

September 8, 2014

1406219

Mr. Justin Green
Program Administrator
Siting Coordination Office
Florida Department of Environmental Protection
3900 Commonwealth Blvd.
Tallahassee, FL 32399-3000

RE: PETITION FOR MODIFICATION OF THE STANTON ENERGY CENTER SITE CERTIFICATION

Dear Mr. Green:

On behalf of Orlando Utilities Commission (OUC), we are pleased to submit to the Florida Department of Environmental Protection (FDEP) Site Certification Office a petition for modification to the Site Certification associated with the Stanton Energy Center and the associated facilities. This request is being made pursuant to Section 403.516, Florida Statutes, and Rule 62-17.211, of the Florida Administrative Code (FAC).

The SEC was granted authorization for construction and operation of Unit 1 by the Florida Siting Board on December 15, 1982. Unit 2 was certified in December 17, 1991. Supplemental Certification was obtained in September 21, 2001 for Combined Cycle Unit A, and in August 17, 2006 for Combined Cycle Unit B. Since the original certification date (12/15/82), the FDEP has modified the Site Certification (and Conditions of Certification) on eleven separate occasions. The most recent modification was conducted in July 24, 2008 and is referenced as PA 81-14K. At this time, OUC is seeking authorization through a petition for modification to the current Certification Order for the construction of an approximately 10-acre expansion to the recycle basin, to be located west of the existing recycle basin. Additionally, the following existing lined ponds will be modified to 1) improve the system capability and reliability and 2) expand the storage capacity: south coal pond, north coal pond, and the existing recycle basin.

The petition for modification describes the Project, the proposed modifications to the existing power units and associated facilities, and addresses the environmental aspects by presenting information on the existing natural and human environments and the impacts of the proposed project. This petition for modification provides the required information and is formatted in a similar manner as the original Site Certification Application (SCA), dated December 15, 1982 with more recent site information being referenced from the February, 2006 Supplemental Site Certification Application (prepared for the Unit B IGCC Project). The information has been reviewed for consistency and in accordance with the FDEP's draft Application Instruction Guide: Electrical Power Plant Sites and Associates Facilities Electrical Transmission Lines" dated September 1, 2009 (draft FDEP Form 62-17.900).

Concurrent with this filing, the indicated number of copies of this petition for modification is being distributed to the persons on the attached distribution list. If you should have any questions, please do not hesitate to contact Michael Kyhos of OUC at 407-434-3036.

GOLDER ASSOCIATES INC.



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1.0 NEED FOR THE PROPOSED FACILITIES

Orlando Utility Commission (OUC) is seeking to modify the site certification for the Stanton Energy Center (SEC) (PA 81-14K) in Orange County, Florida. This section of the petition for modification of the site certification provides an overview of the modifications planned to the Lined Ponds System for the control and reuse of the industrial wastewater generated at the SEC facility. The Project is planned to increase the industrial wastewater storage capacity and improve the reliability of the Lined Ponds system operation at the SEC facility.

1.1 Facility Introduction

The Stanton Energy Center (SEC) is located 12 miles southeast of Orlando, Florida. The approximately 3,280 acre site contains Units 1 and 2, as well as Units A and B, and the necessary supporting facilities (Figure 1.1-1). Approximately 1,100 acres of the 3,280 acre site has been licensed for an ultimate site capacity of 2,000 MW of power generation and supporting facilities. The surrounding 2,180 acres is undeveloped, is naturally vegetated, and serves as a habitat management area.

Stanton Unit 1 was placed in commercial operation on July 1, 1987, followed by Stanton Unit 2, which was placed in commercial operation on June 1, 1996. Both units are fueled by pulverized coal. Stanton Unit 1 is a 441 mega-watt (MW) net coal fired facility. OUC has a 68.6 percent ownership share of this unit, which provides 302 MW of capacity to the OUC system. Stanton Unit 2 is a 453 MW net coal fired generating facility. OUC maintains a 71.6 percent ownership share of this unit, which provides 324 MW of capacity to the OUC system (OUC, 2014).

Stanton A is a 633 MW (gross) combined cycle unit that began operation on October 1, 2003. Stanton A is a 2-on-1 combined cycle utilizing General Electric combustion turbines. The system is dual fueled with natural gas as the primary fuel and No.2 oil as the backup fuel. OUC, Kissimmee Utility Authority, Florida Municipal Power Agency, and Southern Company – Florida LLC are joint owners of Stanton A, with OUC maintaining a 28 percent ownership share.

Stanton B is a 300 MW (gross) 1-on-1 combined cycle utilizing General Electric combustion turbine. The system is dual fueled with natural gas as the primary fuel and No.2 oil as the backup fuel. OUC is the sole owner of Stanton B.

A 35- acre solar farm, which consists of an array of photovoltaic panels that generate approximately 6MW of electric power, was constructed in December 2011.

In addition to the generating units, the SEC facility has a coal storage area, an unlined combustion waste storage area; a lined horizontal expansion to the combustion waste storage area; combustion waste storage area runoff ponds; decanting cell processing area; stack out pad for materials processing and stockpiling; and several process water, leachate, wastewater and stormwater management ponds.

1.2 The Applicant

OUC has served approximately 189,203 customer accounts in all or parts of Orange and Osceola Counties during 2014 (OUC, 2014). OUC operates as a statutory commission created by the legislature of the state of Florida as a separate part of the government of the City of Orlando. OUC has full authority over the management and control of the electric and waterworks plants in the City and has been approved by the Florida legislature to offer these services to Osceola and Orange County. OUC's charter (among other things) allows it to undertake the construction, operation, and maintenance of electric generation, transmission, and distribution systems. Presently, OUC has ownership interests in five electric generating plants: Stanton Energy Center Units 1 and 2, Stanton Unit A, and Stanton Unit B; Indian River Plant Combustion Turbine Units A, B, C, and D; Duke Energy Florida Crystal River Unit 3 Nuclear Generating Facility (retired); Lakeland Electric McIntosh Unit 3; and Florida Power & Light Company St.

Lucie Unit 2 Nuclear Generating Facility. OUC's total system firm generation capability is approximately 1,500 MW.

OUC's existing transmission system consists of 31 substations interconnected through approximately 333 miles of 230-kV, 115-kV, and 69-kV lines and cables. OUC is fully integrated into the state transmission grid through its 22, 230-kV and one 69-kV metered interconnections with other generating utilities that are members of the Florida Reliability Coordinating Council. Additionally, OUC is responsible for St. Cloud's four substations, as well as approximately 56 miles of 230 kV and 69 kV lines and cables.

OUC is actively incorporating renewable technologies in their generation portfolio and taking other steps to reduce carbon emissions. Technologies such as solar and landfill gas allow OUC to provide the necessary power demand to customers while reducing harmful effects on the environment. Renewable energy, energy efficiency, sustainability and community activities are crucial to reducing the total needed demand for power.

1.3 Overview of the Project

The SEC is considered a zero liquid discharge facility. All wastewater streams associated with industrial activity, including low volume wastewater, wastewater associated with combustion waste processing and storage areas, coal pile runoff, landfill runoff, and contact stormwater associated with industrial activities are collected in a series of interconnected, lined ponds which flow to the facility recycle basin. In addition to these wastewater streams, the portion of facility's cooling tower blowdown that is not processed through the SEC brine concentrator system and reused in process cooling is also routed to the recycle basin. The wastewater in the recycle basin is reused as makeup water for the wet flue gas conditioning system (i.e. scrubber) in the air quality control system. With plans to increase the storage capacity of scrubber makeup water, OUC is preparing to construct an approximately 10-acre expansion of the recycle basin which will be located west of the existing recycle basin. . Additionally, the following lined ponds will be modified to 1) improve the system capability and reliability and 2) expand the storage capacity: south coal pond, north coal pond, and existing recycle basin. Figure 1.3-1 identifies each of the Project areas.

1.4 Conditions of Certification

Pursuant to Section 403.516(1)(c), FS and Rule 62-17.211, Florida Administrative Code (FAC), OUC must submit a petition to Florida Department of Environmental Protection (FDEP) that sets forth a concise statement of the proposed modification; the factual reasons asserted for the modification, including the changes in circumstances which justify the modification; and a statement of whether, and if so, how the proposed modification if approved would affect the Conditions of Certification; the Site layout or design as depicted in the current version of the application; and the anticipated environmental effects of the proposed modification.

The latest revision of the Conditions of Certification was signed on July 24, 2008 (PA 81-14K) by Siting Administrator Mike Halpin of the FDEP. The Conditions of Certification specific to the Project as well as OUC's request for revisions to applicable conditions, which modification is being requested under this petition involve:

- General Condition IV, N. Modification of Conditions
- Condition X. Water Discharges

In addition, OUC is seeking general revisions to the Conditions of Certification in order to clarify, modify, and revisit operational practices in accordance with applicable rules and regulations.

This petition for modification provides the required information and is formatted in a similar manner as the original Site Certification Application (SCA), dated December 15, 1982, with more recent site information being referenced from the February, 2006 Supplemental Site Certification Application (prepared for the Unit B IGCC Project). The information presented herein reflects the revisions or updates to that SCA

necessary to address the proposed project. If no changes or updates to a particular section of the SCA are required, either a brief summary is provided or those sections have been omitted.

1.5 Summary of Public Outreach Program

As part of the preparation process for the petition, OUC has had discussions with the FDEP Site Coordination Office and Central District to introduce the Project; the scope of work required to implement the Project; the applicable county, state and federal codes and regulations that govern the project activities, and; the plan to modify the Site Certification and applicable Conditions of Certification.

2.0 SITE AND VICINITY CHARACTERISTICS

2.1 Site and Associated Facilities Delineation

2.1.1 Site Location

The OUC property is located in portions of Sections 13, 14, 18, 19, 23, and 24 of Township 23 South, Range 31 East and Range 32 East. The OUC property consists of approximately 3,280 acres, of which approximately 1,100 acres has been licensed by the state of Florida for up to 2,000 MW of power generation and support facilities. The remaining 2,180 acres is undeveloped land that is naturally vegetated and serves as the habitat management area. The certified boundary is depicted in Figure 2.1-1.

The Project will include the expansion of the recycle basin and modifications to the south coal pond, north coal pond, and the existing recycle basin (Project). All of the site improvement areas are located on OUC property, in areas previously disturbed by site improvements and infrastructure directly or indirectly associated with the electrical generating units. The new expansion of the recycle basin and the structural modifications to the existing ponds are within the secured area and within the certified boundary. The Project areas are depicted in Figure 1.3-1.

The Federal Emergency Management Agency map indicates that the Project areas are within Zone X and outside of the 100-year flood zone as depicted in Figure 2.1-2.

2.2 Socio-Political Environment

2.2.1 Governmental Jurisdictions

The Project areas are situated within the OUC property, within the SEC certified boundary, and are located in unincorporated Orange County, Florida. The OUC property is approximately 12 miles southeast of Orlando, Florida. The OUC property is adjacent to a correctional facility, rangeland for cattle, Orange County Sanitary landfill, developed residential subdivisions, commercial centers, and the Hal Scott Regional Preserve and Park.

2.2.2 Zoning and Land Use Plans

2.2.2.1 Future Land Use

Orange County has adopted the Orange County Comprehensive Plan (effective 1/18/2014) to meet the requirements of the Florida Local Government Comprehensive Planning and Land Development Regulation Act (the Community Planning Act).

The Orange County Comprehensive Plan, Future Land Use Map (effective 1/21/2012) identifies the Project areas (and the entire OUC property) as within the Institutional future land use category. As indicated in the Future Land Use Element, the Institutional future land use category recognizes local, regional or federal public facilities, structures, and lands. Utilities and public facilities are allowed in all future land use designations, but utilities and public facilities should have a future designation of Institutional. Therefore, the proposed site improvements are consistent with future land use category and applicable provisions of the Orange County Comprehensive Plan.

2.2.2.2 Zoning

The Orange County Land Development Code has been adopted to implement the policies and objectives of the Orange County Comprehensive Plan and to regulate land development within the unincorporated portions of Orange County. The Orange County zoning map depicts the zoning districts of lands lying within Orange County. The Project areas (and the entire OUC property) are zoned as Farmland Rural (A-2). Power plants are identified as permitted use by special exception approval.

A 1981 resolution by the Orange County Board of County Commissioners granted a special exception permitting the construction of the SEC facility and associated facilities within the A-2 zoning district. The special exception applies to the entire 3,280 acre OUC property.

Therefore, the proposed site improvements are consistent with the zoning district and applicable provisions of the Orange County Land Development Code.

2.3 Bio-Physical Environment

2.3.1 Geologic Description of the Site

Information in this section of the SCA has not changed significantly since the SCAs for Unit 1 (December, 1982), Unit 2 (December, 1991), and Units A (September 2001) and B (February, 2006). Additional geotechnical investigation has been conducted by Tetra Tech/Ardaman & Associates to support the design of the Project. The geologic conditions are consistent with the information presented in previous site investigations.

The SEC facility lies within the physiographic boundary identified as the Osceola Plain. The Osceola Plain is generally nearly level and varies from undulating to nearly flat with few shallow depressions. Regional geology consists of recent and Pleistocene Age undifferentiated surficial deposits underlain by the Miocene Age Hawthorn Group underlain by Eocene Age limestone deposits.

2.3.2 Geohydrology

Information in this section of the SCA has not changed significantly since the SCAs for Unit 1 (December, 1982), Unit 2 (December, 1991), and Units A (September 2001) and B (February, 2006). Additional studies to support the design of the proposed project have been conducted by Tetra Tech/Ardaman & Associates. The geohydrology conditions are consistent with the information presented in previous site investigations.

2.3.3 Subsurface Hydrology

Information in this section of the SCA has not changed significantly since the SCAs for Unit 1 (December, 1982), Unit 2 (December, 1991), and Units A (September 2001) and B (February, 2006). Additional (and more recent) information associated with the subsurface hydrology for the proposed project has been evaluated to support the design efforts. The recent site investigation is consistent with the information presented in previous site investigations.

Groundwater in Orange County and the vicinity of the SEC facility occurs within the unconfined surficial aquifer, the secondary artesian aquifers, and the semi-confined Floridan aquifer. Throughout the region, the quality of the water varies with depth, location, and local geologic and hydrologic conditions. The aquifers beneath the SEC facility have been classified as G-II by the FDEP. A G-II aquifer is one that can be used for potable water and has a total dissolved solids content of less than 10,000 milligrams per liter.

2.3.4 Site Water Budget and Area Uses

Water is supplied to the SEC facility by two existing (850 gpm) on-site Floridan Aquifer wells for service water, potable water, and demineralized water (approximately 2 mgd is provided to OUC). The well water is pumped to a solids contact unit for treatment by aeration, lime softening, filtration, and chlorination.

Makeup for the cooling water system is provided by the Orange County Easterly Sub-Regional Wastewater Treatment Plant (via a 30-in diameter pipeline extending approximately 4 miles to the northwest of the SEC facility) (up to 14 mgd is provided to OUC), effluent from the SEC domestic wastewater treatment plant, collected site non-contact stormwater runoff, and non-contact stormwater from the Orange County Landfill. A cooling water makeup pond provides storage for the cooling water

system. The storage pond provides a minimum of 560 acre-feet of storage; holding approximately 2 weeks of cooling water for the SEC units.

Cooling tower blowdown is directed to existing wastewater pond (directly south of the Unit 2 cooling tower). A portion of the blowdown is processed by brine concentrators and associated equipment, and the effluent from the brine concentrators is sent back to the cooling towers for reuse. The remainder of the cooling tower blowdown is sent to the recycle basin for use as scrubber makeup water.

The SEC facility is considered a zero liquid discharge facility. All wastewater streams associated with industrial activity, including low volume wastewater, wastewater associated with combustion waste processing and storage areas, coal pile runoff, and contact stormwater associated with industrial activities are collected in a series of interconnected, lined ponds which flow to the facility recycle basin. In addition to these wastewater streams, the portion of facility cooling tower blowdown that is not processed through the SEC brine concentrator system and reused in process cooling is also routed to the recycle basin. The wastewater in the recycle basin is reused as makeup water for the wet flue gas conditioning system (i.e. scrubber) in the air quality control system.

Within the Water Storage Pump Building there are three water pumps that provide pressure and flow requirements for the SEC facility, while the service water storage tanks as well as yard mains and hydrants around the SEC facility provide fire protection water.

2.3.5 Surficial Hydrology

The SEC facility operates as a zero-discharge facility. Therefore, wastewater does not discharge from the existing generating units to nearby surface waters. Contact stormwater associated with industrial activity does not discharge to nearby surface waters.

2.3.6 Vegetation/Land Use

The vegetation/land use descriptions of the SEC facility and surrounding areas provided in Section 2.3.5 of the February, 2006 Supplemental Site Certification Application (prepared for the Unit B IGCC Project) are still applicable. Characteristic vegetative communities/land uses within the Project areas were classified utilizing the Florida Land Use, Cover, and Forms Classification System (FLUCFCS) (Florida Department of Transportation, 1999). The Project areas are limited to previously cleared and developed areas of the existing OUC property, consisting of electric power generation, storage, and parking facilities (FLUCFCS 831) that are devoid of natural vegetative communities. The area proposed for the 10-acre expansion of the recycle basin has been maintained as an open upland, mowed field since the SEC facility was constructed in the 1980s.

2.3.7 Ecology

2.3.7.1 Species-Environmental Relationships

The Project areas are classified as electrical utility facilities (FLUCFCS 831), as depicted on Figure 2.3-1. The following subsections include descriptions of important flora and fauna within the Project areas based on field reconnaissance conducted in February and September 2014 and previous studies documented in the SCAs for Units 1 and 2 and Supplemental SCAs for Units A and B.

Terrestrial Systems – Flora

The area proposed for expansion of the recycle basin is an open, maintained field supporting common weedy herbaceous species such as Bermuda grass (*Cynodon dactylon*), bahiagrass (*Paspalum notatum*), beggarticks (*Bidens alba*), capeweed (*Phyla nodiflora*), and common ragweed (*Ambrosia artemisiifolia*). Stormwater drainage ditches occur on the south, east, and west sides of the proposed recycle pond expansion area. These upland-cut ditches are vegetated with a variety of common emergent wetland

species, such as cattails (*Typha* sp.), pickerelweed (*Pontederia cordata*), torpedo grass (*Panicum repens*), frogfruit (*Phyla nodiflora*), marsh pennywort (*Hydrocotyle umbellata*), sedges (*Cyperus* spp.), and starrush whitetop (*Rhynchospora colorata*). The existing south coal pond, existing north coal pond, and the existing recycle basin are devoid of vegetative communities.

Terrestrial Systems - Fauna

The Project areas do not provide quality wildlife habitat due to their location within the existing power plant facilities, lack of natural vegetative communities, and routine maintenance. Species observed or likely to occur are limited to common species tolerant of anthropogenic activity, including nine-banded armadillo (*Dasypus novemcinctus*), black vulture (*Coragyps atratus*), turkey vulture (*Cathartes aura*), mourning dove (*Zenaidura macroura*), ground dove (*Columbina passerina*), cattle egret (*Bubulcus ibis*), and boat-tailed grackle (*Quiscalus major*). In addition, one sandhill crane (*Grus canadensis*) was observed foraging within the 10-acre recycle basin expansion area, as discussed below.

Threatened and Endangered Species – Flora and Fauna

Plant and animal species designated by the U.S. Fish and Wildlife Service (USFWS), the Florida Fish and Wildlife Conservation Commission (FWC) and the Florida Department of Agriculture and Consumer Services (FDACS) as endangered, threatened, species of special concern, commercially exploited, or under review, were included in this category.

Threatened and Endangered Species – Methodology

Prior to the 2014 field surveys, literature reviews were undertaken to determine the species that could potentially be present in the habitats found in the Project areas. Primary sources of information are the previous SCAs for Units 1, 2, A, and B, the Florida Natural Areas Inventory (FNAI) database (FNAI, 2014), and Notes on Florida's Endangered and Threatened Plants (FDACS, 2003).

Plant and Animal Surveys

Because of the rareness and seasonality of threatened and endangered species, either multi-season surveys or an evaluation of threatened and endangered species habitat conditions is necessary to determine their presence or absence within the Project areas. For this study an evaluation of the habitat conditions coupled with field surveys were used to determine the presence or absence of threatened and endangered species.

Threatened and Endangered Species – Flora

No threatened or endangered plant species occur within the Project areas, due to the historical clearing of natural vegetative communities and long history of routine mowing and maintenance.

Threatened and Endangered Species – Fauna

Threatened, endangered, or species of special concern (listed species) observed within the Project areas are limited to the sandhill crane. The Florida sandhill crane (*Grus canadensis pratensis*) is found year-round throughout Florida and is classified as threatened by the FWC, while the non-listed greater sandhill crane (*Grus canadensis tabida*) generally arrives in October and departs by March (FNAI, 2001). Due to the time of year of the observation (February), it could not be determined if the species observed was the listed subspecies, the Florida sandhill crane, or the non-listed migrant, greater sandhill crane.

Listed species that may occasionally utilize the stormwater ditches surrounding the recycle pond expansion area include common wading birds such as the white ibis (*Eudocimus albus*), little blue heron

(*Egretta caerulea*), snowy egret (*Egretta thula*), and tricolored heron (*Egretta tricolor*), all of which are classified as species of special concern by the FWC.

The FWC bald eagle nest location database was queried and resulted in two nests within 1.5 miles of the recycle pond expansion area (<https://public.myfwc.com/FWRI/EagleNests/nestlocator.aspx>). Nest OR043 is located approximately 1.1 miles to the east, while nest OR024 is located approximately 1.5 miles to the west/southwest.

Listed species known to occur upon OUC property outside of the Project areas include the red-cockaded woodpecker (*Picoides borealis*), classified as endangered by the USFWS, and gopher tortoise (*Gopherus polyphemus*), classified as threatened by the FWC. Listed species known to utilize gopher tortoise burrows, including the eastern indigo snake (*Drymarchon corais couperi*), classified by the USFWS as threatened, and the gopher frog (*Rana capito*), classified as a species of special concern by the FWC, may also occur on the OUC property outside of the Project areas. The Project areas do not provide suitable habitat for these species known to occur or likely to occur within undeveloped portions of the OUC property.

2.3.7.2 Preexisting Stresses

The greatest pre-existing stress to ecological systems of the Project areas is the result of historical clearing and construction of the existing power plant infrastructure. The natural topography, soils, vegetation, and hydrology within the Project areas are extensively altered. As a result the natural ecosystems are highly disturbed and do not provide significant wildlife habitat.

2.3.7.3 Measurement Programs

Ecological resources were evaluated through field reconnaissance, previous studies, FNAI and FWC databases, and literature searches. Vegetative communities, wildlife utilization, and potential for threatened and endangered wildlife occurrence were addressed during field reconnaissance conducted in February and September 2014.

2.3.8 Meteorological and Ambient Air Quality

Information in this section of the SCA has not changed significantly since the February, 2006 Supplemental Site Certification Application (prepared for the Unit B IGCC Project); therefore, a summary description is provided. Where more recent information is applicable, it has been provided.

The climate of central Florida is characterized as subtropical. With the Atlantic Ocean on the east side and the Gulf of Mexico on the west, only relative slight variations in humidity and temperature result through the seasons. Typically summertime temperatures range between 73.2°F and 91.4°F (with averages being 72.9°F and 90.8°F, respectively), with a relative humidity of 91.0 to 92.0 percent during the night and early morning to 59.0 to 75.7 % in the afternoon. Wintertime temperatures generally range between approximately 51.2°F and 72.6°F (with averages being 50.7°F and 72.0°F, respectively), with a relative humidity slightly lower than summer.

The normal annual precipitation is approximately 50.73 inches, with most of this precipitation occurring during the summer months. The winter months are much drier with the monthly precipitation averaging about 2.4 inches per month.

Wind data from the Orlando International Airport has been collected since 1944. The airport is located approximately eight miles southwest of the OUC property. The predominant winds are from the north and east. The wind direction varies significantly with seasons. The average wind speed remains constant throughout most of the year with the summer season experience more calm winds. The winter winds are predominantly from the north-northwest. The average winter wind speed is 3.65 meters per second (m/s). Winds during the spring are highly variable with winds from the east-southeast being slightly more

dominant. The average spring wind speed is 3.79 m/s. Winds during the summer are predominantly from the south. The average summer wind speed is 3.00 m/s, with calm winds occurring 1.88 percent of the time. Winds during the fall are predominantly from the north-northeast. The average fall wind speed is 3.41 m/s.

2.3.8.1 Ambient Air Quality

The OUC property is located in the unincorporated Orange County. Orange County and the surrounding counties are designated as an area that meets ambient air quality standards (i.e., an area with air quality that meets all AACS) (Rule 62-204.340, FAC).

Orange County is classified as a Class II area (Rule 62-204.340, F.A.C.) since it is an attainment area for all criteria pollutants. No Class I area exists within approximately 62 miles of the OUC property.

Air monitoring data are collected in Orange County for SO₂, PM₁₀, PM_{2.5}, O₃, NO₂, and CO. A summary of the maximum pollutant concentrations measured in Orange County indicates that the maximum air quality concentrations measured are in compliance with applicable standards for all pollutants. The pollutant primarily affecting air quality in Orange County is ozone, which is a regional pollutant, formed in the atmosphere in the summer.

2.3.9 Noise

Article V of Chapter 15 of the Orange County Code of Ordinances regulates noise generated within the County. Florida does not have state noise laws or regulations. As stated in Section 15-184 of the County Code, the maximum permissible sounds levels, which “no person shall produce, cause to be produced, or allow to be produced within any private or public property” sound that exceeds the applicable sound level limits. Limits have been established for Noise Sensitive Zones and Residential Areas. Exemptions apply for: emergency signals, testing, work; generators used during or a result of an emergency; construction or demolition activities, as identified in Section 15-185 of the County Code.

The ambient noise levels in the vicinity of the SEC facility are typical of a power plant, other human activities, and natural sources. A noise analysis was conducted in February, 2006 under the Supplemental Site Certification Application (prepared for the Unit B IGCC Project). Background noise levels (Unit 1, Unit 2, and Unit A) were identified to be between 43.1 dBA at the north, west, and south property lines. These levels were consistent with and characterized as typical of an urban area.

Projected noise levels (which included Unit B) were identified to be between 36.5 and 40.0 dBA at the four property corners, with a measurement of 42.5 dBA at the closest residential point.

The Orange County Code of Ordinances states a noise level limit of 60 dBA for day time levels and 55 dBA for night time levels in residential areas, therefore, although the plant operations may be audible, the noise levels should not dominant the surroundings and the projected noise levels were measured to easily fall within the Orange County criteria.

3.0 THE PLANT AND DIRECTLY ASSOCIATED FACILITIES

This section provides a description of the Project, including the Project areas, equipment, as well as a description of stormwater management system.

3.1 Background

The SEC facility is a certified facility under the Florida Power Plant Siting Act. The SEC facility contains Unit 1 (441 MW; certified in 1982), Unit 2 (453 MW; certified in 1991), Unit A (633 MW; certified in 2001), Unit B (300 MW; certified in 2006), and the necessary supporting facilities. The SEC facility is considered a zero liquid discharge facility. All wastewater streams associated with industrial activity, including low volume wastewater, wastewater associated with combustion waste processing and storage areas, coal pile runoff, and contact stormwater associated with industrial activities are collected in a series of interconnected, lined ponds, which flow to the facility recycle basin.

The Project will include modifications planned to the Lined Ponds System for the control and reuse of the industrial wastewater generated at the SEC facility. The Project is planned to increase the wastewater storage capacity and improve system reliability with the existing ponds. To allow for uninterrupted operation of the SEC facility, the site improvements will be sequenced. Construction activities will begin in January 2015 with a scheduled completion date of December 2017.

3.2 Site Layout

The power generation and supporting facilities associated with the SEC facility is comprised of approximately 1,100 acres of the 3,280 acre OUC property. The expansion of the recycle basin will be approximately 10 acres of new developed land. The expansion of the recycle basin will include a new lined pond, a new pump station structure, and new piping that will be integrated with the existing site infrastructure. The construction limits for the expansion of the recycle basin will include an additional ~3 acres to the approximately 10 acre proposed footprint.

Modifications of the lined pond system are also proposed for the existing south coal pond, existing north coal pond, and the existing recycle basin. The construction limits associated with the replacement of the liner systems will be approximately contained to the limits of the existing ponds.

Figure 1.3-1 identifies the Project areas. Construction plans for the proposed site improvements (Tetra Tech/Ardaman & Associates August 2014) have been prepared and were submitted separately to the agency.

A description of the proposed site improvements are provided below. Additional description of the design specifications are included in the Engineering Report for Design of the Proposed Recycle Pond Expansion and Existing Lined Ponds Modification (Tetra Tech/Ardaman & Associates, August 2014) and separately submitted to the agency.

3.2.1 Existing Recycle basin

The modified recycle basin will occupy approximately the same footprint as the existing basin. The existing basin and associated inlet and outlet structures will be completely dismantled and removed before construction of the modified basin. The modified basin will occupy base area of approximately 14 acres and will be surrounded by a perimeter dike that will be raised about three feet higher than the existing dike. The modified basin will have a single liner system consisting of a later of 80-inch thick HDPE geomembrane liner and a minimum of 6-inch thick soil sub-base. The HDPE geomembrane liner will be covered with a geocomposite drainage layer, an 18-inch thick compacted soil cover, and a minimum 8-inch thick soil-cement protective cover. The modified basin will have a design storage volume of approximately 90 acre-feet between the proposed minimum and maximum operating water elevations

of +70 and +79 feet, respectively. The proposed basin will also be provided with a seepage collection underdrain system along the toe of the basin slope so that the bottom of the liner system is not subject to fluctuations of the groundwater that could potentially adversely impact the integrity of the liner system

3.2.2 Proposed Recycle Basin

The proposed recycle basin will be located west of the existing recycle basin. The proposed basin will occupy approximately 10 acres and will be constructed below grade. The proposed basin will be surrounded by a perimeter dike and will be provided with a single liner system consisting of a layer of 80-mil thick HDPE geomembrane liner and a minimum 6-inch thick soil sub-base. The HDPE geomembrane liner will be covered with a geocomposite drainage layer, an 18-inch thick compacted soil cover, and a minimum 8-inch thick soil-cement protective cover. The proposed basin will have a design storage volume of approximately 60 acre-feet between the proposed minimum and maximum operating water elevations of +70 and +79 feet, respectively. The proposed basin will also be provided with a seepage collection underdrain system along the toe of the basin slope so that the bottom of the liner system is not subject to fluctuations of the groundwater that could potentially adversely impact the integrity of the liner system.

3.2.3 Existing North Coal Storage Area Runoff Pond

The north pond occupies an area of approximately 9 acres. Modifications proposed for the north pond include an additional area of approximately 100 feet to the west. A new drainage ditch will be constructed and the associated inlet and outlet structures will be completely dismantled and removed before construction of the modified pond. The modified pond will be surrounded by a perimeter dike that will be raised about three feet higher than the existing dike. The modified pond will have a single liner system consisting of a later of 80-mil thick HDPE geomembrane liner and a minimum of 6-inch thick soil sub-base. The HDPE geomembrane liner will be covered with a geocomposite drainage layer, an 18-inch thick compacted soil cover, and a minimum 8-inch thick soil-cement protective cover. The modified basin will have a design storage volume of approximately 55 acre-feet between the proposed minimum and maximum operating water elevations of +70 and +79 feet, respectively. The proposed basin will also be provided with a seepage collection underdrain system along the toe of the basin slope so that the bottom of the liner system is not subject to fluctuations of the groundwater that could potentially adversely impact the integrity of the liner system.

3.2.4 Existing South Coal Storage Area Runoff Ponds

The south pond occupies an area of approximately 2.4 acres. The modified pond will occupy approximately the same footprint as the existing pond. The associated inlet and outlet structures will be completely dismantled and removed before construction of the modified pond. The modified pond will occupy an area of approximately 2.5 acres and will be surrounded by a perimeter dike that will be raised about three feet higher than the existing dike. The modified pond will have a single liner system consisting of a later of 80-mil thick HDPE geomembrane liner and a minimum of 6-inch thick soil sub-base. The HDPE geomembrane liner will be covered with a geocomposite drainage layer, an 18-inch thick compacted soil cover, and a minimum 10 inch thick reinforced concrete slab. The modified pond will function as a sedimentation pond and will have design storage volume of approximately 12 acre-feet between the proposed minimum and maximum operating water elevations of +70 and +79 feet, respectively. The proposed pond will also be provided with a seepage collection underdrain system along the toe of the basin slope so that the bottom of the liner system is not subject to fluctuations of the groundwater that could potentially adversely impact the integrity of the liner system.

After modification of the north and south coal ponds, it will be OUC's intention to operate the south coal pond as a sedimentation pond, keeping the north coal pond as the coal storage area runoff pond.

3.3 Fuel

The Project will not require new fuel uses at the SEC facility.

3.4 Air Emissions and Controls

The Project will not require fuel driven equipment to be installed at the SEC facility.

3.5 Plant Water Use

OUC will maintain its existing plant water sources as described in Section 2.3.3. The proposed recycle basin expansion and other pond liner replacement will serve to increase the wastewater storage capacity at the SEC facility and therefore, improving facility operational practices.

Water associated with industrial activity will continue to be treated and reused onsite for system operations. Consistent with the current practices, the SEC facility will continue to operate as a zero discharge facility. Therefore, wastewater will not discharge from the existing generating units to nearby surface waters.

3.6 Solid and Hazardous Waste

All non-hazardous and hazardous wastes associated with the SEC facility are managed in accordance with applicable rules, regulations, and the Conditions of Certification. The Project will not significantly change the amount or type of solid or hazardous waste generated at the SEC facility.

3.7 On-site Drainage System

Stormwater runoff from the SEC facility is controlled, treated, and managed in accordance with existing, approved plans and are in compliance with applicable federal, state, local requirements, and the Conditions of Certification. The SEC facility operates as a zero discharge facility. Therefore, industrial wastewater does not discharge from the existing generating units to nearby surface waters.

Stormwater runoff associated with industrial activity is routed to the existing recycle basin and following the proposed project will also be routed to the expanded recycle basin. As under existing practices, the wastewater will be treated and reused for facility operations. Non-contact stormwater will continue to be routed via sheet flow to culverts throughout the SEC facility which flow to the facility cooling water makeup pond or to site stormwater retention ponds.

3.8 Materials Handling

Construction materials and equipment will be delivered to the SEC facility by existing roads, both inside and outside the OUC property. Existing access roads will be used during construction and operation of the Project. Construction trucks will travel to the SEC facility via existing access roads including Alafaya Trail, the Martin B. Andersen Beach Line Expressway, and Innovation Way. From the existing access roads, construction trucks will be directed to the construction areas. Access roads, which consist of both paved surfaces and unpaved surfaces, will be sprayed by water, as required, to control dust due to traffic.

4.0 ENVIRONMENTAL EFFECTS OF SITE PREPARATION AND CONSTRUCTION

The purpose of this section is to describe the environmental effects related to the site preparation and construction.

4.1 Land Impacts

The OUC property consists of approximate 3,280 acres; of which the power generation and supporting facilities associated with the SEC facility is comprised of approximately 1,100 acres. This area is within the SEC facility, within the certified boundary, and within the area of existing power generating equipment and associated appurtenances. Construction of the recycle pond expansion and the modifications to the Lined Ponds system will require the following activities:

- Clearing, cutting, grubbing, removal, and disposal of all grass, debris, and other organic materials;
- Dismantle and removal of the existing liner system on the existing ponds and basin, including the underdrain system and associated manholes, sediment, ash, and other unsuitable materials;
- Construction of earthen dikes around the ponds;
- Installation of seepage collection drainage systems;
- Construction of clayey soil sub-base;
- Installation of gas vent systems;
- Installation of geo-membrane liner;
- Installation of geo-composite drainage layer;
- Construction of an 18-inch thick protective soil cover;
- Construction of an 8-inch thick soil-cement;
- Construction of reinforced concrete slab;
- Wall and structures; and
- Installation of inlet and outlet pipes;

The construction activities will all be within the SEC footprint, specifically, the approximately 10-acre recycle pond expansion area; 14-acre existing recycle pond area; 9-acre existing north coal pond area; 2.4-acre existing south coal pond area, and associated inlet and outlet structures. The 10-acre area proposed for development has been cleared and maintained as an open upland, mowed field since the SEC facility was constructed in the 1980's.

A description of the above referenced design specifications are included in the Technical Specifications and Construction Quality Assurance Plan (Tetra Tech/Ardaman & Associates, August 2014) and separately submitted to the agency.

4.1.1 General Construction Impacts

The construction schedule includes approximately 9 months for site preparation, temporary stormwater measures, dewatering activities, earthwork construction, and grading, recontouring, and landscaping. Site work is scheduled to begin at the south coal pond and the expansion of the recycle basin in January 2015, at the north coal pond in fall of 2015, and at the existing recycle pond in the fall of 2016. Construction sequencing has been planned to avoid disruption in the operation at the SEC facility.

During construction, existing parking and laydown areas will be utilized to support the construction activities. Excavation and earthwork activities will be required as part of the construction activities. Excavated material obtained from the pond interior will be used as embankment or general fill material. Excess spoil will be used as cover dirt in the CWSA landfill. Best management practices will be implemented to avoid turbidity to the existing pond systems.

Solid waste materials (C&D) generated during construction will be disposed of in the onsite CWSA landfill which is in accordance with the *Landfill Operations and Maintenance Plan*. Solid waste materials will include silt deposits, old bottom liner system, seepage collection drain, and inlet and outlet structures and associated pipes from the existing liner systems. Construction wastes will be temporarily stored in a specified storage area at the SEC facility, where they will be separated for salvage and recycling. General waste materials that are not C&D (i.e., typical of municipal solid wastes) will be collected in appropriate waste collection containers for disposal at an approved off-site location.

Any hazardous wastes generated during construction activities (which are not anticipated) will be properly stored, transported, and disposed of in accordance with applicable regulations and internal OUC procedures.

The construction workforce will use existing sanitary facilities or portable chemical toilets. A licensed contractor will pump all sanitary sewage from the portable toilets and holding tanks as needed and will transport the waste to an approved off-site facility. Potable water for consumption during construction will be obtained from the plant potable water system or bottled potable water.

4.1.2 Roads and Site Access

Access to the OUC property and the SEC facility will be by existing access roads including Alafaya Trail, the Martin B. Andersen Beach Line Expressway, and Innovation Way. These options will also serve as access points during construction activities. Entrance to the SEC facility is secured and proper security clearance will be required for all construction deliveries and personnel. Construction activities will not utilize the existing railroad tracks for delivery or removal of construction-related materials. Existing paved and unpaved roadways within the OUC property will be utilized from the public off-site roadway system. Therefore, no significant impact is anticipated to the existing off-site and on-site roadway system as a result of the Project.

4.1.3 Flood Zones

The Project areas are within flood zone "Zone X" and outside of the 100-year flood zone. Stormwater runoff from the construction areas will be directed to the existing cooling water makeup pond, as under current practices. Construction activities associated with the Project will not adversely impact flood elevations for adjacent areas and will not cause any adverse flooding or related impacts to off-site property.

4.1.4 Topography and Soils

The natural elevation of the OUC property varies from approximately 92 ft-msl in the southwest to approximately 52 ft-msl in the northeast, with the average elevation between 75 and 85 ft-msl.

Area soils have a high sand content, are strongly acidic, are low in nutrients, poor to well drained, and are often underlain by an organic hardpan from 14 to 60 inches below land surface.

The area where the expansion of the recycle basin will be located is cleared and has been maintained as upland, mowed field since the 1980's. The Project is not anticipated to result in significant impacts to the topographic conditions. Runoff will be managed by the existing stormwater management system, consistent with existing conditions.

As part of the site investigations associated with the proposed site improvements, a field exploration program was undertaken. The description of the field exploration program and findings are included in the Engineering Report for Design of the Proposed Recycle Pond Expansion and Existing Lined Ponds Modification (Tetra Tech/Ardaman and Associates, August 2014), which has been separately submitted to the agency.

4.2 Impacts on Surface Water Bodies and Uses

The SEC facility is considered a zero liquid discharge facility. The construction activities associated with the modifications to the lined pond systems will be conducted in a controlled area. Stormwater runoff from the construction areas will be directed to the existing cooling water makeup pond. In addition, construction activities will be phased to minimize disruption to the existing operational practices. Erosion control measures (such as: vegetation, berms, and silt fences) will be implemented to minimize impacts during construction. To prevent the deposition of sediments beyond the construction areas, appropriate Best Management Practices (BMPs) will be identifying and implemented. The use of BMPs will assist to minimize runoff and prevent any off-site discharges.

In the event there are any spills of fuels, lubricants, or other liquids related to the construction activities, a response procedure and Stormwater Pollution Control Plan (SPCC) will be implemented. The SPCC plan will have appropriate procedures to avoid and/or minimize impacts to surface water and off-site impacts.

4.3 Groundwater Impacts

Dewatering effluent will be pumped to the onsite cooling water makeup pond. Although temporary, dewatering activities will be required for the modifications to the Lined Pond System and will maintain the groundwater levels over the entire excavation area at a minimum of 3 feet below the excavation grade at all times. Fluctuations in levels are anticipated to occur throughout the year due to rainfall. Temporary monitoring wells will be installed to confirm the performance of the dewatering system. A dewatering plan will be developed and separately submitted to the agency.

The dewatering systems will be installed and maintained for excavation, backfill, and certain construction activities. Any groundwater collected as a result of dewatering will be pumped to the onsite cooling water makeup pond.

Additionally, groundwater levels under the modified lined pond systems will be controlled by underdrain systems. Effluent from the underdrain systems will flow to the facility cooling water makeup pond.

After excavation, backfill, compaction, integration with the permanent drainage system, the dewatering system will be removed. Any restoration needed for affected areas will be performed after the dewatering equipment is removed. The construction contractors will be required to implement practices to minimize the potential for spills of fuels or chemicals. Maintenance will be performed only in designated areas. In the unlikely event that spills do occur, they will be managed in an approved manner, in accordance with local, state, and federal regulations. Therefore, the proposed construction activities for the Project are not anticipated to result in a significant impact to onsite or offsite ground water resources. Any impacts should be minor and temporary.

4.4 Ecological Impacts

4.4.1 Terrestrial Systems

The Project areas comprise approximately 37 acres, of which approximately 13 acres will be disturbed for expansion of the recycle basin. The remainder of the acreage is comprised of the existing recycle basin, north coal pond, and south coal pond. The terrestrial systems within the Project areas are limited to previously disturbed and developed areas of the existing SEC facility (FLUCFCS 831), which do not

contain natural vegetative communities and do not provide significant wildlife habitat. No significant adverse impacts to wildlife resources in the area will occur as a result of construction.

Fugitive dust generated by construction activities will be minimized through best management practices (see Section 4.5). Any localized fugitive dust will not adversely affect the terrestrial systems surrounding the Project areas.

Noise (including human disturbance from construction activities) is not anticipated to cause significant adverse effect upon wildlife in the vicinity of the Project areas. Presently, the Project areas experience noise associated with operation of the existing SEC facility, and wildlife that occurs in the vicinity of the Project areas, such as avian species, are acclimated to such activities. No noise-sensitive wildlife is known to occur in the Project areas or in the vicinity of the Project areas since wildlife in the area have been acclimated to noise associated with the existing SEC activities.

4.5 Aquatic Systems/Wetlands

The Project will not impact any jurisdictional wetlands or surface waters.

4.5.1 Threatened and Endangered Species

Threatened and endangered species observed within the Project areas are limited to the sandhill crane. In addition, although no individuals were observed, the perimeter stormwater ditches provide potential habitat for listed species of wading birds. Due to the presence of large areas of suitable habitat for sandhill cranes and wading birds within the surrounding undeveloped portions of the SEC facility, as well as the highly mobile nature of protected avian species, no significant adverse impacts to federally or state listed animals are anticipated.

4.6 Air Impacts

Construction activities may result in the generation of fugitive particulate matter (PM) emissions and vehicle exhaust emissions, primarily from vehicular travel over existing paved roads and unpaved areas within the OUC property. Vehicular traffic will include heavy-equipment traffic and traffic due to construction workers entering and leaving the OUC property. Fugitive dust emissions from the construction areas will be minimized using appropriate dust suppression control measures. Reasonable precautions pursuant to FDEP Rule 62-296.320(4)(c)3 FAC would be followed to minimize fugitive emissions.

Construction personnel and equipment will enter the SEC facility via existing entrance roadways from the public roadway system. The possibility of wind erosion is negligible due to the nature of construction activities. Most of the areas used for construction parking and laydown are paved or graveled, which will minimize fugitive emissions. Therefore, construction activities will not result in significant impacts from fugitive air emissions.

4.7 Impact on Human Populations

The power generation and supporting facilities associated with the SEC facility is comprised of approximately 1,100 acres of the 3,280 acre OUC property. The surrounding undeveloped land is naturally vegetated and serves as the habitat management area. The land that surrounds the OUC property to the east and west are public and not occupied by residents. The nearest human population to the OUC property is the residential neighborhoods to the north and the correctional facility to the southeast.

The construction equipment as well as the earth movement activities associated with the construction activities will result in an increase in normal operation noise levels at the SEC facility. Although the plant operations with the construction activities may be audible from off-site locations, the noise levels should

not dominant the surroundings and the anticipated noise levels will easily (continue to) fall within the Orange County criteria.

The use of the public roadway system is not anticipated to have a significant impact as a result of the Project. Construction related equipment and personnel will not cause a significant influx of traffic that could result in disruption to area residents or businesses.

5.0 EFFECTS OF PLANT OPERATION

The purpose of this section is to describe the environmental effects related to the operational changes.

5.1 Impacts on Water Supplies

The Project does not include the introduction of new materials that will require storage at the SEC facility that could potentially result in inappropriate discharges. The Project will not result the need for additional water withdrawal or potable water requirements at the SEC facility.

The SEC facility will continue to operate as a zero liquid discharge facility. Stormwater management will be handled as under existing conditions, via sheet flow to culverts into the existing cooling water makeup pond for reuse or to onsite stormwater retention ponds.

Groundwater associated with construction dewatering activities, as well as groundwater from the seepage collection drainage systems on the ponds will be routed to the site cooling water makeup pond. The water from this pond is used as the source of makeup water for the facility cooling towers.

No new or modified measurements or monitoring programs are proposed for the Project.

5.2 Sanitary and Other Waste Discharges

Sanitary and other wastewaters will not be discharged to surface waters. In addition, the Project will not increase the generation of solid waste at the SEC facility. The Project will not have an impact on hazardous waste handling and/or disposal practices. All waste products will be handled and disposed in accordance with applicable rules, regulations and in compliance with the Conditions of Certification. The Project will not require additional staff or changes to the operational practices at the SEC facility that could result in changes to the waste streams generated. Therefore, no impacts are anticipated to surface or groundwater as a result of the Project.

5.3 Air Quality Impacts

The Project will not have any new emission sources; therefore, there will not be any changes in the operation or emissions resulting from the Project.

5.4 Noise Impacts

The Project will not result in a discernible increase in off-site noise levels. As a result the SEC facility will continue to operate in accordance with applicable rules, regulations, and in compliance with the Conditions of Certification.

5.5 Ecological Impacts

No significant adverse impacts to wildlife species are anticipated during the operation of the Project. The Project areas do not provide critical habitat for wildlife; therefore, the operation of the Project is not anticipated to result in the reduction of any populations of wildlife species after the Project is completed.

No adverse impacts to federal- or state-listed terrestrial plants or animals are anticipated during facility operations. Highly mobile species of listed avian species will relocate during site preparation to suitable habitat within the surrounding area. No long-term change in the populations of any threatened or endangered species is anticipated as a result of operation of the Project.

No changes in wildlife populations at the adjacent undeveloped areas are anticipated, including listed species. Noise and lighting impacts will not change; the Project is not anticipated to deter the continued use by wildlife of the undeveloped areas within the SEC facility. No adverse ecological impacts are anticipated in association with operation of the Project.

6.0 REFERENCES

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OUC, 1982, Orlando Utilities Commission Curtis H. Stanton Energy Center, Unit 1 Project, Site Certification Application

OUC, 2006, Orlando Utilities Commission Curtis H. Stanton Energy Center, Unit B IGCC Project, Supplemental Site Certification Application

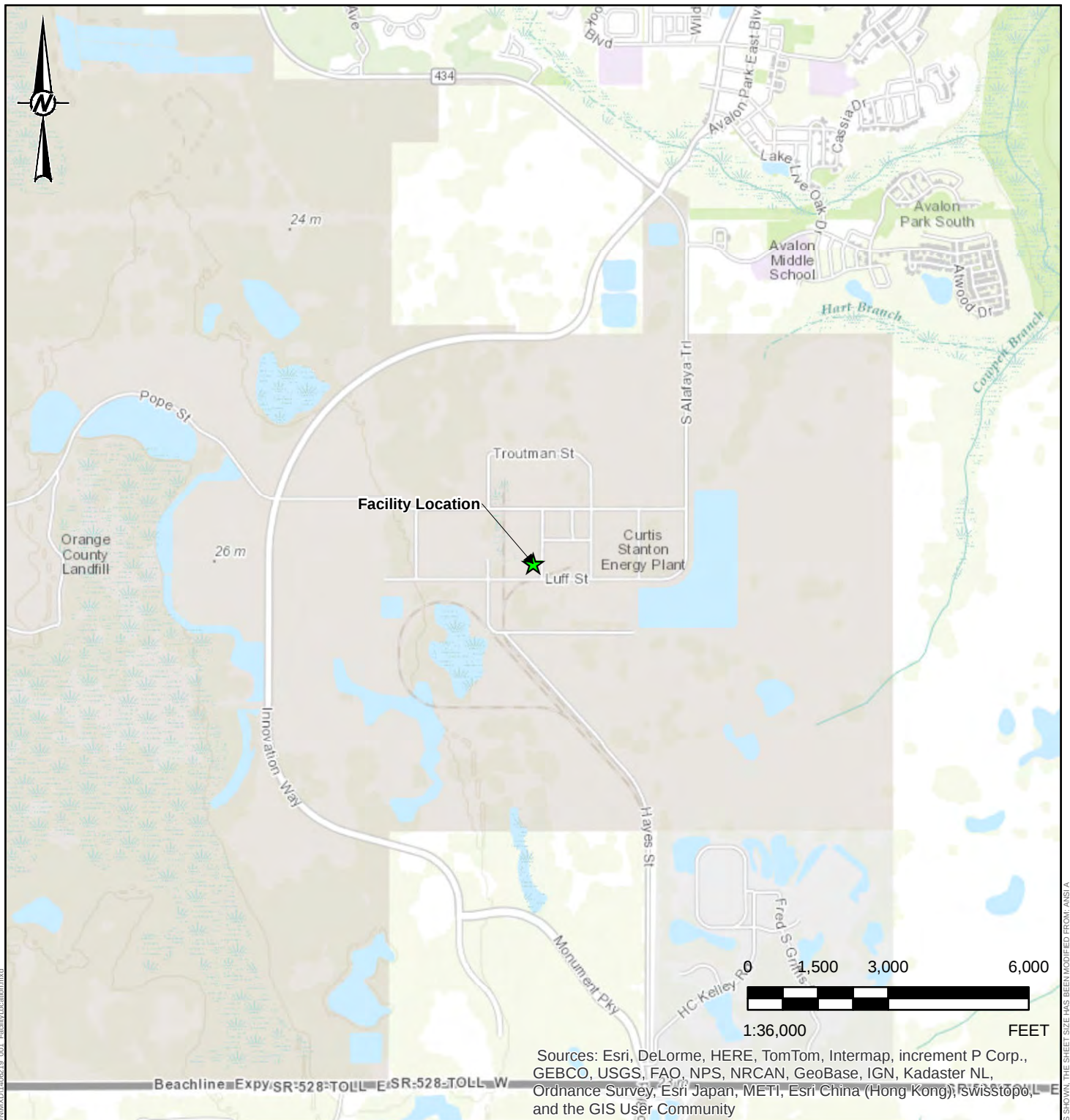
Tetra Tech, 2014, Construction Plans for the Recycle Pond Expansion, Tetra Tech, August 2014 -

Tetra Tech, 2014, Engineering Report for Design of the Proposed Recycle Pond Expansion and Existing Lined Ponds Modification, Tetra Tech, August 2014

Tetra Tech, 2014, Technical Specifications and Construction Quality Assurance Plan, Tetra Tech, August 2014

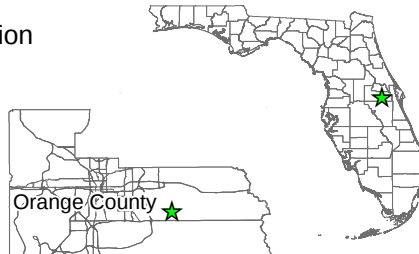
USDC, 2014, United States Department of Commerce, Asheville, NC, 2013 Local Climatological Data, Annual Summary with Comparative Data (Orlando, Florida), accessed September 2104.

FIGURES



LEGEND

★ Facility Location



REFERENCE

COORDINATE SYSTEM: NAD 1983 STATE PLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983

CLIENT
OUC

PROJECT
OUC STANTON ENERY CENTER
CONDITIONS OF CERTIFICATION MODIFICATION

TITLE
FACILITY LAYOUT

CONSULTANT

YYYY-MM-DD 2014-09-08

PREPARED GD

DESIGN GD

REVIEW KAB

APPROVED KK



PROJECT
1406219

CONTROL
001

Rev.
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FIGURE
1.1-1



LEGEND

- Existing Ponds
- Proposed Recycle Pond Expansion

REFERENCE

COORDINATE SYSTEM: NAD 1983 STATE PLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983

CLIENT
OUC

PROJECT
OUC STANTON ENERY CENTER
CONDITIONS OF CERTIFICATION MODIFICATION

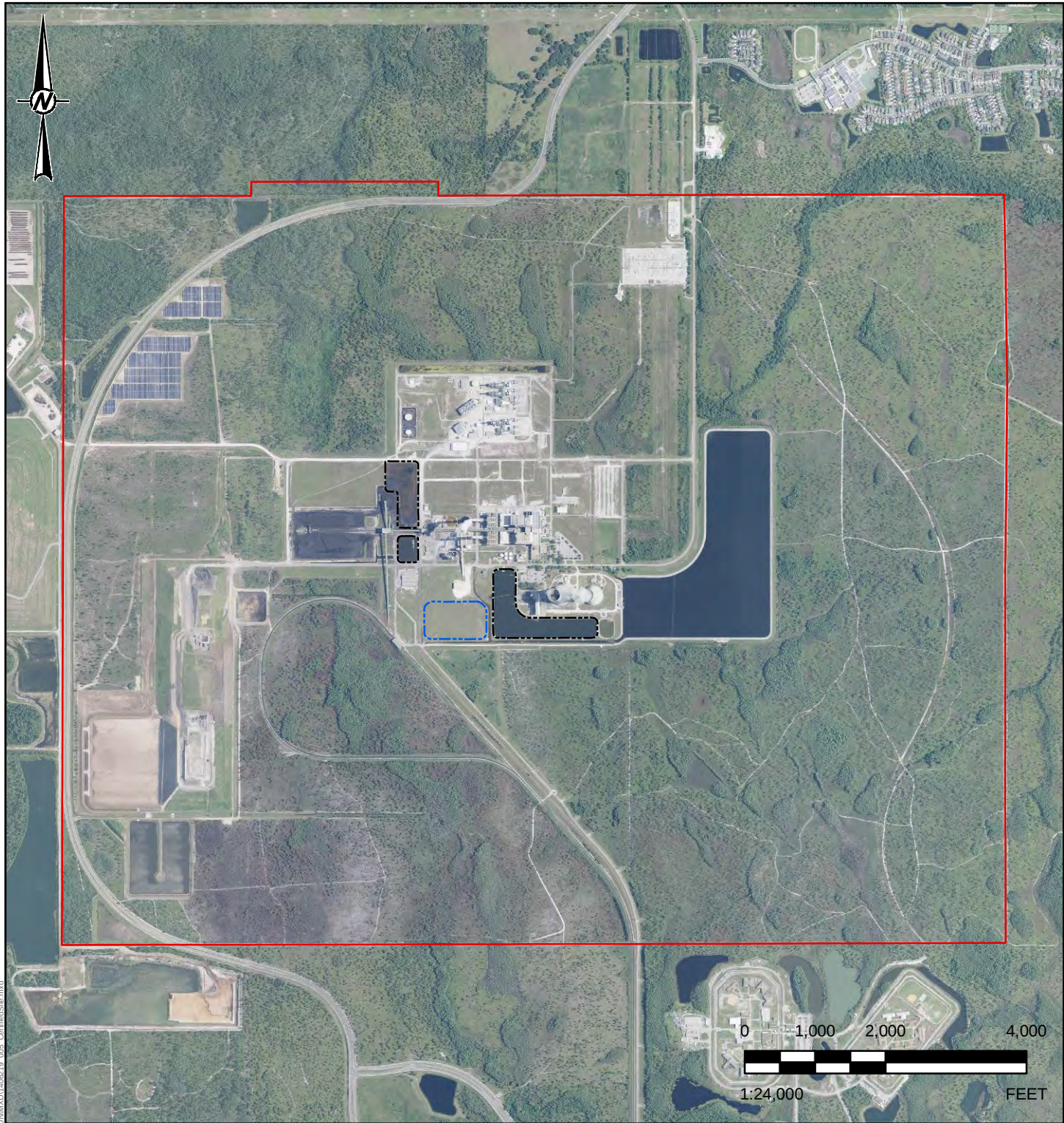
TITLE
PROJECT AREAS

	CONSULTANT	YYYY-MM-DD	2014-09-08
		PREPARED	GD
		DESIGN	GD
		REVIEW	KAB
		APPROVED	KK

PROJECT 1406219	CONTROL 002	Rev. 0	FIGURE 1.3-1
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LEGEND

- Existing Ponds
- Proposed Recycle Pond Expansion
- Certified Site Boundary

REFERENCE

AERIAL IMAGERY, USDA/FSA NATIONAL AGRICULTURE IMAGERY PROGRAM, 2013

COORDINATE SYSTEM: NAD 1983 STATE PLANE FLORIDA EAST FIPS 0901 FEET
 PROJECTION: TRANSVERSE MERCATOR
 DATUM: NORTH AMERICAN 1983

CLIENT
 OUC

PROJECT
 OUC STANTON ENERGY CENTER
 CONDITIONS OF CERTIFICATION MODIFICATION

TITLE
CERTIFIED SITE BOUNDARY

CONSULTANT



YYYY-MM-DD 2014-09-08

PREPARED GD

DESIGN GD

REVIEW KAB

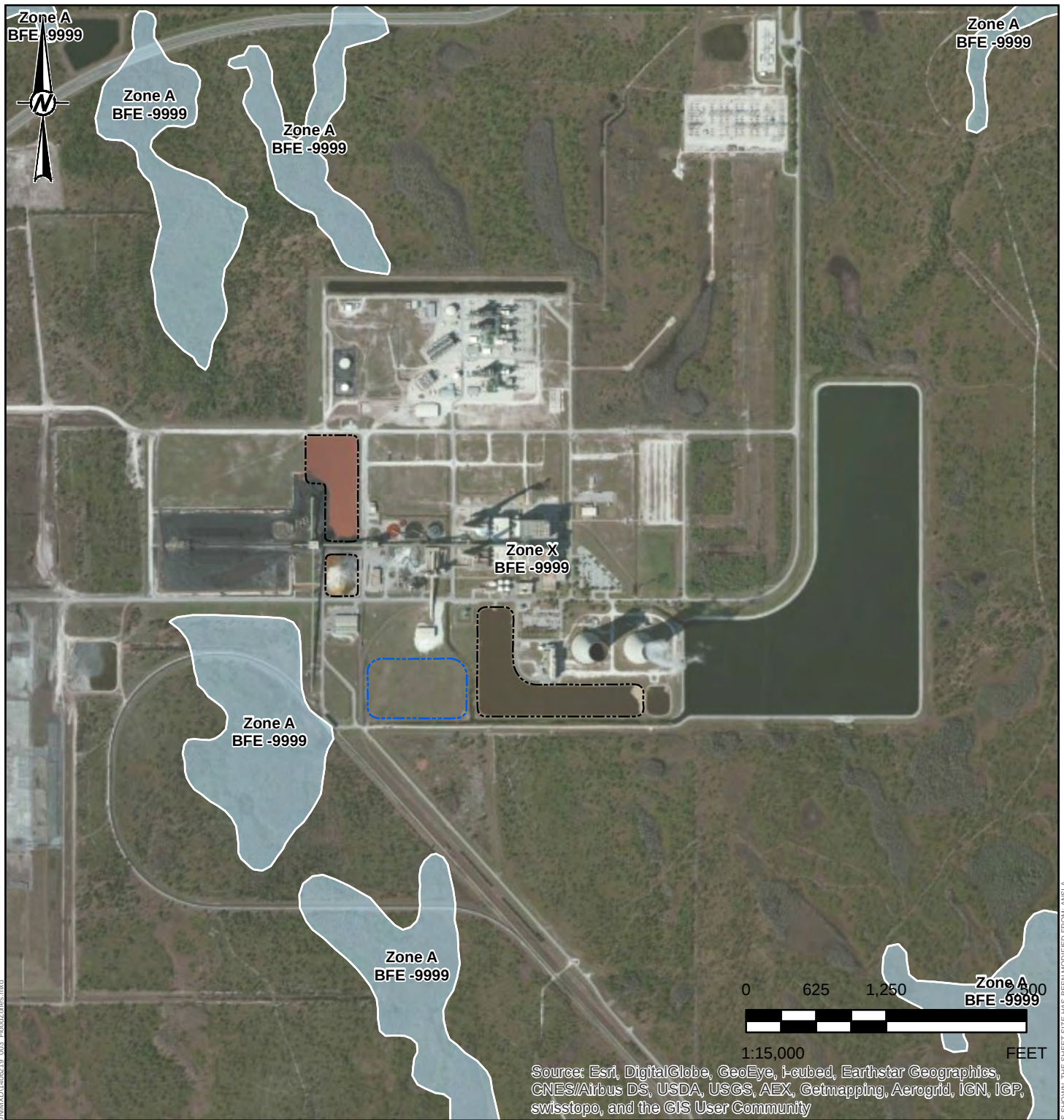
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FIGURE
2.1-1



LEGEND

- Existing Ponds
- Proposed Recycle Pond Expansion
- Flood Hazard Zones

Zone A: Areas subject to inundation by the 1-percent-annual-chance flood event. Because detailed hydraulic analyses have not been performed, no Base Flood Elevations (BFEs) or flood depths are shown.

Zone X (unshaded): Minimal risk areas outside the 1-percent and .2-percent-annual-chance floodplains. No BFEs or base flood depths are shown within these zones.

REFERENCE

FLOOD HAZARD ZONES, FEMA, 2014
FEMA FIRM PANELS 12095C0290F, 12095C0295F, 12095C0455F, AND 12095C0475F -
EFFECTIVE DATE 09/25/2009

COORDINATE SYSTEM: NAD 1983 STATE PLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983

CLIENT
OUC

PROJECT
OUC STANTON ENERGY CENTER
CONDITIONS OF CERTIFICATION MODIFICATION

TITLE
FEMA FLOOD HAZARD ZONES

CONSULTANT

YYYY-MM-DD 2014-09-08

PREPARED GD

DESIGN GD

REVIEW KAB

APPROVED KK

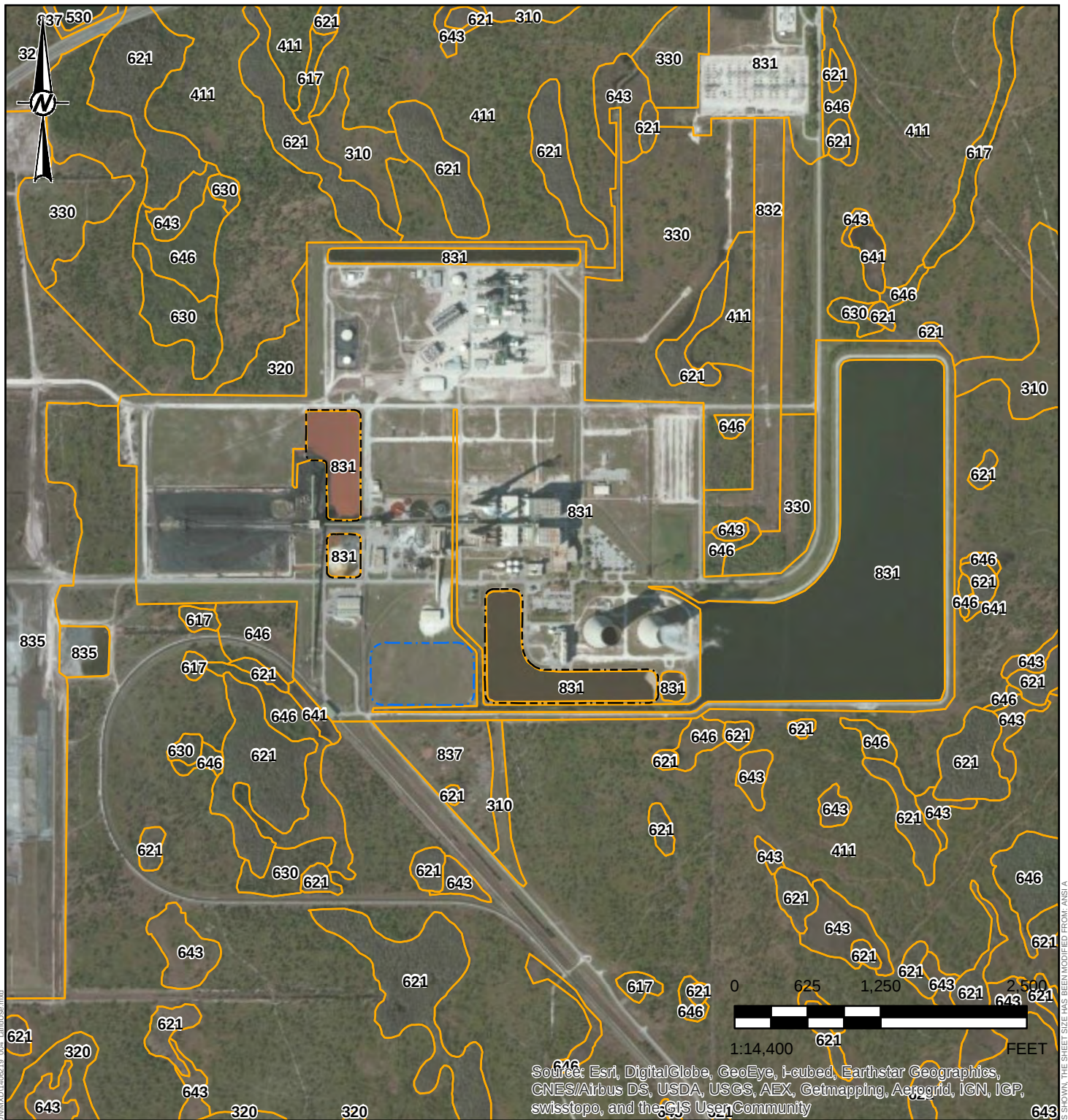


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FIGURE
2.1-2



Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aergrid, IGN, IGP, swisstopo, and the GIS User Community

LEGEND

- Existing Ponds
- Proposed Recycle Pond Expansion
- Land Use
- 310: Herbaceous upland nonforested
- 320: Shrub and brushland
- 330: Mixed upland nonforested
- 411: Pine flatwoods
- 530: Reservoirs
- 617: Mixed wetland hardwoods

- 621: Cypress
- 630: Wetland forested mixed
- 641: Freshwater marshes
- 643: Wet prairies
- 646: Mixed scrub-shrub wetland
- 831: Electrical power facilities
- 832: Electrical power transmission lines
- 835: Solid waste disposal
- 837: Surface water collection basins

REFERENCE

LAND USE, SJRWMD, 2009

COORDINATE SYSTEM: NAD 1983 STATE PLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983

CLIENT
OUC

PROJECT

OUC STANTON ENERGY CENTER
CONDITIONS OF CERTIFICATION MODIFICATION

TITLE

FLUCFCS LAND USE MAP

CONSULTANT



YYYY-MM-DD	2014-09-08
PREPARED	GD
DESIGN	GD
REVIEW	KAB
APPROVED	KK

PROJECT
1406219

CONTROL
004

Rev.
0

FIGURE
2.3-1