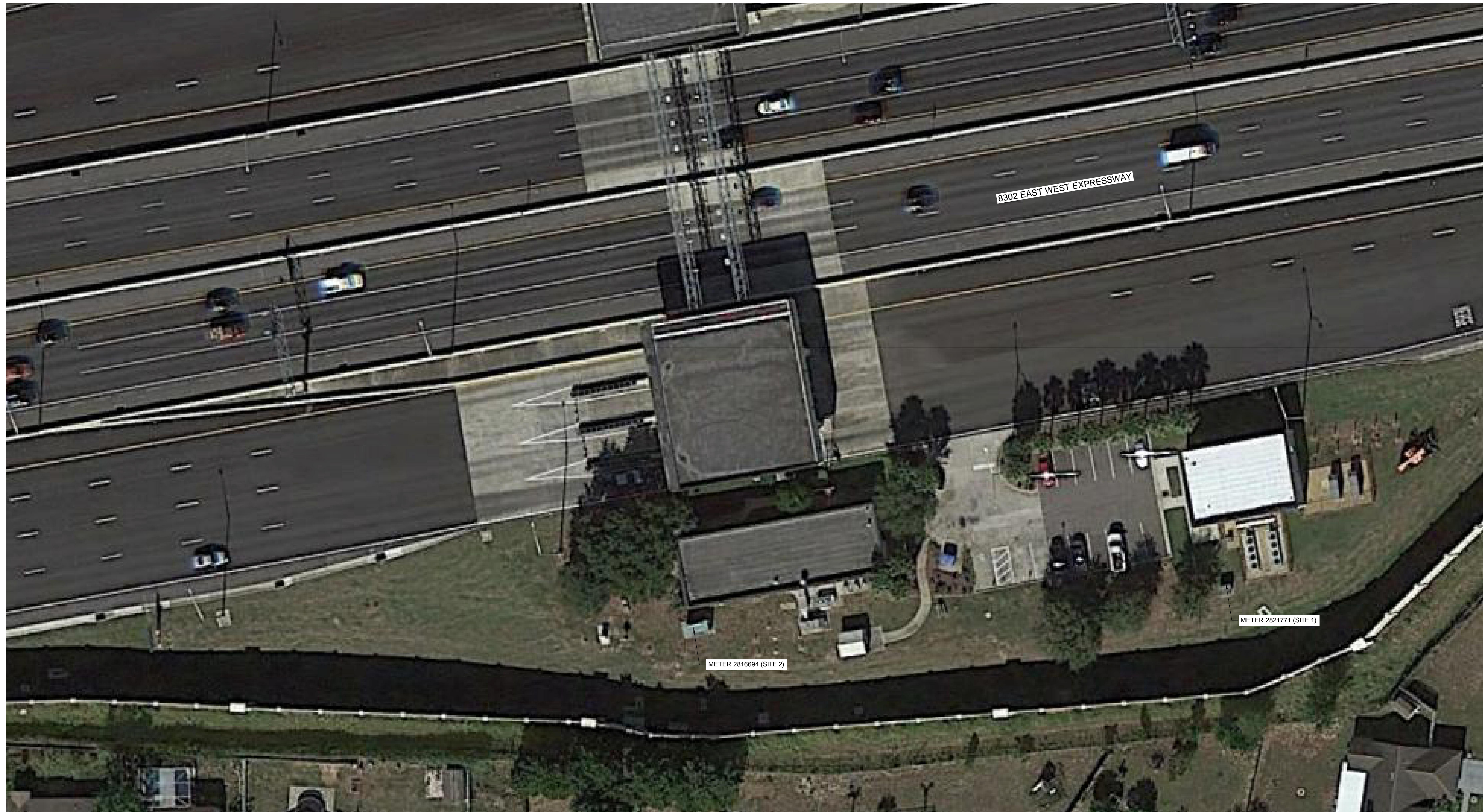


KEYNOTES:

1. PV PANEL LAYOUT REPRESENTS A GENERAL LAYOUT. EACH RESPONDENT SHALL PROVIDE A SPECIFIC PV PANEL LAYOUT BASED ON ACTUAL EQUIPMENT PROPOSED.
2. THERE SHALL BE A KEEP OUT RADIUS OF AT LEAST 20 FEET CENTERED AROUND EACH OF THE DRAINAGE OUTFALLS.
3. A MAINTENANCE ROAD, WITH A WIDTH OF AT LEAST 15 FEET, SHALL RUN CLOSE BY TO EACH OF THE DRAINAGE OUTFALLS.
4. NO ARRAY STRUCTURES SHALL BE BUILT WITHIN 10 FEET OF A RETAINING WALL.

GENERAL ARRANGEMENT PLAN
SITE 2





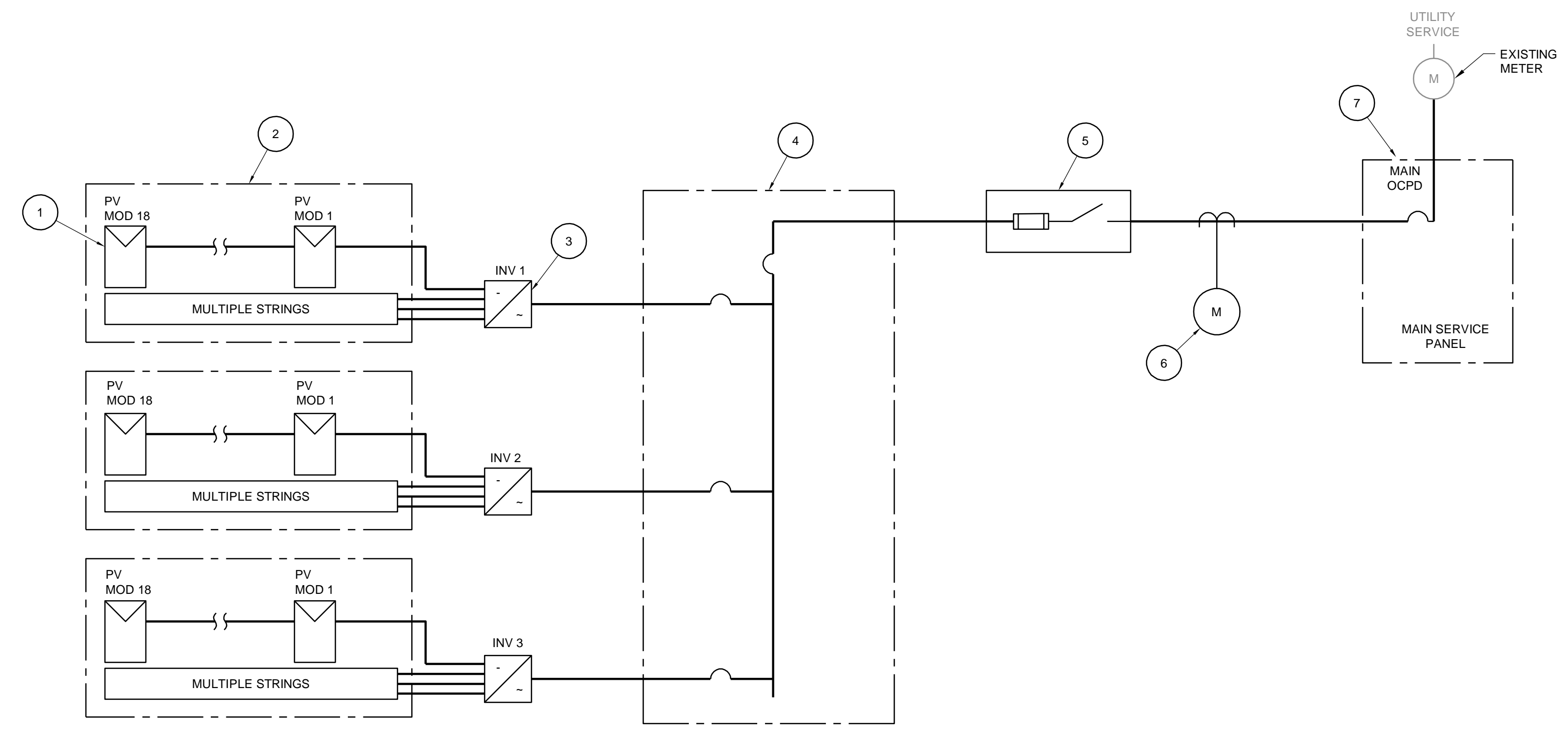
GENERAL ARRANGEMENT PLAN
ENLARGED METER AREA



MATERIAL LIST			
TAG	DESCRIPTION	PART NUMBER	NOTES
①	SOLAR PV MODULE	TBD	
②	PV ARRAY	TBD	
③	INVERTER	TBD	
④	INVERTER AGGREGATION PANEL	TBD	
⑤	ARRAY MAIN DISCONNECT	TBD	
⑥	REVENUE METERING DEVICE	TBD	
⑦	SERVICE PANEL	TBD	

NOTES:

1. SINGLE-LINE REPRESENTS GENERAL CONCEPT ONLY. EACH RESPONDENT SHALL PROVIDE A SPECIFIC SINGLE-LINE FOR EACH SITE BASED ON ACTUAL EQUIPMENT, QUANTITIES, AND CAPACITIES PROPOSED.
2. EACH RESPONDENT SHALL PROVIDE A CABLE AND CONDUIT SCHEDULE.



CONCEPTUAL SINGLE-LINE DIAGRAM