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April 1, 2021

-VIA ELECTRONIC FILING-

Adam Teitzman
Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Blvd.
Tallahassee, FL 32399-0850

RE: Docket No. 20210000-OT
Florida Power & Light Company and Gulf Power Company's 2021-2030 Ten Year Power Plant Site Plan

Dear Mr. Teitzman:

Please find attached Florida Power & Light Company and Gulf Power Company's responses to Staff's First Data Request (Nos. 1-2).

If there are any questions, please contact me at (561)304-5662.

Sincerely,

/s/ William P. Cox
William P. Cox
Senior Attorney
Fla. Bar No. 00093531

Enclosures

cc: Donald Phillips, Division of Engineering
Damien Kistner, Division of Engineering

QUESTION:
Please provide an electronic copy of the Company's Ten-Year Site Plan (TYSP) for the period 2021-2030 (current planning period) in PDF format.

RESPONSE:
Please see Attachment No. 1 to this response.

Ten Year Power Plant Site Plan
2021 – 2030

FPL®

Gulf Power®

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Ten Year Power Plant Site Plan

2021-2030

Submitted To:

*Florida Public
Service Commission*

April 2021

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Overview of the Document

Chapter 186, Florida Statutes, requires that each electric utility in the State of Florida with a minimum existing generating capacity of 250 megawatts (MW) must annually submit a Ten Year Power Plant Site Plan (Site Plan). This Site Plan should include an estimate of the utility's future electric power generating needs, a projection of how these estimated generating needs could be met, and disclosure of information pertaining to the utility's Preferred and Potential power plant sites. The information contained in this Site Plan is compiled and presented in accordance with Rules 25-22.070, 25-22.071, and 25-22.072, Florida Administrative Code (F.A.C.).

Site Plans are long-term planning documents and should be viewed in this context. A Site Plan contains uncertain forecasts and tentative planning information. Forecasts evolve, and all planning information is subject to change, at the discretion of the utility. Much of the data submitted is preliminary in nature and is presented in a general manner. Specific and detailed data will be submitted as part of the Florida site certification process, or through other proceedings and filings, at the appropriate time.

This Site Plan document addresses both Florida Power & Light Company (FPL) and Gulf Power Company (Gulf). NextEra Energy, the parent company of FPL, acquired Gulf in January 2019. As a result, resource planning for both FPL and Gulf are now performed by FPL's resource planning group. The information presented in this Site Plan is based on integrated resource planning (IRP) analyses that were carried out in 2020 and that were on-going in the first Quarter of 2021. The forecasted information presented in this plan addresses the years 2021 through 2030.

This document is organized in the following manner:

Chapter I – Description of Existing Resources

This chapter provides an overview of FPL's and Gulf's current generating facilities. Also included is information on other FPL and Gulf resources including purchased power, demand side management (DSM), and FPL's and Gulf's transmission system.

Chapter II – Forecast of Electric Power Demand

The load forecasting methodology utilized for both FPL and Gulf, and the resulting forecast of seasonal peaks and annual energy usage, are presented in Chapter II. Included in this discussion is the projected significant impact of federal and state energy-efficiency codes and standards.

Chapter III – Projection of Incremental Resource Additions

This chapter discusses the integrated resource planning (IRP) process and presents currently projected resource additions in both the FPL and Gulf areas. This chapter also discusses a number of factors or issues that either have changed, or may change, the resource plan presented in this Site Plan. Furthermore, this chapter also discusses previous and planned DSM efforts, the projected significant impact of state/federal energy-efficiency codes and standards, previous and planned renewable energy efforts, projected transmission additions, and the fuel cost forecasting processes.

Chapter IV – Environmental and Land Use Information

This chapter discusses environmental information as well as Preferred and Potential Site locations for additional electric generation facilities in both FPL and Gulf areas.

Chapter V – Other Planning Assumptions and Information

This chapter addresses twelve (12) “discussion items” which pertain to additional information that is included in a Site Plan filing.

List of Abbreviations Used in Forms

Reference	*Abbreviation*	*Definition*
Unit Type	BS	Battery Storage
	CC	Combined Cycle
	CT	Combustion Turbine
	GT	Gas Turbine
	PV	Photovoltaic
	ST	Steam Unit (Fossil or Nuclear)
Fuel Type	BIT	Bituminous Coal
	FO2	#1, #2 or Kerosene Oil (Distillate)
	FO6	#4,#5,#6 Oil (Heavy)
	NG	Natural Gas
	No	None
	NUC	Uranium
	Pet	Petroleum Coke
	Solar	Solar Energy
	SUB	Sub Bituminous Coal
	ULSD	Ultra - Low Sulfur Distillate
Fuel Transportation	No	None
	PL	Pipeline
	RR	Railroad
	TK	Truck
	WA	Water
Unit/Site Status	L	Regulatory approval pending. Not under construction
	OP	Operating Unit
	OT	Other
	P	Planned Unit
	RT	Retired
	T	Regulatory approval received but not under construction
	U	Under construction, less than or equal to 50% Complete
	V	Under construction, more than 50% Complete
Other	ESP	Electrostatic Precipitators
	K Factor	The K factor for the capital costs of a given unit is the cumulative present value of revenue requirements (CPVRR) divided by the total installed cost
	ST	Solar Together
	SoBRA	Solar Rate Base Adjustment

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Executive Summary

This Ten-Year Site Plan (Site Plan) document addresses the projected electric power generating resource additions and retirements for the years 2021 through 2030 for Florida Power & Light Company (FPL), including the former Gulf Power Company. Effective January 1, 2021, Gulf Power was merged into FPL.[1] Consolidation of the two utilities will be essentially complete by 2022, and the two systems will begin operating as a single integrated electric operating system effective in mid-2022 after the completion of a new 161 kilovolt (kV) transmission line (the North Florida Resiliency Connection, or NFRC, line).

This enhanced connection, and the planning and operation of a single integrated system, will benefit customers on both of the current utility system areas (FPL and Gulf) by better enabling the siting of clean, reliable, low-cost generation, and the common dispatch and transmission of energy from those facilities. Consequently, the resource planning work during 2020 and early 2021 that is discussed in this Site Plan has largely focused on developing a resource plan for the single integrated system. However, because this Site Plan includes approximately one year prior to the fully integrated operation of the two systems with the completion of the NFRC, a number of schedules and tables will show information for the separate FPL and Gulf systems for 2021. All information presented for the years 2022 through 2030 is for the single integrated system.

This 2021 Site Plan presents the current plans to augment and enhance the electric generation capability of the combined FPL and Gulf systems as part of efforts to cleanly, reliably, and cost-effectively meet projected incremental resource needs for 2021 through 2030. FPL already has one of the cleanest emission profiles of any electric utility in the U.S. In 2020, FPL delivered approximately 99% of its energy from a combination of clean energy sources: low-emission natural gas, zero-emission nuclear, and zero-emission solar. With the resource additions presented in this Site Plan (which include solar additions consistent with FPL's announced plan to add more than 30 million solar panels by 2030), plus the planned retirement by 2022 of FPL's ownership portion of a large coal-fueled generating unit (Scherer Unit 4) located in Georgia, the emission profile of the fleet of generating units located in FPL's legacy service area is projected to become even cleaner.

[1] The terms "FPL" and "Gulf" will be used throughout this document. Unless otherwise specifically stated or dictated by context, those references will mean the following:

- In discussing operations or time periods prior to NextEra Energy's January 1, 2019 acquisition of Gulf, "FPL" and "Gulf" will refer to their pre-acquisition status, when they were legally and operationally separate companies.
- In discussing operations or time periods between the January 1, 2019 acquisition and January 1, 2022 (when consolidation will be essentially complete), "FPL" and "Gulf" will refer to their status as separate ratemaking entities, recognizing that they were merged legally on January 1, 2021 and that consolidation proceeded throughout this period.
- In discussing operations and time periods after January 1, 2022, most references will be only to "FPL" because Gulf will be consolidated into FPL.

Although the emissions profile for the generation fleet located in Gulf's current service area includes energy from several power purchase agreements that are either solar- or wind-based, it is currently not as clean as FPL's. Following the acquisition of Gulf, several changes were implemented in 2020 that already have improved the emissions profile of these generating resources. This Site Plan describes a number of other planned changes in the 2021 - 2030 timeframe that will further improve the emissions profile of these generating units. These planned changes include, but are not limited to, the addition of new solar facilities and the retirement by 2024 of FPL/Gulf's 50% ownership portion of two coal-fueled generating units (Daniel Units 1 & 2) located in Mississippi.

As a result, after accounting for these planned changes to generating units in the current service areas of both FPL and Gulf, the clean energy percentage for the single integrated utility system is also projected to be approximately 99% by the end of the 10-year reporting period of this Site Plan. This is primarily the result of a projected significant increase in the percentage of energy that will be delivered from zero-emission solar energy sources over this 10-year reporting period. For example, approximately 3,800 megawatts (MW) of new solar facilities are projected to be added from the beginning of 2021 through the year 2025.

In 2020, the percentage of the total energy delivered to all customers in the current FPL and Gulf areas from zero-emission sources was approximately 24%. By 2030, the last year of the 10-year reporting period addressed in this document, the percentage of the total energy delivered to all customers for the single integrated system from zero-emission sources, including new solar facilities that are associated with FPL's Solar Together program [2], is projected to be approximately 38%. This percentage of energy that is projected to be delivered by zero-emission sources is significant for a utility system of this size, especially when considering that the total amount of energy projected to be delivered to customers in 2030 will have also increased. The projections of energy by fuel/generation type are presented in Schedules 6.1 and 6.2 in Chapter III.

By design, the primary focus of this document is on projected supply side additions; *i.e.*, electric generation capability and the sites for these additions. The supply side additions discussed herein are resources projected to be needed after accounting for the combined demand side management (DSM) resource capabilities and additions from the two systems. In 2019, the Florida Public Service Commission (FPSC) established DSM Goals for the years 2020 through 2024 for a number of Florida utilities, including FPL and Gulf. These DSM Goals addressed demand side activities that reduce system peak loads and annual energy usage. Throughout this document, the analysis results discussed are based on the assumption that both companies will meet their respective DSM Goals in regard to Summer MW reduction, Winter MW reduction, and annual energy (MWh)

[2] In the Solar Together community solar program, participating customers share in the costs and benefits of dedicated FPL Solar Together PV facilities and are entitled, upon their request, to have the environmental attributes associated with their participation retired by FPL on their behalf.

reduction through the end of 2024. In addition, further DSM reductions for the years 2025 through 2030 are assumed based on FPL and Gulf projections in the 2019 DSM Goals docket of cost-effective DSM levels starting in 2025. DSM is discussed in more detail in Chapters I, II, and III.

Additionally, load forecasts for the combined system account for a very large amount of energy efficiency that results from federal and state energy-efficiency codes and standards. The projected impacts of these energy-efficiency codes and standards are discussed later in this Executive Summary and in Chapters II and III. The updated load forecasts presented in this Site Plan also account for a significant increase in electric vehicle (EV) adoption. [3]

The projected resources, including resource additions and retirements, are summarized in Section I below. In addition, there are a number of factors that either have influenced, or may influence, ongoing resource planning efforts. These factors could result in different resources being added in the future than those presented in this document. These factors are discussed below in Section II. Additional information regarding the topics is presented in Chapter III.

I. Summary of Projected Resources:

A summary of the projected resources, including resource additions and retirements, in both the FPL and Gulf areas is presented below. This discussion is presented in terms of the various types of resource options (such as solar and battery storage) in the resource plan.

Solar:

At the end of 2020, FPL and Gulf combined had a total of approximately 2,420 MW [4] of utility-owned solar generation. Of this total, approximately 2,345 MW are from photovoltaic (PV) facilities and 75 MW are from a solar thermal facility. A majority of these sites are located in the current FPL service area, with one 74.5 MW site located in the current Gulf service area. Also located in the current Gulf service area is a total of 120 MW of solar delivered from three PV sites under three long-term power purchase agreements (PPAs).

The resource plan presented in this Site Plan continues to show significant increases in solar (PV) resources over the 10-year reporting period. Approximately 9,313 MW of additional PV generation is projected to be added in the 2021 through 2030 time period with approximately 7,599 MW sited in the current FPL service area and approximately 1,714 MW sited in the current Gulf service area. These solar MW consist of many solar facilities that are projected to be 74.5 MW each. When combining these projected solar additions with the approximately 2,345 MW of solar PV already

[3] Because EVs alter the demand for electricity, utility activities that address EVs are also DSM activities.
[4] Each reference to PV capacity in this Site Plan reflects the nameplate rating, AC, unless noted otherwise.

installed on FPL's and Gulf's systems at the end of 2020, the projected total of solar PV for the single integrated utility by the end of 2030 is 11,657 MW. In addition, there is a 75 MW solar thermal facility located at FPL's Martin plant site. This planned solar implementation schedule is consistent with FPL's January 2019 announcement of its "30-by-30" plan in which FPL stated an objective to install more than 30 million solar panels on FPL's system by the year 2030.

Of the 9,313 MW of total PV projected to be added from 2021-2030, approximately 5,662 MW is "fixed-tilt" solar, while the remaining 3,651 MW is "tracking" solar. In fixed-tilt solar configurations, the solar panels remain facing the same angle, while tracking solar changes the angle of the solar panels to follow the path of the sun during the day, generally resulting in greater annual energy production. This shift towards tracking technology in solar is being driven primarily by continued cost declines in tracking technology and the identification of more sites suitable for solar tracking facilities.

This amount of cumulative solar is based on current projections that these solar additions will be cost-effective for FPL's customers. FPL's resource planning work in 2021 and beyond will continue to analyze the projected system economics of solar.

Battery Storage:

As in FPL's 2020 Site Plan, a battery storage facility with a projected maximum output of 409 MW is projected to be sited at the existing Manatee plant site by late 2021. This addition is part of a plan to modernize the Manatee plant site which, in addition to the 409 MW battery, includes the retirement of the two existing Manatee steam generating units by late 2021. This large battery storage facility will be charged by solar energy from an existing nearby PV facility. Another 60 MW of battery storage, consisting of two 30 MW battery storage facilities that will be installed at two different locations in the current FPL service area, are also planned for late 2021. Both of these 30 MW battery storage facilities will also be charged by existing solar facilities. In addition, the resource plan presented in this Site Plan projects that an additional 700 MW of battery storage facilities will be installed by 2030. 400 MW of these storage facilities are projected to be sited in the current FPL service area, while the remaining 300 MW are projected to be sited in the current Gulf area.

FPL continues to analyze other opportunities to utilize battery storage systems, including combining battery storage with new or existing PV facilities. FPL is also evaluating a number of other battery storage applications to gauge the potential for such applications to be beneficial for customers if/when projected battery storage cost declines occur. Some of these potential applications are being examined through FPL's 50 MW Battery Storage Pilot Project that is discussed in Chapter III.

Modernization of Natural Gas-Fueled Generation:

For a number of years, FPL has undertaken a program to modernize its natural gas-fueled generating units based on cost-effectiveness. These efforts have resulted in substantial enhancements to the fleet of generating units, including improved system fuel efficiency and increased capacity, reduced system air emission rates (including greenhouse gas emission rates), and reduced fuel and other costs for FPL's customers. The plan is to continue this program throughout the combined service area to further improve the efficiency and capabilities of FPL's generation fleet in 2021 and beyond through three principal initiatives: (i) retirement of existing generating units that are no longer economic to operate, (ii) enhancements to existing generating units, and (iii) addition of cost-effective new gas-fueled generation as appropriate. These three modernization efforts are separately described below.

(i) Retirement of Existing Generating Units That Are No Longer Economic to Operate:

In previous Site Plans, FPL discussed plans to retire two additional steam generating units (Manatee Units 1 & 2) and two older combined cycle (CC) units (Lauderdale Units 4 & 5). Similar to two recently retired units at the Martin plant site, each of the Manatee steam units is approximately 800 MW, and the units have become relatively inefficient compared to current generation technology. As a result, FPL plans to retire both of these units in late 2021. As previously mentioned, a 409 MW battery storage facility will be installed in Manatee County by late 2021 to partially offset the loss of generation in the Manatee area from the retirement of Manatee Units 1 & 2.

As part of a modernization project at FPL's existing Lauderdale power plant site, Lauderdale Units 4 & 5 have been retired, and the dismantlement of the site has been completed. A new CC unit, the Dania Beach Clean Energy Center (DBEC), is now being constructed on the site, and the new unit is projected to go in-service by mid-2022. The FPSC voted unanimously to approve this modernization on March 1, 2018. (FPSC Order No. PSC-2018-0150-FOF-EI, issued March 19, 2018).

The current resource plan presented in this Site Plan continues to account for the retirements of the Manatee units and the addition of the new CC unit at the Lauderdale site. The current resource plan also reflects the planned early retirements of four coal-fueled generating units. First, the 330 MW power purchase agreement with Indiantown Cogen L.P. has ended, and the associated coal-fueled generating unit was retired in the 4th Quarter of 2020. Second, the retirement of FPL's ownership portion (approximately 76%) of the coal-fueled Scherer Unit 4 unit in Georgia is planned by January 2022. FPL's ownership portion of this unit is approximately 630 MW. Additionally, an early retirement of FPL/Gulf's ownership portion of two coal-fueled steam units by January 2024 is also planned. These units, Daniel Units 1 & 2, are located in the Mississippi Power service territory, and FPL/Gulf's 50% ownership interest in the two units totals approximately 500 MW.

(ii) Enhancements to Existing Generating Units (Including Hydrogen Conversion):

In its 2020 Site Plan, FPL discussed plans to upgrade the combustion turbine (CT) components in a number of FPL's existing CC units. That upgrade effort remains a part of this Site Plan. These additional upgrades are projected to be completed by 2026. Information regarding the specific units, timing, and magnitude of these upgrades is presented in Schedule 8 in Chapter III.

Significant enhancement to existing generating units in Gulf's current service area were completed in 2020. The first of those was the conversion of Crist Units 6 & 7 from coal-fueled to natural gas-fueled. This conversion effort is already resulting in lower-cost energy generated by the units, substantial fixed-cost savings for Gulf area customers, and a significant reduction in emissions. The plant has accordingly been named the "Gulf Clean Energy Center." The second enhancement was a capacity upgrade to the Lansing Smith Unit 3 CC, which was completed in 2020. This upgrade has increased the firm capacity of the unit by more than 80 MW and is projected to result in cost savings for customers through both the deferral of future capacity needs and by increased output of lower cost natural gas-fueled energy production.

In addition, FPL is planning a pilot project that will result in hydrogen replacing a portion of the natural gas that is currently being used to fuel the existing Okeechobee CC unit. In the pilot project, hydrogen will be created by using solar energy, or other energy from the electric grid, to power an electrolyzer that separates water into hydrogen and oxygen. The hydrogen will be stored in on-site tanks until it is used as a fuel. Although natural gas burns with much fewer carbon dioxide (CO_2) emissions compared to oil or coal, hydrogen burns with no CO_2 emissions. Therefore, the objective of the pilot project is to test in practice the concept of replacing natural gas with hydrogen as a fuel for CC unit use. If successful, the pilot project is expected to guide the way for future use of hydrogen in a larger way as a fuel in existing and new *(i.e.*, the new Dania Beach Unit 7) CC units, thus lowering or eliminating CO_2 emissions from CC unit operation in the future. This pilot project is projected to go into service in late 2023.

(iii) Addition of Cost-Effective Natural Gas-Fueled Generation:

In its 2020 Site Plan, FPL's resource plan projected the addition of one new CC unit - the previously mentioned Dania Beach CC unit that will come in-service in 2022. This unit is a key component of the modernization of FPL's existing Lauderdale power plant site as discussed above. This unit remains part of the resource plan in the 2021 Site Plan. In the current Gulf service area, four new

CT units at the existing Gulf Clean Energy Center plant site are again part of the resource plan in the 2021 Site Plan. These four new CT units are being added based on system economics and for purposes of ensuring adequate fast start and fast ramping capabilities in that area of the system.

Nuclear energy:

Nuclear energy remains an important factor in FPL's resource planning. In June 2009, FPL began the process of securing Combined Operating Licenses (COL) from the federal Nuclear Regulatory Commission (NRC) for two future nuclear units, Turkey Point Units 6 & 7, that would be sited at FPL's Turkey Point site (the location of two existing nuclear generating units). In April 2018, FPL received NRC approval for these two COLs. These licenses remain valid for approximately 20 years. This Site Plan continues to present the Turkey Point location as a Preferred Site for nuclear generation as indicated in Chapter IV.

At this time, FPL has paused regarding a decision whether to seek FPSC approval to move forward with construction of Turkey Point Units 6 & 7. FPL intends to incorporate into any decision regarding Turkey Point Units 6 & 7 the construction experience of the nuclear units currently under construction by Georgia Power at its Vogtle site and similar units being developed in China. As a result, the earliest possible in-service dates for Turkey Point 6 & 7 are beyond the 10-year time period addressed in this 2021 Site Plan.

On January 30, 2018, FPL applied to the NRC for Subsequent License Renewal (SLR) for FPL's existing Turkey Point Units 3 & 4. The previous license terms for these two existing nuclear units extended into the years 2032 and 2033, respectively. The SLR requested approval to extend the operating licenses by 20 years to 2052 and 2053, respectively. The NRC granted approval for the SLR in December 2019. Consequently, FPL's resource plan includes the continued operation of Turkey Point Units 3 & 4 through the new license termination dates.

FPL currently plans to apply to the NRC in the 3rd Quarter of 2021 for an SLR for its existing St. Lucie nuclear Units 1 & 2. If approved by the NRC, the SLRs for St. Lucie Units 1 and 2 will extend the licenses for those facilities for an additional 20 years, until 2056 and 2063, respectively. The NRC's review of FPL's SLR request for St. Lucie Units 1 and 2 is expected to take approximately 18-months after the request is filed.

II. Other Factors That Have Influenced, or Could Further Influence, the Current Resource Plan:

There are a number of factors that have influenced, or which may influence, the resource plan presented in this 2021 Site Plan. Seven such factors are summarized below and are presented in no particular order. These factors and/or their potential influences on the resource plan presented in this Site Plan are further discussed in Chapters II and III.

Factor # 1: The critical need to maintain a balance between load and generating capacity in Southeastern Florida (Miami-Dade and Broward counties). This balance has both reliability and economic implications for FPL's system and customers, and it is a key reason that FPL sought and obtained an affirmative need determination decision from the FPSC for the Dania Beach CC unit described above.

Factor # 2: The desire to maintain/enhance fuel diversity in the FPL system while considering system economics. Diversity is sought in terms of the types of fuel that FPL utilizes and how these fuels are transported to the locations of FPL's generation units. These fuel diversity objectives are considered in light of economic impacts to FPL's customers. For example, FPL is cost-effectively adding significant amounts of PV generation throughout the 10-year reporting period of this document. These PV additions enhance fuel diversity. At the same time, FPL is continuing to retire coal generation and older, fuel-inefficient oil- or gas-fueled generation because these generating units are no longer cost-effective for FPL's customers. In addition, FPL also seeks to further enhance the efficiency with which it uses natural gas to generate electricity and, for purposes of system reliability, to maintain the ability to use backup distillate oil that is stored on-site at many of FPL's gas-fueled generating units.

Factor # 3: The need to maintain an appropriate balance of DSM and supply resources from the perspectives of both system reliability and operations. FPL addresses this through the use of a 10% generation-only reserve margin (GRM) reliability criterion to complement its other two reliability criteria: a 20% total reserve margin criterion for Summer and Winter, and an annual 0.1 day/year loss-of-load-probability (LOLP) criterion. Together, these three criteria allow FPL to address this specific concern regarding system reliability and operations in a comprehensive manner.

Factor # 4: The significant impact of federal and state energy-efficiency codes and standards. The incremental impacts of these energy-efficiency codes and standards are projected to have significant impacts by reducing forecasted Summer and Winter peak loads, and by reducing annual net energy for load (NEL), in both the FPL and Gulf areas. From the end of 2020 through the year

2030, these energy efficiency codes and standards are projected to reduce Summer peak load by approximately 1,500 MW and reduce annual energy usage by approximately 3,800 GWh. In addition, energy-efficiency codes and standards significantly reduce the potential for cost-effective utility DSM programs. The projected impacts of these energy efficiency codes and standards are discussed in more detail in Chapter II.

Factor # 5: The trends of decreasing costs for fuel, decreasing costs for new generating units, and increasing fuel efficiency of new generating units. There are a number of factors that drive utility system costs. Three of the most important of these are: (i) forecasted natural gas costs, (ii) projected costs for new generating units, and (iii) the efficiency with which generating units convert fuel into electricity. When comparing FPL's forecasts of these factors over at least the last 5 years, the trends for each of these factors is in a direction that results in lower system costs for FPL's customers. For example, when comparing FPL's 2016 forecasted cost for natural gas for the year 2021 with the current forecasted cost for 2021, there has been more than a 33% decrease in natural gas costs. In addition, in regard to the fuel efficiency of FPL's generating units, the amount of natural gas (measured in mmBTU) needed to produce a kWh of electricity declined from 7,272 in 2016 to approximately 7,064 in 2020. This improvement in fuel efficiency is truly significant, especially when considering the approximately 20,000 MW of gas-fueled generation on FPL's system. These trends of steadily lowering of key components of utility system costs are very beneficial to a utility's customers because they help to lower electric rates. [5]

Factor # 6: Projected changes in CO_2 regulation and associated compliance costs. Since 2007, FPL has evaluated potential carbon dioxide (CO_2) regulation and/or legislation and has utilized projected compliance costs for CO_2 emissions from the consultant ICF in its resource planning work. However, there always has been an unavoidable level of uncertainty regarding the timing and magnitude of the cost impacts of the potential regulation/legislation. Due to questions regarding federal policy stemming from a new administration and potential legislative action by the U.S. Congress, the uncertainty around projected CO_2 compliance costs persisted in early November 2020 when FPL froze assumptions for its 2021 resource planning work. Because of the continued uncertainty, and after consulting with ICF, FPL used the same forecast of potential CO_2 compliance costs in its 2021 planning work that helped develop the resource plan presented in this document as it did in its 2020 planning. FPL views this as an appropriate assumption at this time for resource planning purposes.

[5] However, because the potential benefits of utility DSM programs are typically based on DSM's ability to avoid utility system costs such as those discussed above, the trend of steadily decreasing utility system costs automatically results in a significant lowering of the cost-effectiveness of utility DSM programs that focus on reducing system peak loads and annual energy usage.

Factor # 7: Projected increases in electric vehicle (EV) adoption. FPL's current load forecast includes a significantly higher projection of EV adoption than the load forecast that was used to develop the resource plan in the 2020 Site Plan. This results in projections of both higher annual MWh usage and higher Summer peak hour MW load than was the case in the last Site Plan as discussed further in Chapter II of this document. Both the higher MWh and peak hour MW impacts will have resource planning implications. As mentioned earlier, FPL views utility activities affecting EVs as another form of DSM.

Each of these factors will continue to be examined by FPL's resource planning group in its ongoing resource planning work in 2021 and future years. In addition, a recent development will also have an impact on FPL's future resource planning work.

Texas' 2021 Winter Experience

In mid-February 2021, Texas experienced a multi-day period of extreme record-setting cold temperatures that significantly stressed generation resources in the Texas market. As a result, and for many reasons still being investigated, electric providers in Texas were unable to serve large numbers of customers for hours/days at a time.

The resource planning work for FPL/Gulf's 2021 Ten Year Site Plan had been completed by the time this storm occurred. As a result, analyses of the many significant problems faced by the Texas generators, the grid, and the load serving entities due to the storm were not a part of the analyses that led to the resource plan that is presented in FPL/Gulf's 2021 Ten Year Site Plan. However, FPL has begun a comprehensive analysis of the major components of its system - generation, transmission, distribution, demand side management, and fuel supply - to understand the potential impact of extreme Winter weather in Florida. FPL anticipates that these analyses will be completed in time for the results to be incorporated into the resource planning work that will be presented next year in FPL's 2022 Ten Year Site Plan.

III. A Summary of Projected Resource Changes:

The resource plan presented in this 2021 Site Plan was developed based on considerations of projected system reliability, projected system economics, and other factors such as those discussed immediately above. Major changes in resources currently projected as part of this resource plan for the years 2021 through 2030 for the combined new service area are summarized below in Table ES-1. Note that the changes in Table ES-1 are presented in terms of firm MW values because those values are used to project reserve margins which are also shown in Table ES-1.

Although this particular table does not specifically identify the impacts of projected DSM on resource needs and the resource plan, the projected DSM additions that are designed to lower system peak loads and annual energy use are reflected in the resource plan presented in Table ES-1, and throughout this Site Plan, are consistent with the 2020 through 2024 DSM Goals set for FPL and Gulf (Order No. PSC-2019-0509-FOF-EG) in 2019 by the FPSC. The specific impacts of those DSM Goals through 2024, and of projected additional DSM impacts for 2025 through 2030, are shown in Schedules 3.1, 3.2, and 3.3 that appear in Chapter II.

Some of the larger resource additions/retirements for the new combined systems/area include, but are not limited to, the following (in approximate chronological order):

<u>In the current FPL system/area:</u>

- New solar (PV) additions from 2021 through 2030 of approximately 7,599 MW (nameplate);
- Capacity upgrades at a number of FPL's existing CC units through 2026;
- Retirement of FPL's ownership portion (approximately 630 MW) of the Scherer 4 coal unit by January 2022;
- Retirement of the Manatee existing steam Units 1 & 2 (approximately 1,620 MW) by late 2021;
- A 409 MW battery storage facility at the Manatee plant site, plus two 30 MW battery storage facilities at different sites, by late 2021;
- The modernization of the existing Lauderdale power plant site in mid-2022 with the new DBEC Unit 7 CC (approximately 1,160 MW); and
- A total of approximately 400 MW of battery storage in 2029 and 2030.

<u>In the current Gulf system/area:</u>

- New solar (PV) additions from 2022 through 2030 of approximately 1,714 MW (nameplate);
- A new FPL-to-Gulf transmission line (the NFRC line) by mid-2022 enabling a bidirectional transfer capability between the two areas of up to 850 MW;
- Four new CTs at the Gulf Clean Energy Center (formerly Crist) plant site (approximately 940 MW) by the beginning of 2022;
- Expiration (as per terms of the contract) of 885 MW from the Shell PPA in May 2023;
- The retirement of Gulf's ownership portion of the coal-fueled Daniel Units 1 & 2 (approximately 500 MW) by the beginning of 2024; and
- A total of approximately 300 MW of battery storage in 2030.

It is noted that no final decisions are needed at this time, nor have any decisions been made, regarding some of the resource additions shown in this 2021 Site Plan. This is particularly relevant to resource additions shown for years increasingly further out in time in the 2021 through 2030 time period. Consequently, those resource additions are more prone to future change.

Table ES-1: Projected Capacity & Firm Purchase Power Additions and Changes:

Year [1/]	Projected Capacity & Firm Purchase Power Changes	FPL Area Summer MW (Approx.)	Gulf Area Summer MW (Approx.)	Date	Summer Reserve Margin [2/]
	FPL				
2021	Solar PV [3/]	321		1st/2nd Quarter 2021	
	Total of MW changes to Summer firm capacity:	**321**			**23.5%**
	Gulf				
2021					
	Total of MW changes to Summer firm capacity:		**0**		**40.7%**
	Integrated FPL and Gulf				
2022	Manatee 1 and 2 Retirement	(1,626)		Fourth Quarter 2021	
	Scherer 4 Retirement	(634)		Fourth Quarter 2021	
	Manatee Battery Storage	409		Fourth Quarter 2021	
	Sunshine Gateway Battery Storage	30		Fourth Quarter 2021	
	Echo River Battery Storage	30		Fourth Quarter 2021	
	Gulf Clean Energy Center Unit 8		938	Fourth Quarter 2021	
	Blue Springs PV [3/]		41	Fourth Quarter 2021	
	Cotton Creek PV [3/]		43	Fourth Quarter 2021	
	Solar PV [3/]	232		First Quarter 2022	
	Manatee 3 Upgrade	47		Second Quarter 2022	
	Martin 8 Upgrade	11		Second Quarter 2022	
	Dania Beach Clean Energy Center Unit 7	1,163		Second Quarter 2022	
	Solar Degradation [4/]	(6)			
	Total of MW changes to Summer firm capacity:	**(344)**	**1,022**		**25.5%**
2023	Manatee 3 Upgrade	16		Third Quarter 2022	
	Solar PV	152	186	First Quarter 2023	
	Sanford 4 Upgrade	18		First Quarter 2023	
	Sanford 5 Upgrade	9		First Quarter 2023	
	Shell PPA Retirement		(885)	Second Quarter 2023	
	Turkey Point 5 Upgrade	45		Second Quarter 2023	
	Fort Myers 2 Upgrade	4		Third Quarter 2023	
	Solar Degradation [4/]	(8)			
	Total of MW changes to Summer firm capacity:	**236**	**(699)**		**21.6%**
2024	Sanford 5 Upgrade	17		Third Quarter 2023	
	Solar PV [3/]	263	171	First Quarter 2024	
	Daniel 1 and 2 Retirement		(502)	First Quarter 2024	
	Martin 8 Upgrade	21		First Quarter 2024	
	Sanford 4 Upgrade	17		First Quarter 2024	
	Turkey Point 5 Upgrade	67		Second Quarter 2024	
	Okeechobee Energy Center Upgrade	15		Second Quarter 2024	
	Fort Myers 2 Upgrade	18		Second Quarter 2024	
	Manatee 3 Upgrade	58		Second Quarter 2024	
	Solar Degradation [4/]	(9)			
	Total of MW changes to Summer firm capacity:	**468**	**(331)**		**20.1%**
2025	Pea Ridge 1, 2 and 3 Retirement		(12)	Second Quarter 2024	
	Crist 4 Retirement		(78)	Fourth Quarter 2024	
	Solar PV [3/]	263	171	First Quarter 2025	
	Sanford 5 Upgrade	9		First Quarter 2025	
	Martin 8 Upgrade	66		Second Quarter 2025	
	Okeechobee Energy Center Upgrade	29		Second Quarter 2025	
	Solar Degradation [4/]	(10)			
	Total of MW changes to Summer firm capacity:	**358**	**81**		**20.2%**
2026	Fort Myers 2 Upgrade	4		Third Quarter 2025	
	Solar PV [3/]	370	34	First Quarter 2026	
	Solar Degradation [4/]	(11)			
	Total of MW changes to Summer firm capacity:	**363**	**34**		**20.1%**
2027	Crist 5 Retirement		(78)	Fourth Quarter 2026	
	Broward South PPA Retirement	(4)		Fourth Quarter 2026	
	Solar PV [3/]	396		First Quarter 2027	
	Solar Degradation [4/]	(12)			
	Total of MW changes to Summer firm capacity:	**379**	**(78)**		**20.1%**
2028	Lansing Smith A Retirement		(32)	Fourth Quarter 2027	
	Solar PV [3/]	473		First Quarter 2028	
	Solar Degradation [4/]	(13)			
	Total of MW changes to Summer firm capacity:	**460**	**(32)**		**20.1%**
2029	Solar PV [3/]	224	60	First Quarter 2029	
	Battery Storage	300		First Quarter 2029	
	Solar Degradation [4/]	(15)			
	Total of MW changes to Summer firm capacity:	**509**	**60**		**20.1%**
2030	Perdido 1 and 2 Retirement		(3)	Fourth Quarter 2029	
	Solar PV [3/]	198	90	First Quarter 2030	
	Battery Storage	100	300	First Quarter 2030	
	Solar Degradation [4/]	(16)			
	Total of MW changes to Summer firm capacity:	**283**	**387**		**20.0%**

1/ Year shown reflects when the MW change begins to be accounted for in Summer Reserve Margin calculations.
2/ Winter Reserve Margins are typically higher than Summer Reserve Margins. Winter Reserve Margins are shown on Schedule 7.2 in Chapter III.
3/ MW values shown for the PV facilities represent the Summer firm capacity assumptions for the PV facilities.
4/ An annual 0.3% degradation for PV output is assumed for both FPL and Gulf Solar. Total degradation is shown solely in the FPL column.

CHAPTER I

Description of Existing Resources

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I. Description of Existing Resources

I.A. FPL System:

I.A.1 Description of Existing Resources

FPL's service area contains approximately 27,650 square miles and has a population of approximately ten million people. FPL served an average of 5,136,995 customer accounts in 35 counties during 2020. These customers were served by a variety of resources including FPL-owned fossil-fuel, renewable (solar), and nuclear generating units; non-utility owned generation; demand side management (DSM); and purchased power.

I.A.2 FPL - Owned Resources

As of December 31, 2020, FPL owned electric generating resources located at 44 sites distributed geographically throughout its service territory, plus one site in Georgia (partial FPL ownership of one unit). These generating facilities consisted of: four nuclear units, one coal unit (the aforementioned partially owned unit), 15 combined-cycle (CC) units, two fossil steam units, four gas turbines (GTs), nine simple-cycle combustion turbines (CTs), and 32 solar photovoltaic (PV) facilities. [6] The locations of the 67 generating units that were in commercial operation on December 31, 2020 are shown on Figure I.A.2.1 and in Table I.A.2.1.

FPL's bulk transmission system, including both overhead and underground lines, is comprised of 7,376 circuit miles of transmission lines. Integration of the generation, transmission, and distribution systems is achieved through FPL's 673 substations in Florida.

The existing FPL system, including generating plants, major transmission stations, and transmission lines, is shown on Figure I.A.2.2.

[6] FPL also has one 75 MW solar thermal facility at its Martin plant site. This facility does not generate electricity as the other units mentioned above do. Instead, it produces steam that reduces the use of fossil fuel to produce steam for electricity generation.

FPL Generating Resources by Location

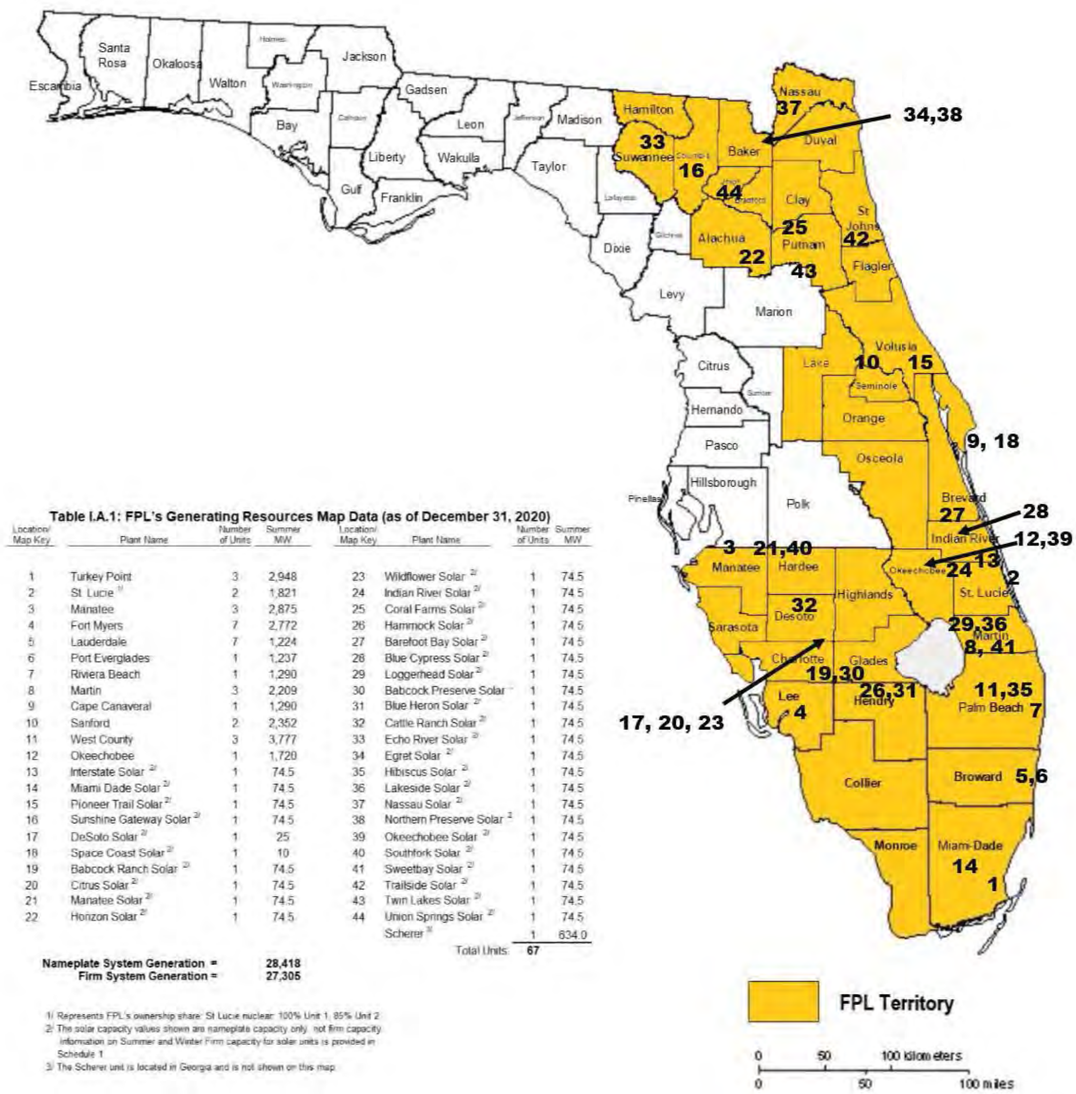

Table I.A.1: FPL's Generating Resources Map Data (as of December 31, 2020)

Location/ Map Key	Plant Name	Number of Units	Summer MW	Location/ Map Key	Plant Name	Number of Units	Summer MW
1	Turkey Point	3	2,948	23	Wildflower Solar 2/	1	74.5
2	St. Lucie 1/	2	1,821	24	Indian River Solar 2/	1	74.5
3	Manatee	3	2,875	25	Coral Farms Solar 2/	1	74.5
4	Fort Myers	7	2,772	26	Hammock Solar 2/	1	74.5
5	Lauderdale	7	1,224	27	Barefoot Bay Solar 2/	1	74.5
6	Port Everglades	1	1,237	28	Blue Cypress Solar 2/	1	74.5
7	Riviera Beach	1	1,290	29	Loggerhead Solar 2/	1	74.5
8	Martin	3	2,209	30	Babcock Preserve Solar 2/	1	74.5
9	Cape Canaveral	1	1,290	31	Blue Heron Solar 2/	1	74.5
10	Sanford	2	2,352	32	Cattle Ranch Solar 2/	1	74.5
11	West County	3	3,777	33	Echo River Solar 2/	1	74.5
12	Okeechobee	1	1,720	34	Egret Solar 2/	1	74.5
13	Interstate Solar 2/	1	74.5	35	Hibiscus Solar 2/	1	74.5
14	Miami Dade Solar 2/	1	74.5	36	Lakeside Solar 2/	1	74.5
15	Pioneer Trail Solar 2/	1	74.5	37	Nassau Solar 2/	1	74.5
16	Sunshine Gateway Solar 2/	1	74.5	38	Northern Preserve Solar 2/	1	74.5
17	DeSoto Solar 2/	1	25	39	Okeechobee Solar 2/	1	74.5
18	Space Coast Solar 2/	1	10	40	Southfork Solar 2/	1	74.5
19	Babcock Ranch Solar 2/	1	74.5	41	Sweetbay Solar 2/	1	74.5
20	Citrus Solar 2/	1	74.5	42	Trailside Solar 2/	1	74.5
21	Manatee Solar 2/	1	74.5	43	Twin Lakes Solar 2/	1	74.5
22	Horizon Solar 2/	1	74.5	44	Union Springs Solar 2/	1	74.5
					Scherer 3/	1	634.0
					Total Units:	67	

Nameplate System Generation = 28,418
Firm System Generation = 27,305

1/ Represents FPL's ownership share: St Lucie nuclear: 100% Unit 1, 85% Unit 2
2/ The solar capacity values shown are nameplate capacity only, not firm capacity. Information on Summer and Winter Firm capacity for solar units is provided in Schedule 1
3/ The Scherer unit is located in Georgia and is not shown on this map.

Figure I.A.2.1: FPL's Generating Resources by Location (as of December 31, 2020)

Table I.A.2.1: FPL's Capacity Resources by Unit Type (as of December 31, 2020)

Unit Type/ Plant Name	Location	Number of Units	Fuel	Summer MW
Nuclear				
St. Lucie [1/]	Hutchinson Island, FL	2	Nuclear	1,821
Turkey Point	Florida City, FL	2	Nuclear	1,678
Total Nuclear:		**4**		**3,499**
Coal Steam				
Scherer	Monroe County, Ga	1	Coal	634
Total Coal Steam:		**1**		**634**
Combined-Cycle				
Fort Myers	Fort Myers, FL	1	Gas	1,812
Manatee	Manatee County, FL	1	Gas	1,249
Martin	Indiantown, FL	2	Gas	974
Sanford	Lake Monroe, FL	2	Gas	2,352
Cape Canaveral	Cocoa, FL	1	Gas/Oil	1,290
Martin	Indiantown, FL	1	Gas/Oil	1,235
Okeechobee	Okeechobee, FL	1	Gas/Oil	1,720
Port Everglades	City of Hollywood, FL	1	Gas/Oil	1,237
Riviera Beach	City of Riviera Beach, FL	1	Gas/Oil	1,290
Turkey Point	Florida City, FL	1	Gas/Oil	1,270
West County	Palm Beach County, FL	3	Gas/Oil	3,777
Total Combined Cycle:		**15**		**18,206**
Gas/Oil Steam				
Manatee	Manatee County, FL	2	Gas/Oil	1,626
Total Oil/Gas Steam:		**2**		**1,626**
Gas Turbines(GT)				
Fort Myers (GT)	Fort Myers, FL	2	Oil	108
Lauderdale (GT)	Dania, FL	2	Gas/Oil	69
Total Gas Turbines/Diesels:		**4**		**177**
Combustion Turbines				
Lauderdale	Dania, FL	5	Gas/Oil	1,155
Fort Myers	Fort Myers, FL	4	Gas/Oil	852
Total Combustion Turbines:		**9**		**2,007**
PV [2/]				
DeSoto Solar	DeSoto County, FL	1	Solar Energy	25
Babcock Ranch Solar	Charlotte County, FL	1	Solar Energy	74.5
Citrus Solar	DeSoto County, FL	1	Solar Energy	74.5
Manatee Solar	Manatee County, FL	1	Solar Energy	74.5
Space Coast Solar	Brevard County, FL	1	Solar Energy	10
Interstate Solar	St. Lucie County, FL	1	Solar Energy	74.5
Miami Dade Solar	Dade County, FL	1	Solar Energy	74.5
Pioneer Trail Solar	Volusia County, FL	1	Solar Energy	74.5
Sunshine Gateway Solar	Columbia County, FL	1	Solar Energy	74.5
Horizon Solar	Putnam and Alachua Counties, FL	1	Solar Energy	74.5
Wildflower Solar	Desoto County, FL	1	Solar Energy	74.5
Indian River Solar	Indian River County, FL	1	Solar Energy	74.5
Coral Farms Solar	Putnam County, FL	1	Solar Energy	74.5
Hammock Solar	Hendry County, FL	1	Solar Energy	74.5
Barefoot Bay Solar	Brevard County, FL	1	Solar Energy	74.5
Blue Cypress Solar	Indian River County, FL	1	Solar Energy	74.5
Loggerhead Solar	St. Lucie County, FL	1	Solar Energy	74.5
Babcock Preserve Solar	Charlotte County, FL	1	Solar Energy	74.5
Blue Heron Solar	Hendry County, FL	1	Solar Energy	74.5
Cattle Ranch Solar	DeSoto County, FL	1	Solar Energy	74.5
Echo River Solar	Suwannee County, FL	1	Solar Energy	74.5
Egret Solar	Baker County, FL	1	Solar Energy	74.5
Hibiscus Solar	Palm Beach County, FL	1	Solar Energy	74.5
Lakeside Solar	Okeechobee County, FL	1	Solar Energy	74.5
Nassau Solar	Nassau County, FL	1	Solar Energy	74.5
Northern Preserve Solar	Baker County, FL	1	Solar Energy	74.5
Okeechobee Solar	Okeechobee County, FL	1	Solar Energy	74.5
Southfork Solar	Manatee County, FL	1	Solar Energy	74.5
Sweetbay Solar	Martin County, FL	1	Solar Energy	74.5
Trailside Solar	St. Johns County, FL	1	Solar Energy	74.5
Twin Lakes Solar	Putnam County, FL	1	Solar Energy	74.5
Union Springs Solar	Union County, FL	1	Solar Energy	74.5
Total Nameplate PV:		**32**		**2,270**
Nameplate System Generation as of December 31, 2020 =		**67**		**28,418**
Firm System Generation as of December 31, 2020 =				**27,305**

1/ Total capability of St. Lucie 1 is 981 Summer /1,003 Winter MW. FPL's share of St. Lucie 2 is 840 Summer /860 Winter MW.
FPL's ownership share of St. Lucie Units 1 and 2 is 100% and 85%, respectively.

2/ The solar capacity values shown are nameplate capacity only, not firm capacity.
Information on Summer and Winter Firm capacity for solar units is provided in Schedule 1.

FPL Bulk Transmission System

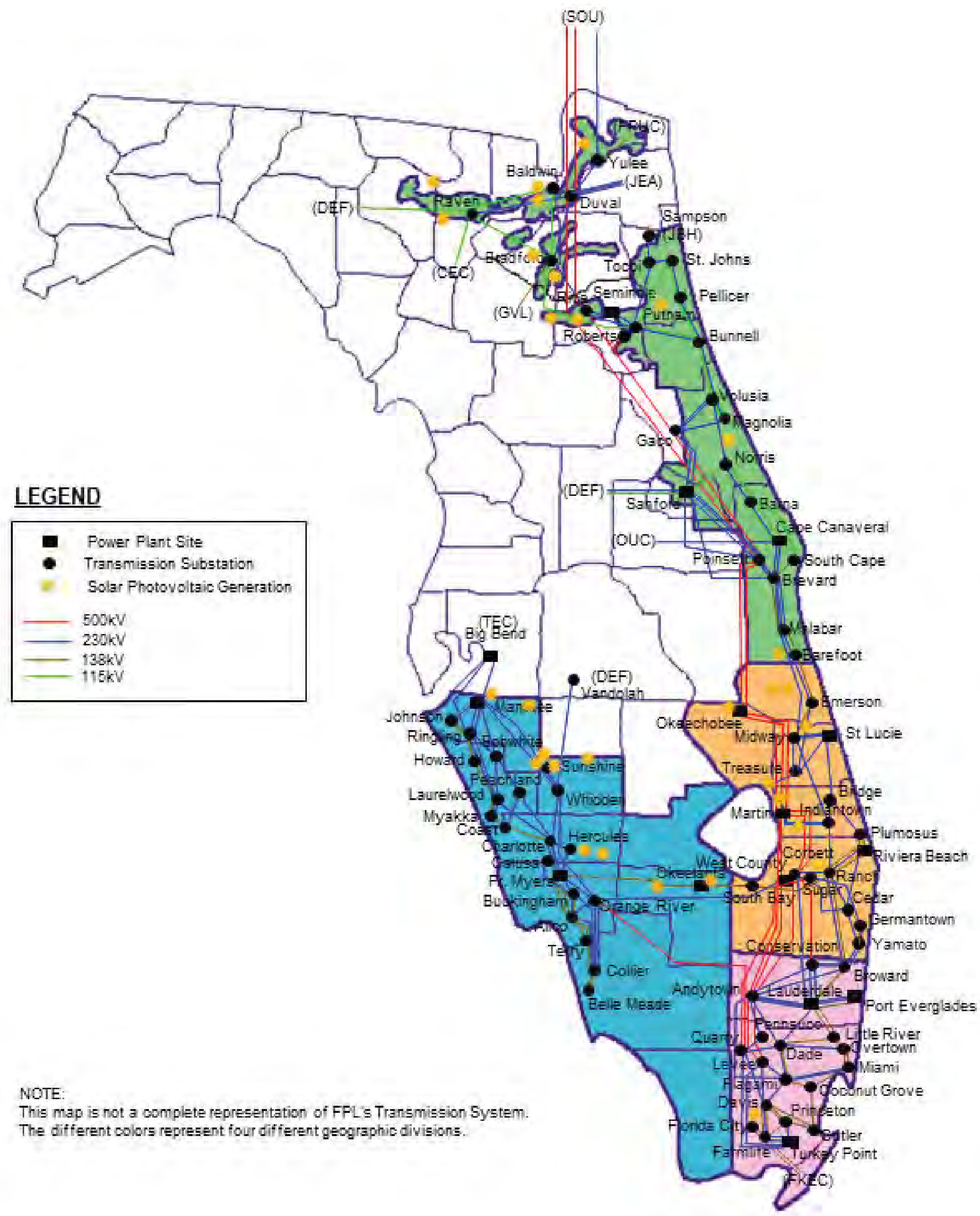

Figure I.A.2.2: FPL Bulk Transmission System

I.A.3 FPL - Capacity and Energy Power Purchases

Firm Capacity: Purchases from Qualifying Facilities (QF)

Firm capacity power purchases remain part of FPL's resource mix. A cogeneration facility is one that simultaneously produces electrical and thermal energy, with the thermal energy (*e.g.*, steam) used for industrial, commercial, or cooling and heating purposes. A small power production facility is one that does not exceed 80 MW (unless it is exempted from this size limitation by the Solar, Wind, Waste, and Geothermal Power Production Incentives Act of 1990) and uses solar, wind, waste, geothermal, or other renewable resources as its primary energy source.

FPL currently has three qualifying facilities contracts, each with Broward South, to purchase firm capacity and energy during the 10-year reporting period of this Site Plan. The 2020 actual and 2021-2030 projected contributions from these facilities are shown in Table I.A.3.1, Table I.A.3.2, and Table I.A.3.3. As discussed in prior FPL Site Plans, the FPSC approved (Order No. PSC-16-0506-FOF-EI) FPL's acquisition of the rights to the 330 MW Indiantown Cogen LP (ICL) unit and the associated power purchase agreement (PPA). This PPA was cancelled and the ICL unit was retired in the 4th Quarter of 2020 because the agreement was no longer cost-effective for FPL's customers.

Firm Capacity: Purchases from Utilities

FPL currently has no PPAs with other utilities.

Firm Capacity: Other Purchases

FPL has two other firm capacity purchase contracts with the Palm Beach Solid Waste Authority. Table I.A.3.2 and I.A.3.3 present the Summer and Winter MW, respectively, resulting from these contracts under the category heading of Other Purchases.

Non-Firm (As Available) Energy Purchases

FPL purchases non-firm (as-available) energy from a number of cogeneration and small power production facilities. The lower half of Table I.A.3.1 shows the amount of energy purchased in 2020 from these facilities along with the amount of energy purchased from customer-sited generation.

Table I.A.3.1: FPL's Purchased Power Resources by Contract (as of December 31, 2020)

Firm Capacity Purchases (MW)	Location (City or County)	Fuel	Summer MW
I. Purchase from QF's: Cogeneration/Small Power Production Facilities			
Broward South	Broward	Solid Waste	4
		Total:	4
II. Purchases from Utilities & IPP			
Palm Beach SWA - extension	Palm Beach	Solid Waste	40
Palm Beach SWA - New Unit	Palm Beach	Solid Waste	70
		Total:	110
Total Net Firm Generating Capability:			114

Non-Firm Energy Purchases (MWH)

Project	County	Fuel	Energy (MWH) Delivered to FPL in 2020
Miami Dade Resource Recovery 1/	Dade	Solid Waste	41,175
Broward South 1/	Broward	Solid Waste	55,976
Lee County Solid Waste 1/	Lee	Solid Waste	33,522
Brevard County 1/	Brevard	Solid Waste	43,182
Okeelanta (known as Florida Crystals and New Hope Power Partners) 1/	Palm Beach	Bagasse/Wood	39,155
Waste Management - Collier County Landfill 1/	Collier	Landfill Gas	16,225
Landfill Energy Systems (Aria Energy) 1/	Seminole	Landfill Gas	16,060
Tropicana	Manatee	Natural Gas	5,955
Georgia Pacific	Putnam	Paper by-product	5,621
Landfill Energy Systems (Aria Energy) 1/	Sarasota	Landfill Gas	1,924
Waste Management Renewable Energy 1/	Broward	Landfill Gas	1,805
Fortistar - Port Charlotte 1/	Charlotte	Landfill Gas	72
Customer Owned PV & Wind 1/	Various	PV/Wind	105,492
Total Energy from Renewable Non-Firm Purchases Delivered to FPL in 2020 1/:			**354,588**
Total Energy from All Non-Firm Purchases Delivered to FPL in 2020:			**366,164**

1/ These Non-Firm Energy Purchases are renewable and are reflected on Schedule 11.1, row 9, column 6.

Table I.A.3.2: FPL's Firm Purchased Power Summer MW

Summary of FPL's Firm Capacity Purchases: Summer MW (for August of Year Shown)

I. Purchases from QF's

Cogeneration Small Power Production Facilities	Contract Start Date	Contract End Date	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Broward South	01/01/93	12/31/26	1.4	1.4	1.4	1.4	1.4	1.4	0	0	0	0
Broward South	01/01/95	12/31/26	1.5	1.5	1.5	1.5	1.5	1.5	0	0	0	0
Broward South	01/01/97	12/31/26	0.6	0.6	0.6	0.6	0.6	0.6	0	0	0	0
QF Purchases Subtotal:			**4**	**4**	**4**	**4**	**4**	**4**	**0**	**0**	**0**	**0**

II. Purchases from Utilities

	Contract Start Date	Contract End Date	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
None	-	-	-	-	-	-	-	-	-	-	-	-
Utility Purchases Subtotal:			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Total of QF and Utility Purchases =	**4**	**4**	**4**	**4**	**4**	**4**	**0**	**0**	**0**	**0**

III. Other Purchases

	Contract Start Date	Contract End Date	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Palm Beach SWA - Extension [1/]	01/01/12	04/01/34	40	40	40	40	40	40	40	40	40	40
Palm Beach SWA - Additional	01/01/15	04/01/34	70	70	70	70	70	70	70	70	70	70
Other Purchases Subtotal:			**110**	**110**	**110**	**110**	**110**	**110**	**110**	**110**	**110**	**110**

Total "Non-QF" Purchases =	**110**	**110**	**110**	**110**	**110**	**110**	**110**	**110**	**110**	**110**

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Summer Firm Capacity Purchases Total MW:	**114**	**114**	**114**	**114**	**114**	**114**	**110**	**110**	**110**	**110**

1/ When the second unit came into commercial service at the Palm Beach SWA, neither unit met the standards to be a small power producer, and these became accounted for under "Other Purchases".

Table I.A.3.3: FPL's Firm Purchased Power Winter MW

Summary of FPL's Firm Capacity Purchases: Winter MW (for January of Year Shown)

I. Purchases from QF's

Cogeneration Small Power Production Facilities	Contract Start Date	Contract End Date	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Broward South	01/01/93	12/31/26	1.4	1.4	1.4	1.4	1.4	1.4	0	0	0	0
Broward South	01/01/95	12/31/26	1.5	1.5	1.5	1.5	1.5	1.5	0	0	0	0
Broward South	01/01/97	12/31/26	0.6	0.6	0.6	0.6	0.6	0.6	0	0	0	0
		QF Purchases Subtotal:	**4**	**4**	**4**	**4**	**4**	**4**	**0**	**0**	**0**	**0**

II. Purchases from Utilities

	Contract Start Date	Contract End Date	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
None	-	-	-	-	-	-	-	-	-	-	-	-
		Utility Purchases Subtotal:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Total of QF and Utility Purchases =	**4**	**4**	**4**	**4**	**4**	**4**	**0**	**0**	**0**	**0**

III. Other Purchases

	Contract Start Date	Contract End Date	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Palm Beach SWA - Extension [1/]	01/01/12	04/01/34	40	40	40	40	40	40	40	40	40	40
Palm Beach SWA - Additional	01/01/15	04/01/34	70	70	70	70	70	70	70	70	70	70
		Other Purchases Subtotal:	**110**	**110**	**110**	**110**	**110**	**110**	**110**	**110**	**110**	**110**

Total "Non-QF" Purchases =	**110**	**110**	**110**	**110**	**110**	**110**	**110**	**110**	**110**	**110**

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Winter Firm Capacity Purchases Total MW:	**114**	**114**	**114**	**114**	**114**	**114**	**110**	**110**	**110**	**110**

1/ When the second unit came into commercial service at the Palm Beach SWA, neither unit met the standards to be a small power producer, and these became accounted for under "Other Purchases".

I.A.4 FPL - Demand Side Management (DSM)

FPL has continually explored and implemented cost-effective DSM programs since 1978, and it has consistently been among the leading utilities nationally in achieving substantial DSM efficiencies. These programs include a number of innovative conservation/energy efficiency and load management initiatives. Importantly, FPL's DSM efforts through 2020 have resulted in a cumulative Summer peak reduction of 4,887 MW at the generator and an estimated cumulative energy savings of 92,110 Gigawatt-Hours (GWh) at the generator. After accounting for the 20% total reserve margin requirements, FPL's highly effective DSM efforts through 2020 have eliminated the need to construct the equivalent of approximately fifty-nine (59) new 100 MW generating units. Also, it is important to note that FPL has achieved these significant DSM accomplishments while minimizing the DSM-based impact on electric rates for all of its customers by using the Rate Impact Measure (RIM) cost-effectiveness screening calculation approach.

In 2019, the Florida Public Service Commission (FPSC) set DSM Goals for the years 2020 through 2024 for FPL and the other Florida utilities subject to the Florida Energy Efficiency and Conservation Act (FEECA). These DSM Goals addressed utility programs that lower system peak load and annual energy use. For these 5 years, these Goals are identical to the Goals set by the FPSC in 2014 for the years 2020 through 2024. In July 2020, the FPSC approved FPL's DSM Plan with which it intends to meet the DSM Goals (Order No. PSC-2020-0291-CO-EG). In this Site Plan, FPL assumes that the annual reduction values for Summer MW, Winter MW, and energy (MWh) set forth in the DSM Goals order for 2021 through 2024 (Order No. PSC-2019-0509-FOF-EG) will be met as shown in various schedules presented in this Site Plan. For the years 2025 through 2029, for which the FPSC did not establish Goals, FPL has assumed that DSM will be implemented to achieve the DSM levels that FPL proposed in its 2019 DSM Goals filing because this level of annual DSM was projected to be cost-effective. Incremental DSM amounts for the year 2030 for FPL, commensurate with the utility's projected DSM annual additions for 2025 through 2029, have been assumed as well.

I.A.5 Utility Demand-Side Management – A Look Ahead

The term "demand-side management" refers to activities that alter the demand for electricity that would otherwise occur without the activities. In the past, the term has typically been used almost exclusively in discussions of energy conservation and demand response activities; i.e., activities that reduce energy consumption at the utility's peak load hour and/or reduce energy consumption over the course of the entire year. However, the term also applies to activities that have other impacts on customers' demand for electricity including activities that can increase energy consumption at the utility's peak load hour and/or increase annual energy consumption.

In regard to DSM activities that reduce peak load and/or annual energy consumption, the Executive Summary of this Site Plan discusses the fact that there has been a trend over the last 10 years or so of steady declines in the cost of fuel and the cost of new generation options, plus steady increases in the efficiency with which generating units use fuel to produce electricity. These trends are very beneficial to utility customers because they help to keep electric rates low. However, these lower costs and increased fuel efficiency also lower costs that can potentially be avoided by utility energy conservation and demand response programs. This automatically lowers the cost-effectiveness of these types of utility DSM programs.

At the time this Site Plan is filed, it is expected that the new federal administration will attempt to take significant actions in regard to climate-related matters that may affect the use and cost of fossil fuels, including natural gas. Thus, the potential exists that certain utility costs, including those that could potentially be avoided by these types of utility DSM programs, could be increased by these actions. FPL expects greater clarity regarding the potential impacts to the cost-effectiveness of energy conservation and/or demand response programs from the new administration's actions will emerge during the course of 2021 and in subsequent years. FPL's on-going resource planning work will gauge these projected impacts in future analyses.

In addition, new types of activities are clearly emerging that are definitely altering current electricity demand patterns. As such, these new activities are a "next generation" of demand-side management activities. Examples of these include, but are not limited to, steady increases in electric vehicles (EVs) and the emergence of behind-the-meter batteries. Both of these activities utilize battery storage during various hours of the day, thus increasing electrical demand during the hours the storage equipment is being charged from the utility's system. Furthermore, behind-the-meter batteries will also result in the stored energy being used (discharged) at other hours of the day thus reducing what would otherwise have been demand for electricity supplied at that time by the utility system.

Accordingly, FPL's approach to DSM has expanded to include activities such as these. FPL is already putting considerable effort into these next generation DSM activities as described in Chapter III, Section III.F. of this Site Plan.

I.A.6 Existing Generating Units in FPL's Original Service Area

Schedule 1 presents the generating capacity in FPL's original service area as of December 31, 2020.

Schedule 1

FPL Existing Generating Facilities
As of December 31, 2020

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
								Alt.		Actual/		Net Capability [1/]		Firm Capability [2/]	
	Unit		Unit	Fuel		Fuel Transport		Fuel Days	Commercial In-Service	Expected Retirement	Gen.Max. Nameplate	Winter	Summer	Winter	Summer
Plant Name	No.	Location	Type	Pri.	Alt.	Pri.	Alt.	Use	Month/Year	Month/Year	KW	MW	MW	MW	MW
Babcock Preserve Solar [2/]		Charlotte County													
		32,33/41S/26E : 4/42S/26E									74,500	74.5	74.5	0.0	36.1
	1		PV	Solar	Solar	N/A	N/A	Unknown	Mar-20	Unknown	74,500	74.5	74.5	0.0	36.1
Babcock Ranch Solar [2/]		Charlotte County													
		29,31,32/41S/26E									74,500	74.5	74.5	0.0	38.6
	1		PV	Solar	Solar	N/A	N/A	Unknown	Dec-16	Unknown	74,500	74.5	74.5	0.0	38.6
Barefoot Bay Solar [2/]		Brevard County													
		1, 10, 15,16/30S/38E									74,500	74.5	74.5	0.0	41.6
	1		PV	Solar	Solar	N/A	N/A	Unknown	Mar-18	Unknown	74,500	74.5	74.5	0.0	41.6
Blue Cypress Solar [2/]		Indian River County													
		16/33S/38E									74,500	74.5	74.5	0.0	35.1
	1		PV	Solar	Solar	N/A	N/A	Unknown	Mar-18	Unknown	74,500	74.5	74.5	0.0	35.1
Blue Heron Solar [2/]		Hendry County													
		28,33/43S/32E									74,500	74.5	74.5	0.0	33.6
	1		PV	Solar	Solar	N/A	N/A	Unknown	Mar-20	Unknown	74,500	74.5	74.5	0.0	33.6
Cape Canaveral		Brevard County													
		19/23S/36E									1,295,400	1,393	1,290	1,393	1,290
	3		CC	NG	FO2	PL	TK	Unknown	Apr-13	Unknown	1,295,400	1,393	1,290	1,393	1,290
Cattle Ranch Solar [2/]		Desoto County													
		19,24,25/36S/26E									74,500	74.5	74.5	0.0	34.8
	1		PV	Solar	Solar	N/A	N/A	Unknown	Mar-20	Unknown	74,500	74.5	74.5	0.0	34.8
Citrus Solar [2/]		DeSoto County													
		35/36S/25E : 2/37S/25E									74,500	74.5	74.5	0.0	41.9
	1		PV	Solar	Solar	N/A	N/A	Unknown	Dec-16	Unknown	74,500	74.5	74.5	0.0	41.9
Coral Farms Solar [2/]		Putnam County													
		27,28,33,34/8S/24E									74,500	74.5	74.5	0.0	40.2
	1		PV	Solar	Solar	N/A	N/A	Unknown	Jan-18	Unknown	74,500	74.5	74.5	0.0	40.2
DeSoto Solar [2/]		DeSoto County													
		27/36S/25E									22,500	25	25	0.0	11
	1		PV	Solar	Solar	N/A	N/A	Unknown	Oct-09	Unknown	22,500	25	25	0.0	11
Echo River Solar [2/]		Suwannee County													
		24,25,19/2S/14E : 30/2S/15E									74,500	74.5	74.5	0.0	47.5
	1		PV	Solar	Solar	N/A	N/A	Unknown	May-20	Unknown	74,500	74.5	74.5	0.0	47.5
Egret Solar [2/]		Baker County													
		26,27/2S/21E									74,500	74.5	74.5	0.0	35.2
	1		PV	Solar	Solar	N/A	N/A	Unknown	Dec-20	Unknown	74,500	74.5	74.5	0.0	35.2
Fort Myers		Lee County													
		35/43S/25E									2,796,198	2,750	2,772	2,750	2,772
	2		CC	NG	No	PL	No	Unknown	Jun-02	Unknown	1,836,798	1,787	1,812	1,787	1,812
	3		CT	NG	FO2	TK	TK	Unknown	Jun-03	Unknown	835,380	840	852	840	852
	1, 9		GT	FO2	No	WA	No	Unknown	May-74	Unknown	124,020	123	108	123	108
Hammock Solar [2/]		Hendry County													
		34/43S/30E : 3,4,9,10/44S/30E									74,500	74.5	74.5	0.0	34.8
	1		PV	Solar	Solar	N/A	N/A	Unknown	Mar-18	Unknown	74,500	74.5	74.5	0.0	34.8
Hibiscus Solar [2/]		Palm Beach County													
		2/43S/40E									74,500	74.5	74.5	0.0	40.5
	1		PV	Solar	Solar	N/A	N/A	Unknown	May-20	Unknown	74,500	74.5	74.5	0.0	40.5

1/ These ratings are peak capability ratings for non-Solar units and Nameplate ratings for Solar units.
2/ These projected firm MW values represent the contribution of both non-solar and solar facilities at Summer and Winter Peak.

Schedule 1

FPL Existing Generating Facilities
As of December 31, 2020

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
						Fuel		Alt. Fuel	Commercial	Actual/ Expected	Gen.Max.	Net Capability 1/		Firm Capability 2/	
Plant Name	Unit No.	Location	Unit Type	Fuel Pri.	Fuel Alt.	Transport Pri.	Transport Alt.	Days Use	In-Service Month/Year	Retirement Month/Year	Nameplate KW	Winter MW	Summer MW	Winter MW	Summer MW
Horizon Solar 2/		Alachua County													
		25,35,36/9S/22E : 30, 31/9S/23E									74,500	74.5	74.5	0.0	40.2
	1		PV	Solar	Solar	N/A	N/A	Unknown	Jan-18	Unknown	74,500	74.5	74.5	0.0	40.2
Indian River Solar 2/		Indian River County													
		30/33S/38E									74,500	74.5	74.5	0.0	39.8
	1		PV	Solar	Solar	N/A	N/A	Unknown	Jan-18	Unknown	74,500	74.5	74.5	0.0	39.8
Interstate Solar 2/		St. Lucie County													
		28,33/34S/39E									74,500	74.5	74.5	0.0	39.5
	1		PV	Solar	Solar	N/A	N/A	Unknown	Jan-19	Unknown	74,500	74.5	74.5	0.0	39.5
Lakeside Solar 2/		Okeechobee County													
		28,29,32/37S/36E									74,500	74.5	74.5	0.0	36.2
	1		PV	Solar	Solar	N/A	N/A	Unknown	Dec-20	Unknown	74,500	74.5	74.5	0.0	36.2
Lauderdale		Broward County													
		30/50S/42E									1,215,956	1,184	1,224	1,184	1,224
	6		CT	NG	FO2	PL	TK	Unknown	Dec-16	Unknown	1,147,500	1,110	1,155	1,110	1,155
	3, 5		GT	NG	FO2	PL	TK	Unknown	Aug-70	Unknown	68,456	74	69	74	69
Loggerhead Solar 2/		St. Lucie County													
		21/37S/38E									74,500	74.5	74.5	0.0	35.8
	1		PV	Solar	Solar	N/A	N/A	Unknown	Mar-18	Unknown	74,500	74.5	74.5	0.0	35.8
Manatee Solar 2/		Manatee County													
		1,12,13,24/33S/19E : 18,19/33S/20E									74,500	74.5	74.5	0.0	41.7
	1		PV	Solar	Solar	N/A	N/A	Unknown	Dec-16	Unknown	74,500	74.5	74.5	0.0	41.7
Manatee		Manatee County													
		18/33S/20E									3,027,982	2,907	2,875	2,907	2,875
	1		ST	NG	FO6	PL	WA	Unknown	Oct-76	4th Q 2021	863,300	821	813	821	813
	2		ST	NG	FO6	PL	WA	Unknown	Dec-77	4th Q 2021	863,300	821	813	821	813
	3		CC	NG	No	PL	No	Unknown	Jun-05	Unknown	1,301,382	1,265	1,249	1,265	1,249
Martin		Martin County													
		30/39S/38E									2,525,382	2,337	2,209	2,337	2,209
	3		CC	NG	No	PL	No	Unknown	Feb-94	Unknown	612,000	533	487	533	487
	4		CC	NG	No	PL	No	Unknown	Apr-94	Unknown	612,000	533	487	533	487
	8 4/		CC	NG	FO2	PL	TK	Unknown	Jun-05	Unknown	1,301,382	1,271	1,235	1,271	1,235
Miami Dade Solar 3/		Miami-Dade County													
		13/55S/38E									74,500	74.5	74.5	0.0	39.2
	1		PV	Solar	Solar	N/A	N/A	Unknown	Jan-19	Unknown	74,500	74.5	74.5	0.0	39.2
Nassau Solar 3/		Nassau County													
		2/1N/24E									74,500	74.5	74.5	0.0	34.7
	1		PV	Solar	Solar	N/A	N/A	Unknown	Dec-20	Unknown	74,500	74.5	74.5	0.0	34.7
Northern Preserve Solar 3/		Baker County													
		13,18/3S/20E : 24/3S/21E									74,500	74.5	74.5	0.0	33.0
	1		PV	Solar	Solar	N/A	N/A	Unknown	Mar-20	Unknown	74,500	74.5	74.5	0.0	33.0
Okeechobee		Okeechobee													
		2/33S/35E									1,886,150	1,672	1,720	1,672	1,720
	1		CC	NG	FO2	PL	TK	Unknown	Mar-19	Unknown	1,886,150	1,672	1,720	1,672	1,720
Okeechobee Solar 3/		Okeechobee County													
		1,12,13/33S/35E									74,500	74.5	74.5	0.0	36.6
	1		PV	Solar	Solar	N/A	N/A	Unknown	May-20	Unknown	74,500	74.5	74.5	0.0	36.6
Pioneer Trail Solar 3/		Volusia County													
		21/17S/32E									74,500	74.5	74.5	0.0	38.4
	1		PV	Solar	Solar	N/A	N/A	Unknown	Jan-19	Unknown	74,500	74.5	74.5	0.0	38.4

1/ These ratings are peak capability ratings for non-Solar units and Nameplate ratings for Solar units.

2/ These projected firm MW values represent the contribution of both non-solar and solar facilities at Summer and Winter Peak.

Schedule 1

FPL Existing Generating Facilities
As of December 31, 2020

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
								Alt.		Actual/					
						Fuel		Fuel	Commercial	Expected	Gen.Max.	Net Capability [1/]		Firm Capability [2/]	
	Unit		Unit	Fuel		Transport		Days	In-Service	Retirement	Nameplate	Winter	Summer	Winter	Summer
Plant Name	No.	Location	Type	Pri.	Alt.	Pri.	Alt.	Use	Month/Year	Month/Year	KW	MW	MW	MW	MW
Port Everglades		City of Hollywood													
		23/50S/42E									1,412,700	1,338	1,237	1,338	1,237
	5		CC	NG	FO2	PL	TK	Unknown	Apr-16	Unknown	1,412,700	1,338	1,237	1,338	1,237
Riviera Beach		City of Riviera Beach													
		33/42S/432E									1,295,400	1,393	1,290	1,393	1,290
	5		CC	NG	FO2	PL	TK	Unknown	Apr-14	Unknown	1,295,400	1,393	1,290	1,393	1,290
Sanford		Volusia County													
		16/19S/30E									2,531,464	2,376	2,352	2,376	2,352
	4		CC	NG	No	PL	No	Unknown	Oct-03	Unknown	1,265,732	1,188	1,176	1,188	1,176
	5		CC	NG	No	PL	No	Unknown	Jun-02	Unknown	1,265,732	1,188	1,176	1,188	1,176
Scherer [3/]		Monroe, GA									680,368	635	634	635	634
	4		ST	SUB	No	RR	No	Unknown	Jul-89	4th Q 2021	680,368	635	634	635	634
Southfork Solar [2/]		Manatee County													
		26/33S/21E									74,500	74.5	74.5	0.0	45.0
	1		PV	Solar	Solar	N/A	N/A	Unknown	May-20	Unknown	74,500	74.5	74.5	0.0	45.0
Space Coast Solar [2/]		Brevard County													
		13/23S/36E									10,000	10	10	0	4
	1		PV	Solar	Solar	N/A	N/A	Unknown	Apr-10	Unknown	10,000	10	10	0	4
St. Lucie [5/]		St. Lucie County													
		16/36S/41E									1,999,128	1,863	1,821	1,863	1,821
	1		ST	Nuc	No	TK	No	Unknown	May-76	Unknown	1,080,000	1,003	981	1,003	981
	2		ST	Nuc	No	TK	No	Unknown	Jun-83	Unknown	919,128	860	840	860	840
Sunshine Gateway Solar [2/]		Columbia County													
		25,26,35,36/2S/15E : 31,32/5S/16E									74,500	74.5	74.5	0.0	41.7
	1		PV	Solar	Solar	N/A	N/A	Unknown	Jan-19	Unknown	74,500	74.5	74.5	0.0	41.7
Sweetbay Solar [2/]		Martin County													
		17,19/39S/39E									74,500	74.5	74.5	0.0	28.1
	1		PV	Solar	Solar	N/A	N/A	Unknown	Mar-20	Unknown	74,500	74.5	74.5	0.0	28.1
Trailside Solar [2/]		St. Johns County													
		25,36/8S/28E									74,500	74.5	74.5	0.0	39.0
	1		PV	Solar	Solar	N/A	N/A	Unknown	Dec-20	Unknown	74,500	74.5	74.5	0.0	39.0
Turkey Point		Miami Dade County													
		27/57S/40E									3,055,782	3,038	2,948	3,038	2,948
	3		ST	Nuc	No	TK	No	Unknown	Nov-72	Unknown	877,200	859	837	859	837
	4		ST	Nuc	No	TK	No	Unknown	Jun-73	Unknown	877,200	868	841	868	841
	5		CC	NG	FO2	PL	TK	Unknown	May-07	Unknown	1,301,382	1,311	1,270	1,311	1,270
Twin Lakes Solar [2/]		Putnam County													
		19,20,25/10S/24E : 30/10S/25E									74,500	74.5	74.5	0.0	34.8
	1		PV	Solar	Solar	N/A	N/A	Unknown	Mar-20	Unknown	74,500	74.5	74.5	0.0	34.8
Union Springs Solar [2/]		Union County													
		3,4,9,10/6S/20E : 33/5S/20E									74,500	74.5	74.5	0.0	37.6
	1		PV	Solar	Solar	N/A	N/A	Unknown	Dec-20	Unknown	74,500	74.5	74.5	0.0	37.6
West County		Palm Beach County													
		29/43S/40E									4,100,400	4,107	3,777	4,107	3,777
	1		CC	NG	FO2	PL	TK	Unknown	Aug-09	Unknown	1,366,800	1,369	1,259	1,369	1,259
	2		CC	NG	FO2	PL	TK	Unknown	Nov-09	Unknown	1,366,800	1,369	1,259	1,369	1,259
	3		CC	NG	FO2	PL	TK	Unknown	May-11	Unknown	1,366,800	1,369	1,259	1,369	1,259
Wildflower Solar [2/]		Desoto County													
		25,26,/36S/25E									74,500	74.5	74.5	0.0	41.0
	1		PV	Solar	Solar	N/A	N/A	Unknown	Jan-18	Unknown	74,500	74.5	74.5	0.0	41.0
Total Nameplate System Generating Capacity as of December 31, 2020 [6/] =												**29,263**	**28,418**	-	-
Total Firm System Generating Capacity as of December 31, 2020 [7/] =												-	-	**26,993**	**27,305**

1/ These ratings are peak capability ratings for non-Solar units and Nameplate ratings for Solar units.
2/ These projected firm MW values represent the contribution of both non-solar and solar facilities at Summer and Winter Peak.
3/ These ratings relate to FPL's 76.36% share of Plant Scherer Unit 4 operated by Georgia Power, and represent FPL's 73.923% ownership share available at point of interchange.
4/ Martin Unit 8 is also partially fueled by a 75 MW solar thermal facility that supplies steam when adequate sunlight is available, thus reducing fossil fuel use.
5/ Total capability of St. Lucie 1 is 981 Summer/1,003 Winter MW. FPL's share of St. Lucie 2 is 840 Summer/860 Winter MW.
FPL's ownership share of St. Lucie Units 1 and 2 is 100% and 85%, respectively, as shown above. FPL's share of the deliverable capacity from each unit is approx. 92.5% and exclude the Orlando Utilities Commission (OUC) and Florida Municipal Power Agency (FMPA) combined portion of approximately 7.448% per unit.
6/ The Total Nameplate System Generating Capacity value shown includes FPL-owned firm and non-firm generating capacity.
7/ The System Firm Generating Capacity value shown includes only firm generating capacity.

I.B. Gulf System:

I.B.1 Description of Existing Resources

Gulf's service area contains approximately 7,550 square miles and has a population of approximately one million people. Gulf Power served an average of 470,680 customer accounts in 8 counties during 2020. These customers were served by a variety of resources including: Gulf Power-owned fossil-fuel, renewable (solar and wind), other non-utility owned generation; demand side management (DSM); and interchange/purchased power.

I.B.2 Gulf - Owned Resources

As of December 31, 2020, Gulf owned electric generating resources located at five sites distributed geographically throughout its service territory, plus one site in Georgia (partial Gulf ownership of one unit) and one site in Mississippi (partial Gulf ownership of two units). These generating facilities consisted of seven coal units, one combined-cycle (CC) unit, four simple-cycle combustion turbines (CTs), two landfill gas (LFG) facilities, and one solar photovoltaic (PV) site. The locations of the 14 generating units that were in commercial operation on December 31, 2020 are shown on Figure I.B.2.1 and in Table I.B.2.1.

Gulf's bulk transmission system, including both overhead and underground lines, is comprised of 1,672 circuit miles of transmission lines. Integration of the generation, transmission, and distribution systems is achieved through Gulf's 136 substations in Florida.

The existing Gulf system, including generating plants, major transmission stations, and transmission lines, is shown on Figure I.B.2.2.

Gulf Power Generating Resources by Location

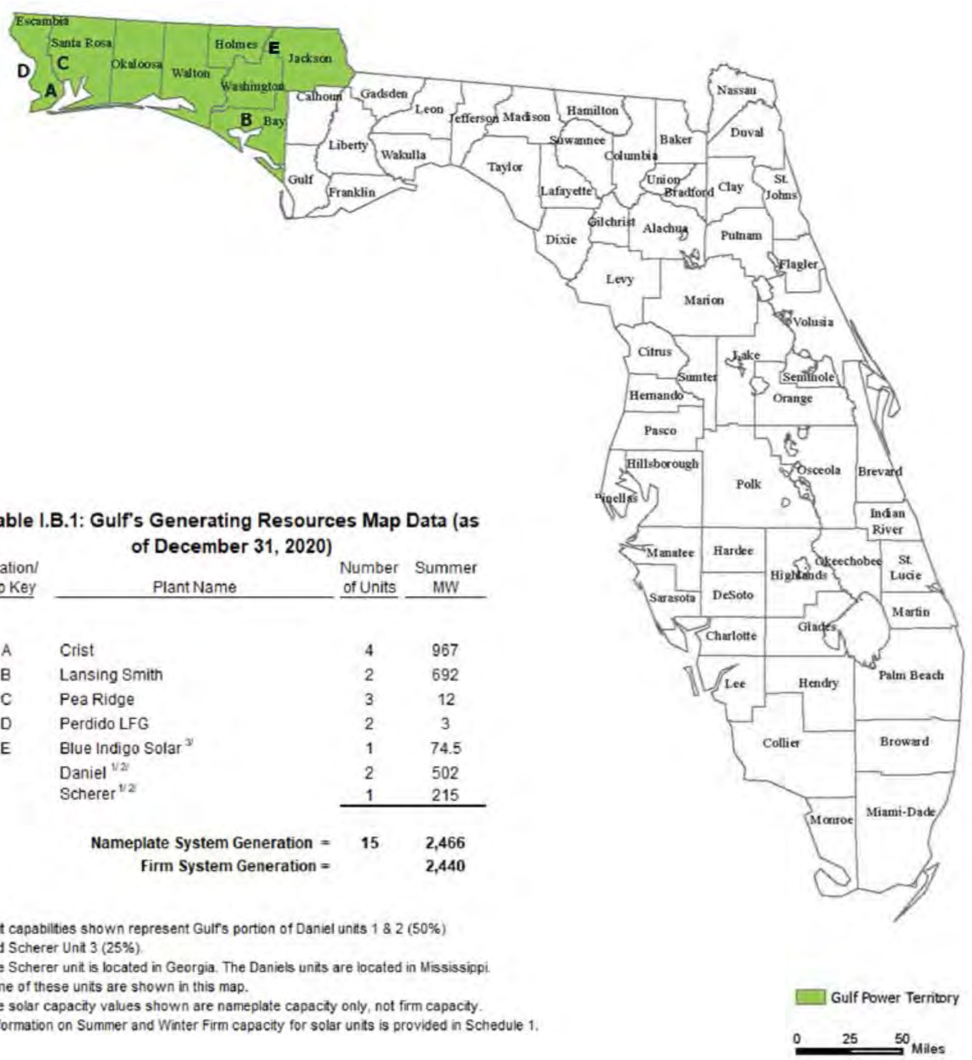

Table I.B.1: Gulf's Generating Resources Map Data (as of December 31, 2020)

Location/ Map Key	Plant Name	Number of Units	Summer MW
A	Crist	4	967
B	Lansing Smith	2	692
C	Pea Ridge	3	12
D	Perdido LFG	2	3
E	Blue Indigo Solar [3/]	1	74.5
	Daniel [1/ 2/]	2	502
	Scherer [1/ 2/]	1	215
	Nameplate System Generation =	**15**	**2,466**
	Firm System Generation =		**2,440**

1/ Unit capabilities shown represent Gulf's portion of Daniel units 1 & 2 (50%) and Scherer Unit 3 (25%).
2/ The Scherer unit is located in Georgia. The Daniels units are located in Mississippi. None of these units are shown in this map.
3/ The solar capacity values shown are nameplate capacity only, not firm capacity. Information on Summer and Winter Firm capacity for solar units is provided in Schedule 1.

Figure I.B.2.1: Gulf Power Generating Resources by Location (as of December 31, 2020)

Table I.B.2.1: Gulf Power Capacity Resources by Unit Type (as of December 31, 2020)

Unit Type/ Plant Name	Location	Number of Units	Fuel	Summer MW
Coal Steam				
Crist	Escambia County	4	Coal	967
Daniel	Jackson County, MS	2	Coal	502
Scherer	Monroe County, Ga	1	Coal	215
Total Coal Steam:		**7**		**1,684**
Combined-Cycle				
Lansing Smith	Bay County	1	Gas	660
Total Combined Cycle:		**1**		**660**
Combustion Turbines				
Pea Ridge	Santa Rosa County	3	Gas	12
Lansing Smith	Bay County	1	Oil	32
Total Combustion Turbines:		**4**		**44**
Land Fill Gas				
Perdido LFG	Escambia County	2	LFG	3
Total LFG:		**2**		**3**
PV [1/]				
Blue Indigo Solar	Jackson County, FL	1	Solar Energy	74.5
		1		**74.5**
Nameplate System Generation as of December 31, 2020 =		**15**		**2,466**
Firm System Generation as of December 31, 2020 =				**2,440**

1/ The solar capacity values shown are nameplate capacity only, not firm capacity.
Information on Summer and Winter Firm capacity for solar units is provided in Schedule 1.

Gulf Power Bulk Transmission System

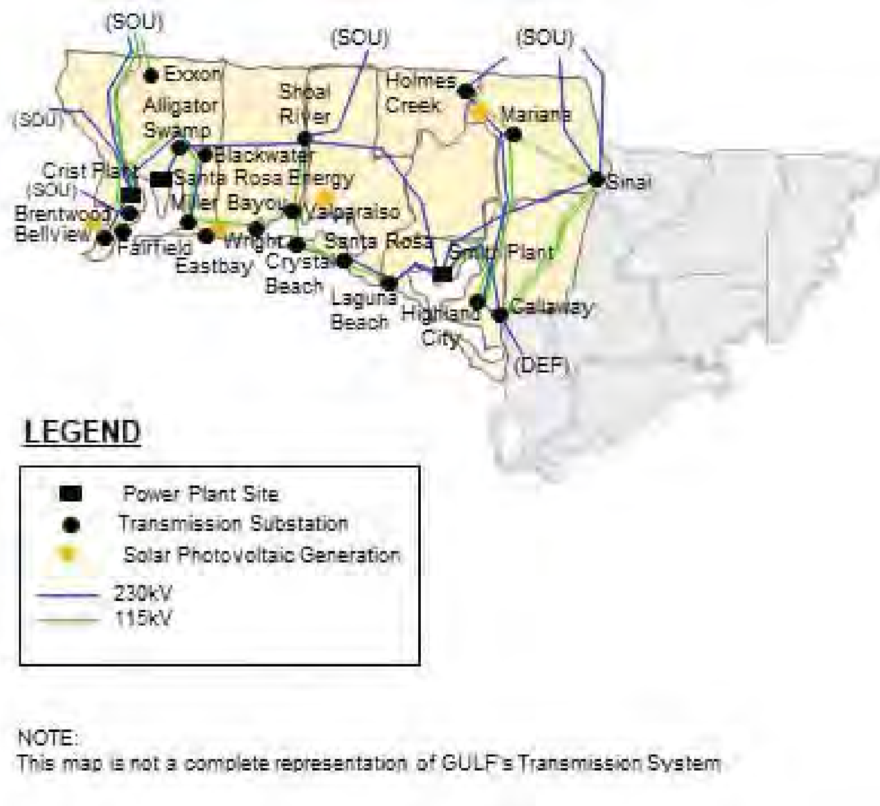

Figure I.B.2.2: Gulf Power Bulk Transmission System

I.B.3 Gulf - Capacity and Energy Power Purchases

Firm Capacity: Purchases from Qualifying Facilities (QF)

Gulf currently has no firm capacity contracts with qualifying facilities (*e.g.*, cogeneration/small power production facilities) to purchase firm capacity and energy during the 10-year reporting period of this Site Plan.

Firm Capacity: Purchases from Utilities

Gulf currently has no PPAs with other utilities.

Firm Capacity: Other Purchases

Gulf has three firm capacity purchase contracts; two with Morgan Stanley Capital Group's Kingfisher I and Kingfisher II wind projects, and one with Shell Energy North America's Tenaska project. The 2020 actual and 2021-2030 projected contributions from these facilities are shown in Table I.B.3.1, I.B.3.2 and I.B.3.3.

Non-Firm (As Available) Energy Purchases

Gulf purchases non-firm (as-available) energy from a number of cogeneration and small power production facilities. The lower half of Table I.B.3.1 shows the amount of energy purchased in 2020 from these facilities along with the amount of energy purchased from customer-sited generation.

Table I.B.3.1: Gulf Power Purchased Power Resources by Contract (as of December 31, 2020)

Firm Capacity Purchases (MW)	Location (City or County)	Fuel	Summer MW
I. Purchase from QF's: Cogeneration/Small Power Production Facilities			
		Total:	-
II. Purchases from Utilities & IPP			
MSCG - Kingfisher I	Oklahoma	Wind	53
MSCG - Kingfisher II	Oklahoma	Wind	28
SENA - (Shell)	Alabama	Gas	885
		Total:	966
	Total Net Firm Generating Capability:		966

Non-Firm Energy Purchases (MWH) Project	County	Fuel	Energy (MWH) Delivered to Gulf in 2020
International Paper Company Units 1&2 [1/]	Escambia	Biomass	804
Bay County Landfill Incinerator [1/]	Bay	Biomass	51,683
Ascend - Solutia Units 1-4	Escambia	Gas	195,040
Gulf Coast Solar Center I [1/]	Okaloosa	Sun	58,995
Gulf Coast Solar Center II [1/]	Santa Rosa	Sun	81,394
Gulf Coast Solar Center III [1/]	Escambia	Sun	91,365
Customer Owned PV & Wind [1/]	Various	PV/Wind	22,274
Total Energy from Renewable Non-Firm Purchases Delivered to Gulf in 2020 [1/]:			**306,515**
Total Energy from All Non-Firm Purchases Delivered to Gulf in 2020:			**501,555**

1/ These Non-Firm Energy Purchases are renewable and are reflected on Schedule 11.1, row 9, column 6.

Table I.B.3.2: Gulf Power Firm Purchased Power Summer MW

Summary of Gulf Power Firm Capacity Purchases: Summer MW (for August of Year Shown)

I. Purchases from QF's

Cogeneration Small Power Production Facilities	Contract Start Date	Contract End Date	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
None	-	-	-	-	-	-	-	-	-	-	-	-
		QF Purchases Subtotal:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

II. Purchases from Utilities

	Contract Start Date	Contract End Date	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
None	-	-	-	-	-	-	-	-	-	-	-	-
		Utility Purchases Subtotal:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
		Total of QF and Utility Purchases =	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

III. Other Purchases

	Contract Start Date	Contract End Date	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
MSCG - Kingfisher I [1/]	01/01/17	12/31/35	53	53	53	53	53	53	53	53	53	53
MSCG - Kingfisher II [1/]	01/01/17	12/31/35	28	28	28	28	28	28	28	28	28	28
SENA - (Shell)	06/01/14	05/24/23	885	885	0	0	0	0	0	0	0	0
Gulf Solar PPAs [/2]	11/17/14	11/17/40	49	49	49	49	49	49	49	49	49	49
		Other Purchases Subtotal:	**1,015**	**1,015**	**130**	**130**	**130**	**130**	**130**	**130**	**130**	**130**
		Total "Non-QF" Purchases =	**1,015**	**1,015**	**130**	**130**	**130**	**130**	**130**	**130**	**130**	**130**

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Summer Firm Capacity Purchases Total MW:	**1,015**	**1,015**	**130**	**130**	**130**	**130**	**130**	**130**	**130**	**130**

1/ These PPAs are from a variable wind source; however, the PPA supplier has committed to a certain amount of minimum MW per hour which FPL and Gulf treat as firm capacity for resource planning purposes.
2/ These PPAs are non-firm, energy-only contracts due to the unscheduled, intermitent nature of solar resources. For resource planning purposes, a portion of the nameplate rating of the solar facilities has been, and continues to, provide, on average, a non-zero value at the system Summer peak hour.

Table I.B.3.3: Gulf Power Firm Purchased Power Winter MW

Summary of Gulf Power Firm Capacity Purchases: Winter MW (for January of Year Shown)

I. Purchases from QF's

Cogeneration Small Power Production Facilities	Contract Start Date	Contract End Date	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
None	-	-	-	-	-	-	-	-	-	-	-	-
		QF Purchases Subtotal:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

II. Purchases from Utilities

	Contract Start Date	Contract End Date	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
None	-	-	-	-	-	-	-	-	-	-	-	-
		Utility Purchases Subtotal:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
		Total of QF and Utility Purchases =	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

III. Other Purchases

	Contract Start Date	Contract End Date	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
MSCG - Kingfisher I [1/]	01/01/17	12/31/35	71	71	71	71	71	71	71	71	71	71
MSCG - Kingfisher II [1/]	01/01/17	12/31/35	38	38	38	38	38	38	38	38	38	38
SENA - (Shell)	06/01/14	05/24/23	885	885	885	0	0	0	0	0	0	0
Gulf Solar PPAs [2/]	11/17/14	11/17/40	0	0	0	0	0	0	0	0	0	0
		Other Purchases Subtotal:	**994**	**994**	**994**	**109**	**109**	**109**	**109**	**109**	**109**	**109**
		Total "Non-QF" Purchases =	**994**	**994**	**994**	**109**	**109**	**109**	**109**	**109**	**109**	**109**

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Winter Firm Capacity Purchases Total MW:	**994**	**994**	**994**	**109**	**109**	**109**	**109**	**109**	**109**	**109**

1/ These PPAs are from a variable wind source; however, the PPA supplier has committed to a certain amount of minimum MW per hour which FPL and Gulf treat as firm capacity for resource planning purposes.

2/ These PPAs are non-firm, energy-only contracts due to the unscheduled, intermitent nature of solar resources. For resource planning purposes, a portion of the nameplate rating of the solar facilities has been, and continues to, provide, on average, a non-zero value at the system Summer peak hour.

I.B.4 Gulf - Demand Side Management (DSM)

Gulf has continually explored and implemented cost-effective DSM programs since 1981. These programs include a number of innovative conservation/energy efficiency initiatives. Importantly, Gulf's DSM efforts through 2020 have resulted in a cumulative Summer peak reduction of more than 500 MW at the generator and an estimated cumulative energy savings of approximately 1,079 Gigawatt-Hours (GWh) at the generator. After accounting for Gulf's current 16.25% total reserve margin requirements, Gulf's DSM efforts through 2020 have eliminated the need to construct the equivalent of approximately six (6) new 100 MW generating units. Also, it is important to note that Gulf has achieved these significant DSM accomplishments while minimizing the DSM-based impact on electric rates for all customers by using the Rate Impact Measure (RIM) cost-effectiveness screening calculation approach.

In 2019, the Florida Public Service Commission (FPSC) set DSM Goals for the years 2020 through 2024 for Gulf and the other Florida utilities subject to the Florida Energy Efficiency and Conservation Act (FEECA). These Goals are identical to the Goals set by the FPSC in 2014 for the years 2020 through 2024. In February 2020, Gulf filed for FPSC approval its DSM Plan with which it intends to meet the DSM Goals. In this Site Plan, Gulf assumes that the annual reduction values for Summer MW, Winter MW, and energy (MWh) set forth in the DSM Goals order (Order No. PSC-2019-0509-FOF-EG) will be met as shown in various schedules presented in this Site Plan. For the years 2025 through 2029, for which the FPSC did not establish Goals, it is assumed that DSM will be implemented to achieve the Goals Gulf proposed in its 2019 DSM Goals filing because this level of annual DSM was projected to be cost-effective. Incremental DSM amounts for the year 2030 for Gulf, commensurate with the utility's projected DSM annual additions for 2025 through 2029, have been assumed as well.

I.B.5 Existing Generating Units in Gulf's Original Service Area

Schedule 1 presents the generating capacity in Gulf's original service area as of December 31, 2020.

Schedule 1

Gulf Power Existing Generating Facilities
As of December 31, 2020

(1) Plant Name	(2) Unit No.	(3) Location	(4) Unit Type	(5) Fuel Pri.	(6) Fuel Alt.	(7) Fuel Transport Pri.	(8) Fuel Transport Alt.	(9) Alt. Fuel Days Use	(10) Commercial In-Service Month/Year	(11) Actual/ Expected Retirement Month/Year	(12) Gen.Max. Nameplate KW	(13) Net Capability [1/] Winter MW	(14) Net Capability [1/] Summer MW	(15) Firm Capability Winter MW	(16) Firm Capability Summer MW
Blue Indigo [2/]		Jackson County													
		2/5N/12W : 35,36/6N/12W									74,500	74.5	74.5	0.0	49.4
	1		PV	Solar	Solar	N/A	N/A	--	Mar-20	Unknown	74,500	74.5	74.5	0.0	49.4
Crist		Escambia County													
		25/1N/30W									1,135,250	967	967	967	967
	4		FS	NG	--	PL	--	--	Jul-59	4th Q 2024	93,750	78	78	78	78
	5		FS	NG	--	PL	--	--	Jun-61	4th Q 2026	93,750	78	78	78	78
	6		FS	NG	--	PL	--	--	May-70	Unknown	369,750	315	315	315	315
	7		FS	NG	--	PL	--	--	Aug-73	Unknown	578,000	496	496	496	496
Daniel [(1)]		Jackson County, MS													
		42/5S/6W									548,250	502	502	502	502
	1		FS	C	--	RR	--	--	Sep-77	1st Q 2024	274,125	251	251	251	251
	2		FS	C	--	RR	--	--	Jun-81	1st Q 2024	274,125	251	251	251	251
Lansing Smith		Bay County													
		36/2S/15W									697,950	686	692	686	692
	3		CC	NG	--	PL	--	--	Apr-02	Unknown	656,100	646	660	646	660
	A		CT	LO	--	TK	--	--	May-71	4th Q 2027	41,850	40	32	40	32
Pea Ridge		Santa Rosa County													
		15/1N/29W									14,250	15	12	15	12
	1		CT	NG	--	PL	--	--	May-98	4th Q 2024	4,750	5	4	5	4
	2		CT	NG	--	PL	--	--	May-98	4th Q 2024	4,750	5	4	5	4
	3		CT	NG	--	PL	--	--	May-98	4th Q 2024	4,750	5	4	5	4
Perdido LFG		Escambia County													
											3,200	3	3	3	3
	1		IC	LFG	--	PL	--	--	Oct-10	4th Q 2029	1,600	1.5	1.5	1.5	1.5
	2		IC	LFG	--	PL	--	--	Oct-10	4th Q 2029	1,600	1.5	1.5	1.5	1.5
Scherer [(1)]		Monroe County, GA													
											222,750	215	215	215	215
	3		FS	C	--	RR	--	--	Jan-87	Unknown	222,750	215	215	215	215
Total Nameplate System Generating Capacity as of December 31, 2020 [3/] =												**2,463**	**2,466**	-	-
Total Firm System Generating Capacity as of December 31, 2020 [4/] =												-	-	**2,388**	**2,440**

1/ Unit capabilities shown represent Gulf's portion of Daniel units 1 & 2 (50%) and Scherer Unit 3 (25%).
2/ These projected firm MW values represent the contribution of both non-solar and solar facilities at Summer and Winter Peak.
3/ The Total Nameplate System Generating Capacity value shown includes Gulf-owned firm and non-firm generating capacity.
4/ The Total Firm System Generating Capacity value shown includes only firm generating capacity.

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CHAPTER II

Forecast of Electric Power Demand

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II. Forecast of Electric Power Demand

II.A. Overview of the Load Forecasting Process

On January 1, 2019, Gulf Power became a subsidiary of NextEra Energy, the parent company of FPL. Effective January 1, 2021, Gulf Power was legally merged with FPL. The consolidated load forecasting team developed the forecasts of customers, sales, net energy for load (NEL), and peak demands presented in this 2021 Site Plan. The forecasts presented in this Site Plan were developed using consistent methodologies for both the FPL and Gulf legacy areas. These methodologies were also used to develop the forecasts previously presented in the 2020 Site Plan. The load forecasting team will continue to evaluate and implement appropriate enhancements to the forecasting methodologies for upcoming forecasts.

As previously discussed, FPL and Gulf plan to integrate the two systems into a single electric system, effective mid-2022. In this document, the load forecasts for FPL and Gulf will be presented separately for the year 2021 only. For 2022 through 2030, the load forecast for the single integrated utility will be presented. For purposes of this 2021 Site Plan, the integrated, single electric system will be referred to in this document as FPL. This forecast will reflect the growth of the new integrated system, including reduced peak demand from load diversity.

FPL and Gulf typically develop long-term forecasts of customers, energy sales, and peak loads on an annual basis for each of their systems. The forecasts for FPL and Gulf then were combined to arrive at the forecasts for the single integrated system for the years 2022 and beyond. These new load forecasts are utilized throughout this 2021 Site Plan and are key inputs in the resource planning analyses that led to the integrated resource plan presented in this document.

The following pages describe how the forecasts of customers, energy sales, and peak loads were initially developed separately for FPL and Gulf, and then combined into a single set of forecasts for the integrated system. Similar to previous forecasts, the drivers for both the FPL and Gulf forecasts include household growth, economic conditions, electricity prices, weather, and energy-efficiency codes and standards. Additionally, these forecasts are 50% probability (P50) forecasts. This means there is a 50% probability that actual load will be either higher or lower than the forecasted load.

The projections for population growth, household growth, and other economic variables are obtained from IHS Markit, a leading economic forecasting firm that has been previously used by FPL. Using statistical models, these inputs are quantified in terms of their impact on the future demand for electricity.

Weather is a key factor that affects energy sales and peak demand. The weather variables for use in FPL's and Gulf's forecasting models are as follows:

1. The residential, commercial, and industrial energy models incorporate heating degree hours and/or cooling degree hours. The threshold temperatures differ based on how each customer group responds to temperatures.
2. The Summer peak demand models incorporate maximum and minimum temperatures and/or cooling degree hours on the peak Summer day while the Winter peak demand models incorporate minimum temperatures on the peak Winter day and the buildup of heating degree hours on the day prior to the peak day. Additional details are provided later in this chapter.

FPL's weather variables are based on a composite hourly temperature using temperatures from weather stations across FPL's service area: Miami, Ft. Myers, Daytona Beach, and West Palm Beach. The temperatures for each weather station are weighted based on the energy sales associated with that region. The resulting composite temperatures are then used to derive FPL's cooling degree hours and heating degree hours used in the energy models and the peak day temperatures used in the Summer and Winter peak demand models.

Gulf's weather variables are based on the hourly temperatures from the Pensacola weather station. The Pensacola hourly temperatures are then used to derive Gulf's cooling degree hours and heating degree hours used in the energy models, the peak day cooling degree hours used in the Summer peak demand model, and the temperatures used in the Winter peak demand model. The eight counties in Gulf's service area typically experience similar weather patterns and previous experience has shown that the use of multiple weather stations does not result in significant differences in the reported weather. The Pensacola weather station is used due to the availability of consistent historical data.

II.B. Customer Forecasts

FPL's customer forecasts are developed by class as the factors driving customer growth vary by class. Residential customer growth is driven by households, commercial customer growth is driven by residential customers and recent trends, and industrial customer growth is driven by housing starts and recent trends. Projections of households and housing starts are from IHS

Markit. Total customer growth is projected to grow at an average annual rate of 1.0% during the years 2021 and 2022. The primary driver of customer growth is households.

Gulf's customer forecasts are also developed by class. Residential customer growth is driven by households, commercial customer growth is driven by retail sales and recent trends, and industrial customer growth is driven by recent trends. Total customer growth is projected to grow at an average annual rate of 0.9% during the years 2021 and 2022. The primary driver of customer growth is households.

The customer forecasts for the integrated system for 2022 and beyond are the sum of the class-level customer forecasts for FPL and Gulf, which represent 91.6% and 8.4% of the combined 2022 customers, respectively. Total customer growth is projected to grow at an average annual rate of 1.1% during the forecast period. The primary driver of customer growth is projected increase in population.

II.C. Energy Sales Forecasts

Energy sales forecasts for both FPL and Gulf were developed for the major revenue classes, wholesale energy sales, and losses. Energy adjustments, such as electric vehicles and private solar, were calculated and applied to the class-level energy sales forecasts. These forecasts were then aggregated up to arrive at the net energy for load (NEL) forecast for each company (a bottom-up approach). Econometric models were developed using the statistical software package MetrixND.

The energy sales forecasts presented in this Site Plan were developed using methodologies consistent with those used for the 2020 Site Plan, with routine updates to include additional historical data and minor changes to model specifications.

1. Residential Sales

FPL's residential energy sales forecast was developed using an econometric model. Residential energy sales, expressed as monthly use per customer by billing day, are a function of cooling degree hours, heating degree hours, real per capita income per household, the twelve-month moving average of real electricity price increases over time, energy savings from changes to energy efficiency codes and standards, monthly binary terms, and an autoregressive term. The forecasted energy use per customer per billing day was then multiplied by the projected number of residential customers and projected billing days by month to arrive at the residential billed energy sales. The billed energy sales were then adjusted for unbilled energy to arrive at the calendar month delivered energy sales forecast.

Gulf's residential energy sales forecast was also developed using an econometric model. Monthly use per customer per billing day was estimated using cooling degree hours, heating degree hours, the twelve-month moving average of real electricity price increases over time, energy savings from changes to energy efficiency codes and standards, monthly binary terms, and an autoregressive term. The model output was then multiplied by the projected number of residential customers and projected billing days by month to expand to the total residential class.

The methodologies described above for FPL and Gulf are consistent with those used to develop the forecasts presented in the 2020 Site Plan, with only routine updates to model specifications. Since the 2020 Site Plan, both FPL and Gulf have relied on consistent energy sales forecasting methodologies.

Both FPL's and Gulf's residential energy sales forecasts were adjusted to reflect the anticipated impact of continued adoption of electric vehicles. FPL's residential energy sales forecast was also adjusted to reflect the impact of private solar.

The residential energy sales forecasts for the integrated system for the year 2022 and beyond are the sum of the residential sales forecasts for FPL and Gulf, which represent, respectively, 91.7% and 8.3% of the combined 2022 residential sales. Residential energy sales are projected to grow at an average annual rate of 1.2% during the forecast period.

2. Commercial Sales

Econometric models were also used to develop a commercial sales forecast for FPL. The commercial class is forecast using two separate models based on customer size: small and medium accounts (energy only and demand rates less than 500 kW) and large accounts (demand rates of 500 kW or higher). The commercial sales models utilize the following variables: cooling degree hours, employment, the twelve-month moving average of real electricity price increases over time, monthly binary terms, and an autoregressive term. The model outputs were then multiplied by the projected number of commercial customers associated with each respective model and the projected billing days by month to arrive at the billed energy sales. The billed energy sales were then adjusted for unbilled energy to arrive at the calendar month delivered energy sales forecast. The commercial lighting sales forecast was developed using inputs from FPL's lighting team. These forecasts are then added together to arrive at the total commercial sales forecast.

Econometric models were also used to develop a commercial non-lighting sales forecast for Gulf. The commercial non-lighting sales is forecast using two separate models that are based on customer size: small accounts (less than 25 kW of demand) and large accounts (all other commercial rate schedules excluding lighting rates). The models utilize the following variables: cooling degree hours, heating degree hours, twelve-month moving average of real electricity price increases over time, energy savings from changes to energy efficiency codes and standards, monthly binary terms, and an autoregressive term. The model outputs were then multiplied by the projected number of commercial customers associated with each respective model and the projected billing days by month to arrive at the billed energy sales. The billed energy sales were then adjusted for unbilled energy to arrive at the calendar month delivered energy sales forecast. The commercial lighting sales forecast was developed using inputs from FPL's lighting team.

FPL's commercial energy sales forecast was adjusted to reflect the impact of private solar and the incremental load projected to be added for the forecast period from FPL's economic development riders.

The commercial energy sales forecasts for the integrated system for the years 2022 and beyond are the sum of the commercial sales forecasts for FPL and Gulf, which represent, respectively, 92.8% and 7.2% of the combined 2022 commercial sales. Commercial energy sales are projected to grow at an average annual rate of 0.9% during the forecast period.

3. Industrial Sales

FPL's industrial class sales were forecasted using three separate models based on customer size: small accounts (energy only rates), medium accounts (demand rates less than 500 kW), and large accounts (demands rates 500 kW and above). The small industrial sales model utilizes cooling degree hours, a binary variable, and an autoregressive term. The model output was then multiplied by the projected number of small industrial customers and the projected billing days by month to arrive at the billed energy sales. The medium and large forecasts utilize exponential smoothing models. The industrial lighting sales forecast was developed using inputs from FPL's lighting team. These forecasts were then added together to arrive at the total industrial sales forecast.

Gulf's industrial class sales forecast was developed using an exponential smoothing model for non-lighting rates and inputs from FPL's lighting team for industrial lighting sales. These forecasts were added together to arrive at the total industrial sales forecast.

FPL's industrial energy sales were adjusted for forecasted Commercial/Industrial Service Rider (CISR) sales for new or retained customer loads of 2 MW or greater and meet the criteria outlined in FPL's Rate Schedule CISR-1.

The industrial energy sales forecasts for the integrated system for the years 2022 and beyond are the sum of the industrial sales forecasts for FPL and Gulf, which represent, respectively, 64.5% and 35.5% of the combined 2022 industrial sales. Industrial energy sales are projected to remain mostly flat during the forecast period, only growing at an average annual rate of 0.5%.

4. Railroad and Railways Sales and Street and Highway Sales

The Railroad and Railway class is applicable only to FPL and consists solely of Miami-Dade County's Metrorail system. The railroad and railways sales forecast was developed using a use per customer regression model which included monthly binary variables and an autoregressive term. The output of the use per customer model was multiplied by the number of customers to arrive at the railroad and railways sales forecast.

The Street and Highway sales forecasts for both FPL and Gulf were developed using inputs from FPL's lighting team.

5. Other Public Authority Sales

This class is applicable only to FPL and consists of a sports field rate schedule (which is closed to new customers) and one governmental account. The forecast for this class was developed using an exponential smoothing model.

6. Total Sales to Ultimate Customer

The sales forecasts by revenue class for FPL and Gulf are each summed to produce their respective total sales forecasts.

7. Sales for Resale

Sales for resale (wholesale) customers are comprised of sales to municipalities and/or electric co-operatives. These customers differ from jurisdictional customers in that they are not the ultimate users of the electricity. Instead, they resell this electricity to their own customers.

The load forecast for FPL includes wholesale loads served under full and partial-requirements contracts that provide other utilities all, or a portion of, their load requirements at a level of service equivalent to FPL's own native load customers. There are currently ten customers in this class: Florida Keys Electric Cooperative, Lee County Electric Cooperative, New Smyrna Beach, Wauchula, Homestead, Quincy, Moore Haven, Florida Public Utilities Company, Seminole Electric Cooperative, and Jacksonville Electric Authority.[7]

The load forecast for Gulf also includes a full-requirements wholesale contract that provide another utility all of their load requirement at a level of service equivalent to Gulf's own native load customers. There is currently one customer in this class: Florida Public Utilities Company.

Since May 2011, FPL has provided service to the Florida Keys Electric Cooperative under a long-term, full-requirements contract which continue through 2032. The sales to Florida Keys Electric Cooperative are based on customer-supplied information and historical coincidence factors.

FPL sales to Lee County began in 2010. Lee County has a contract with FPL for the full-requirements of their load, which began in 2014 and that is projected to continue through 2033, with an option to extend the contract through 2053. Forecasted NEL for Lee County is based on customer-supplied information and historical usage trends.

FPL sales to New Smyrna Beach began in February 2014. The contract is projected to continue through December 2021. Under a second contract, additional sales to New Smyrna Beach began in July 2017 and are also projected to continue through December 2021. Under a third contract, sales to New Smyrna again increased beginning in January 2019 and are projected to continue through December 2021.

FPL's sales to Wauchula began in October 2011. The contract is projected to continue through December 2023.

[7] FPL continues to evaluate the possibility of serving the electrical loads of other entities at the time this Site Plan was being prepared. Because these possibilities are still being evaluated, the load forecast presented in this Site Plan does not include these potential loads.

FPL sales to Homestead began in August 2015. The contract is projected to continue through December 2026. Under a separate contract, additional sales to Homestead began in January 2020 and are projected to continue through December 2026.

FPL sales to Quincy began in January 2016. The contract is projected to continue through December 2023.

FPL sales to Moore Haven began in July 2016. The contract is projected to continue through December 2025.

FPL sales to Florida Public Utilities Company began in January 2018. The contract is projected to continue through December 2026.

FPL sales to Seminole Electric Cooperative began in June 2014 and are projected to continue through May 2021.

FPL sales to Jacksonville Electric Authority are expected to begin in January 2022 and continue through December 2041.

Gulf Power sales to Florida Public Utilities Company is projected to continue through December 2026.

II.D. Net Energy for Load (NEL)

The NEL forecasts for the combined system for the years 2022 through 2030 are the sums of the retail energy, wholesale energy, and losses projected for the separate systems. Through the use of the energy efficiency variable, the retail energy sales forecast includes the impacts from major energy efficiency codes and standards, including those associated with the 2005 National Energy Policy Act, the 2007 Energy Independence and Security Act, and savings resulting from the use of compact fluorescent bulbs (CFLs) and LEDs. The estimated impact from these codes and standards includes engineering estimates and any resulting behavioral changes. The impact of these savings began in 2005, and, from that year forward, their cumulative impact on NEL for the integrated system is projected to be a reduction of 11,108 GWh by 2030. This represents an almost 8% reduction in what the forecasted NEL for 2030 would have been absent these codes and standards. From the end of 2020, the incremental reduction through 2030 is expected to be 3,850 GWh. The estimated impacts from codes and standards are based on the energy efficiency variables in the respective energy models.

Collectively, this represents an extraordinary amount of energy efficiency on the combined system: energy efficiency that is not funded through ECCR rates paid by the general body of customers.

Adjustments were made to the NEL forecast to address the impact of incremental private (customer owned) solar projected to be added during the forecast period. The impact of private solar on the NEL forecast for the integrated system is projected to be a reduction of approximately 2,000 GWh by 2030. Adjustments also were made for the additional load projected to be added due to the incremental adoption of new plug-in electric vehicles. This results in an increase on the integrated system of approximately 2,760 GWh by 2030. The forecast is also adjusted for the incremental load projected to be added from FPL's economic development riders forecast. This incremental load is projected to be approximately 461 GWh by 2030.

The combined NEL impacts of the adjustments for private solar, electric vehicle, and economic development tariffs is an incremental increase of approximately 1,200 GWh by the end of the Site Plan forecast period, compared to the incremental increase of approximately 600 GWh in the prior Site Plan. The higher incremental increase in this Site Plan is due to greater load additions from plug-in electric vehicles and economic development riders, offset by greater reductions from private solar.

II.E. System Peak Forecasts

The rate of absolute growth in peak load in both the current FPL and Gulf service areas has been a function of the size of the customer base, weather, projected economic conditions, and energy-efficiency codes and standards. The peak forecast models capture these behavioral relationships. The peak forecast also reflects changes in load expected from private solar and the expected impacts from plug-in electric vehicles. Additionally, peak forecasts also reflect the impacts of economic development riders, and wholesale requirements contracts.

The monthly peak load for the integrated system from 2022 and beyond is the highest hourly demand from the forecasted system hourly load forecast, which was developed by summing the forecasted system hourly loads for FPL and Gulf, after adjusting Gulf's load to reflect Eastern time zone. The integrated system peak load forecast reflects the growth in peak load for FPL and Gulf along with the lower peak demand for the integrated system that results from load diversity.

When viewed as separate systems or regions, the loads peak at different times which results in load diversity, primarily due to being located in different time zones. The benefit of load diversity is that the combined system peak demand is lower than the sum of standalone FPL and Gulf peak demands. By 2030, the load diversity results in a projected reduction to the integrated system peaks of 162 MW in the Summer and 295 MW in the Winter. This represents potential cost savings for customers because fewer future resources will need to be added to meet the lower peak load for the integrated system.

The savings from energy-efficiency codes and standards incorporated into the peak forecast include the impacts from the 2005 National Energy Policy Act, the 2007 Energy Independence and Security Act, and the use of CFLs and LEDs. The impact from these energy-efficiency standards began in 2005, and their cumulative reduction, from that year, on the integrated Summer peak is projected to reach approximately 5,332 MW by 2030. This reduction includes engineering estimates and any resulting behavioral changes.

For the integrated system, the cumulative 2030 impacts from these energy-efficiency codes and standards are projected to effectively reduce the Summer peak by approximately 17% and the Winter peak by approximately 4% for that year. From the end of 2020 through 2030, the projected incremental impacts from these energy-efficiency codes and standards are a reduction on the Summer peak of approximately 1,480 MW and a reduction on the Winter peak of approximately 410 MW.

As noted previously, the peak forecast for FPL was also adjusted for the additional load estimated from private solar, plug-in electric vehicles, and FPL's economic development riders. The impact from plug-in electric vehicles is projected to be an increase on the integrated system of approximately 933 MW[8] in the Summer and 333 MW in the Winter by the end of 2030. The impact on the integrated system from FPL's economic development riders is projected to be an increase of approximately 56 MW in the Summer peak and 57 MW in the Winter peak. The incremental impact of private solar on the integrated system is an expected decrease of approximately 437 MW in the Summer and 56 MW in the Winter by the end of 2030.

The forecasting methodology for Summer, Winter, and monthly system peaks is discussed below.

[8] Excluding plug-in electric vehicle impacts, Summer peak demand growth averages approximately 330 MW per year. The 933 MW impact from EVs is roughly equivalent to 3 years of Summer peak demand growth without EVs.

The forecasted values for the Summer and Winter peak loads for the year 2021 are presented separately at the end of this chapter in Schedules 3.1 and 3.2, and in Chapter III in Schedules 7.1 and 7.2. For the years 2022 through 2030, only forecasted values for the integrated system are presented on these schedules.

1. System Summer Peak

The Summer peak forecast for FPL is developed using an econometric model based on the Summer peak contribution per customer. The variables included in the model are Florida employment, the maximum temperature on the day of the peak, the minimum temperature on the peak day, a variable for energy efficiency codes and standards, a binary variable for year 2019, and an autoregressive term. The model output is multiplied by the total number of customers to arrive at the projected Summer peak demand. This product is then adjusted to account for the expected changes in loads resulting from private solar, plug-in electric vehicles, FPL's economic development riders, and wholesale requirements contracts to derive FPL's system Summer peak.

The Summer peak forecast for Gulf is also developed using an econometric model based on the Summer peak contribution per customer. The variables included in the model are the cooling degree hours for the peak day, a variable for energy efficiency codes and standards, employment-weighted real per capita income, and a moving average term. The model output is multiplied by the total number of customers to arrive at the projected Summer peak demand. This product is then adjusted to account for the expected changes in loads resulting from private solar and plug-in electric vehicles.

The Summer peak demand forecast for the integrated system for 2022-on is the highest hourly demand during the Summer months from the integrated system hourly forecast which was developed by summing the forecasted system hourly loads for FPL and Gulf, then accounting for diversity in load between the two areas. This approach ensures the Summer peak demand forecast for the integrated system reflects the growth in Summer peak load for FPL and Gulf along with the previously mentioned Summer peak demand reduction associated with load diversity. The Summer peak demand for the integrated system is projected to occur in August.

2. System Winter Peak

The Winter peak forecast for FPL is developed using an econometric model based on the Winter peak contribution per customer. The variables included in the model are Florida employment, the minimum temperature on the peak day, a weather-related variable capturing cold buildup, binary variables for 2008, 2020, and to account for the lack of a Winter post-2011. The model output is multiplied by the total number of customers to arrive at the projected Winter peak demand. The projection is then adjusted for the expected changes in loads resulting from private solar, plug-in electric vehicles, FPL's economic development riders, and wholesale requirement contracts.

The Winter peak forecast for Gulf was developed using an econometric model based on the Winter peak. The variables included in the model are the minimum temperature on the peak day, number of customers, a variable for energy efficiency codes and standards, a binary variable for 2017, and two moving average terms. The model output is then adjusted for the expected changes in loads resulting from private solar and plug-in electric vehicles.

The Winter peak demand forecast for the integrated system is the highest hourly demand during the Winter months from the integrated system hourly forecast. This approach ensures the integrated Winter peak demand forecast reflects the growth in the Winter peak load for FPL and Gulf along with the previously mentioned Winter peak demand reduction associated with load diversity. The Winter peak demand for the integrated system is projected to occur in January.

3. Monthly Peak Forecasts

The forecasting process for FPL's monthly peaks begins with two assumptions. First, the forecasted annual Summer peak is assumed to occur in the month of August, which historically has accounted for more annual Summer peaks than any other month. Second, the forecasted annual Winter peak is assumed to occur in the month of January, which historically has accounted for more annual Winter peaks than any other month. Then the remaining monthly peaks are forecasted based on the historical relationship between the monthly peaks and the annual Summer peak.

The forecasting process for Gulf's monthly peaks begins with two assumptions. First, the forecasted annual Summer peak is assumed to occur in the month of July, which historically has accounted for more annual Summer peaks than any other month. Second, the forecasted annual Winter peak is assumed to occur in the month of January, which historically has accounted for more annual Winter peaks than any other month. Then the remaining monthly peaks are forecasted based on the historical relationship between the monthly peaks and the annual Summer peak.

The monthly peak demand forecast for the integrated system for 2022 and beyond is the highest hourly demand by month from the integrated system hourly forecast. This approach ensures the integrated monthly peak demand forecast reflects the growth in monthly peaks for FPL and Gulf along with the monthly peak demand reductions associated with load diversity.

II.F. Hourly Load Forecast

Forecasted values for system hourly load on the FPL system for the period 2021 through 2030 were developed using a system load forecasting program named MetrixLT. This model uses years of historical FPL hourly system load data to develop load shapes. The model generates a projection of hourly load values based on these load shapes and the forecast of FPL's monthly peaks and energy.

Forecasted values for system hourly load on the Gulf system for the period 2021 to 2030 were also developed using MetrixLT, which uses historical Gulf hourly system load data to develop load shapes. The model generates a projection of hourly load values based on these load shapes and the forecast of Gulf's monthly peaks and energies.

The forecasted values for system hourly load on the integrated system for 2022 and beyond were the summation of the FPL and Gulf hourly load for the period. The Gulf system hourly load was adjusted from Central to Eastern time zone to be consistent with FPL's system hourly load.

II.G. Uncertainty

Uncertainty is inherent in the load forecasting process. This uncertainty can result from a number of factors, including unexpected changes in consumer behavior, structural shifts in the economy, economic/business cycles, and fluctuating weather conditions. Large weather fluctuations, in particular, can result in significant deviations between actual and forecasted peak demands. The load forecast is based on average expected or normal weather conditions. An extreme 90% probability (P90) cold weather event can add an additional 3,100 MW or more to the Winter peak, and an extreme P90 hot weather event can add an additional 750 MW to the Summer peak.

In order to address uncertainty in the forecast of aggregate peak demand and NEL, the assumptions underlying the forecasts are first evaluated. Then a series of steps are taken to evaluate the input variables, including comparing projections from different sources, identifying outliers in the series, and assessing the series' consistency with past forecasts. Additional factors that may affect the input variables are reviewed as needed.

Uncertainty is also addressed in the modeling process. Econometric models generally are used to forecast peak demands and energies. During the modeling process, relevant statistics such as (goodness of fit, P-values, mean absolute percentage error (MAPE), etc.) are scrutinized to ensure the models adequately explain historical variation. Once a forecast is developed, it is compared with past forecasts. Deviations from past forecasts are examined in light of changes in input assumptions to ensure that the drivers underlying the forecast are thoroughly understood. Finally, forecasts of aggregate peak demand and NEL are compared with the actual values as they become available. An ongoing process of variance analyses is performed. To the extent the variance analyses identify large unexplained deviations between the forecast and actual values, revisions to the econometric model may be considered. Finally, the forecasting group regularly engages with forecasting professionals from other electric utilities to share best practices and changes to existing processes may be considered.

The inherent uncertainty in load forecasting is addressed in different ways in regard to the overall resource planning and operational planning work. With respect to resource planning work, the utilization of a 20% total reserve margin (TRM) criterion, a Loss-of-Load-Probability (LOLP) criterion of 0.1, and a 10% generation-only reserve margin (GRM) criterion are designed to maintain reliable electric service for customers in light of forecasting and other uncertainties. In addition, banded forecasts of the projected Summer peak and NEL may be produced based on an analyses of past forecasting variances. A banded forecast for the projected Summer and Winter peak days may also be developed based on historical weather variations. These bands are then used to develop similar bands for the monthly peaks. A P80 monthly peak forecast is typically provided to FPL's System Operations group for operational planning purposes.

II.H. DSM

FPL and Gulf assume that the effects of its DSM energy-efficiency programs through August 2020 are embedded in the actual usage data for forecasting purposes. In addition, the utilities account for the following projected DSM MW and MWh impacts as "line item reductions" to the forecasts as part of the IRP process: 1) the impacts of incremental energy efficiency that the utilities have implemented after the 2020 Summer peaks have occurred, 2) projected impacts from incremental energy efficiency and load management that FPL plans to implement in 2021 through 2024 in response to the DSM Goals that were set for each utility by the FPSC in the 4th Quarter of 2019 for the 2020 – 2024 time period, 3) the inclusion of additional recently projected cost-effective DSM for the years 2025 through 2030, and 4) the impacts from previous signups in FPL's load management programs that will continue through 2030. After making these adjustments to the load forecasted load values, the resulting "firm" load forecast as shown in Chapter III in Schedules 7.1 and 7.2., is then used in the IRP work.

Schedule 2.1: FPL
History of Energy Consumption
And Number of Customers by Customer Class

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
			Rural & Residential			Commercial		
Year	Population	Members per Household	GWh	Average No. of Customers	Average kWh Consumption Per Customer	GWh	Average No. of Customers	Average kWh Consumption Per Customer
2011	8,981,155	2.23	54,642	4,026,760	13,570	45,052	508,005	88,685
2012	9,097,904	2.25	53,434	4,052,174	13,187	45,220	511,887	88,340
2013	9,221,477	2.25	53,930	4,097,172	13,163	45,341	516,500	87,786
2014	9,358,961	2.24	55,202	4,169,028	13,241	45,684	525,591	86,919
2015	9,519,694	2.25	58,846	4,227,425	13,920	47,369	532,731	88,916
2016	9,689,339	2.26	58,687	4,284,159	13,699	47,355	540,356	87,637
2017	9,826,767	2.27	58,188	4,338,224	13,413	47,151	547,908	86,056
2018	9,946,681	2.26	59,096	4,391,832	13,456	47,394	553,562	85,616
2019	10,120,656	2.26	60,325	4,479,356	13,467	48,078	565,622	85,000
2020	10,232,403	2.25	63,743	4,548,301	14,015	46,161	571,587	80,759

Historical Values (2011 - 2020):

Col. (2) represents population only in the area served by FPL.

Col. (4) and Col. (7) represent actual energy sales including the impacts of existing conservation.
These values are at the meter.

Col. (5) and Col. (8) represent the annual average of the twelve monthly values.

Schedule 2.1: Gulf
History of Energy Consumption
And Number of Customers by Customer Class

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
			Rural & Residential			Commercial		
Year	Population	Members per Household	GWh	Average No. of Customers	Average kWh Consumption Per Customer	GWh	Average No. of Customers	Average kWh Consumption Per Customer
2011	783,086	2.07	5,305	378,157	14,028	3,911	53,409	73,235
2012	796,615	2.10	5,054	379,897	13,303	3,859	53,706	71,846
2013	807,336	2.11	5,089	382,599	13,301	3,810	54,261	70,215
2014	816,658	2.11	5,362	386,765	13,865	3,838	54,749	70,104
2015	827,402	2.11	5,365	391,465	13,705	3,898	55,234	70,566
2016	837,653	2.11	5,358	396,408	13,515	3,869	55,876	69,236
2017	848,315	2.11	5,229	401,793	13,015	3,814	56,428	67,583
2018	860,462	2.11	5,519	406,949	13,563	3,829	56,892	67,298
2019	870,216	2.14	5,520	407,436	13,548	3,775	56,590	66,710
2020	878,190	2.13	5,454	412,526	13,222	3,524	57,274	61,522

Historical Values (2011 - 2020):

Col. (2) includes the Pensacola, Crestview, and Panama City MSAs, which are generally representative
of the area served by Gulf.

Col. (4) and Col. (7) represent actual energy sales including the impacts of existing conservation.
These values are at the meter.

Col. (5) and Col. (8) represent the annual average of the twelve monthly values.

Schedule 2.1
Forecast of Energy Consumption
And Number of Customers by Customer Class

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
			Rural & Residential			Commercial		
Year	Population	Members per Household	GWh	Average No. of Customers	Average kWh Consumption Per Customer	GWh	Average No. of Customers	Average kWh Consumption Per Customer
FPL								
2021	10,345,411	2.25	60,010	4,594,396	13,062	47,364	576,415	82,170
Gulf								
2021	885,783	2.13	5,435	416,314	13,054	3,686	57,549	64,055
Integrated FPL and Gulf								
2022	11,354,103	2.24	65,421	5,057,606	12,935	51,488	640,371	80,404
2023	11,477,158	2.24	65,688	5,117,117	12,844	51,996	648,333	80,199
2024	11,600,925	2.24	66,154	5,179,421	12,799	52,552	656,481	80,050
2025	11,724,498	2.24	66,775	5,239,103	12,790	52,988	664,254	79,770
2026	11,847,341	2.24	67,369	5,297,595	12,767	53,334	671,478	79,428
2027	11,970,241	2.23	68,239	5,357,225	12,792	53,697	678,569	79,132
2028	12,092,784	2.23	69,336	5,417,530	12,857	54,060	685,752	78,833
2029	12,215,401	2.23	70,533	5,477,700	12,946	54,401	692,967	78,504
2030	12,338,672	2.23	71,893	5,537,659	13,049	54,685	700,185	78,101

Projected Values (2021 - 2030):

Col. (2) represents population in the area served by FPL and Gulf.

Col. (4) and Col. (7) represent forecasted energy sales including the impact of incremental conservation. These values are at the meter.

Col. (5) and Col. (8) represent the annual average of the twelve monthly values.

Schedule 2.2: FPL
History of Energy Consumption
And Number of Customers by Customer Class

(1)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Industrial			Railroads	Street &	Sales to	Sales to
		Average	Average kWh	&	Highway	Public	Ultimate
		No. of	Consumption	Railways	Lighting	Authorities	Consumers
Year	GWh	Customers	Per Customer	GWh	GWh	GWh	GWh
2011	3,086	8,691	355,104	82	437	27	103,327
2012	3,024	8,743	345,871	81	441	25	102,226
2013	2,956	9,541	309,772	88	442	28	102,784
2014	2,941	10,415	282,398	91	446	24	104,389
2015	3,042	11,318	268,799	92	448	23	109,820
2016	3,059	11,770	259,853	92	447	23	109,663
2017	2,961	11,654	254,103	83	446	41	108,871
2018	3,013	11,601	259,728	80	447	23	110,053
2019	2,994	11,799	253,759	82	428	23	111,929
2020	3,119	11,999	259,969	71	417	20	113,531

Historical Values (2011 - 2020):

Col. (16) represents actual energy sales including the impacts of existing conservation. These values are at the meter.

Col. (11) represents the annual average of the twelve monthly values.

Col. (16) = Schedule 2.1 Col. (4) + Schedule 2.1 Col. (7) + Col. (10) + Col. (13) + Col. (14) + Col. (15).

Schedule 2.2: Gulf
History of Energy Consumption
And Number of Customers by Customer Class

(1)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Industrial			Railroads	Street &	Sales to	Sales to
		Average	Average kWh	&	Highway	Public	Ultimate
		No. of	Consumption	Railways	Lighting	Authorities	Consumers
Year	GWh	Customers	Per Customer	GWh	GWh	GWh	GWh
2011	1,799	273	6,586,591	0	25	0	11,040
2012	1,725	267	6,453,071	0	25	0	10,663
2013	1,700	258	6,581,320	0	21	0	10,620
2014	1,849	258	7,165,343	0	25	0	11,075
2015	1,798	249	7,235,499	0	25	0	11,086
2016	1,830	247	7,402,625	0	25	0	11,082
2017	1,740	255	6,815,486	0	26	0	10,809
2018	1,757	253	6,931,497	0	28	0	11,132
2019	1,756	250	7,026,958	0	28	0	11,079
2020	1,630	245	6,655,757	0	28	0	10,635

Historical Values (2011 - 2020):

Col. (16) represents actual energy sales including the impacts of existing conservation. These values are at the meter.

Col. (11) represents the annual average of the twelve monthly values.

Col. (16) = Schedule 2.1 Col. (4) + Schedule 2.1 Col. (7) + Col. (10) + Col. (13) + Col. (14) + Col. (15).

Schedule 2.2
Forecast of Energy Consumption
And Number of Customers by Customer Class

(1)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Industrial			Railroads & Railways	Street & Highway Lighting	Sales to Public Authorities	Sales to Ultimate Consumers
Year	GWh	Average No. of Customers	Average kWh Consumption Per Customer	GWh	GWh	GWh	GWh
			FPL				
2021	3,122	12,692	245,941	84	375	20	110,975
			Gulf				
2021	1,703	245	6,949,006	0	23	0	10,846
			Integrated FPL and Gulf				
2022	4,858	13,115	370,383	85	362	20	122,233
2023	5,006	13,194	379,399	85	337	20	123,131
2024	5,007	13,286	376,840	85	319	20	124,136
2025	5,060	13,387	377,998	85	312	20	125,240
2026	5,061	13,450	376,268	85	303	20	126,172
2027	5,060	13,405	377,506	85	303	20	127,404
2028	5,060	13,319	379,907	85	303	20	128,864
2029	5,059	13,253	381,759	85	303	20	130,401
2030	5,059	13,209	383,000	85	303	20	132,045

Projected Values (2021 - 2030):

Col. (10) and Col.(15) represent forecasted energy sales including the impact of incremental conservation. These values are at the meter.

Col. (11) represents the annual average of the twelve monthly values.

Col. (16) = Schedule 2.1 Col. (4) + Schedule 2.1 Col. (7) + Col. (10) + Col. (13) + Col. (14) + Col. (15).

Schedule 2.3: FPL
History of Energy Consumption
And Number of Customers by Customer Class

(1)	(17)	(18)	(19)	(20)	(21)
Year	Sales for Resale GWh	Utility Use & Losses GWh	Net Energy For Load GWh	Average No. of Other Customers	Total Average Number of Customers
2011	2,176	6,950	112,454	3,596	4,547,051
2012	2,237	6,403	110,866	3,645	4,576,449
2013	2,158	6,713	111,655	3,722	4,626,934
2014	5,375	6,204	115,968	3,795	4,708,829
2015	6,610	6,326	122,756	3,907	4,775,382
2016	6,623	5,334	121,619	3,994	4,840,279
2017	6,406	5,468	120,745	4,100	4,901,886
2018	6,790	5,604	122,447	4,334	4,961,330
2019	7,315	5,924	125,168	4,749	5,061,525
2020	8,210	5,777	127,519	5,108	5,136,995

Historical Values (2011 - 2020):

Col. (19) represents actual energy sales including the impacts of existing conservation.

Col. (19) = Schedule 2.2 Col. (16) + Col. (17) + Col. (18). Historical NEL includes the impacts of existing conservation and agrees to Col. (5) on schedule 3.3. Historical GWH, prior to 2011, are based on a fiscal year beginning 12/29 and ending 12/28. The 2011 value is based on 12/29/10 to 12/31/11. The 2012-2019 values are based on calendar year.

Col. (20) represents the annual average of the twelve monthly values.

Col. (21) = Schedule 2.1 Col. (5) + Schedule 2.1 Col. (8) + Schedule 2.2 Col. (11) + Col. (20).

Schedule 2.3: Gulf
History of Energy Consumption
And Number of Customers by Customer Class

(1)	(17)	(18)	(19)	(20)	(21)
Year	Sales for Resale GWh	Utility Use & Losses GWh	Net Energy For Load GWh	Average No. of Other Customers	Total Average Number of Customers
2011	382	663	12,086	564	432,403
2012	339	597	11,598	572	434,441
2013	330	602	11,552	579	437,698
2014	332	629	12,037	598	442,370
2015	330	580	11,996	610	447,557
2016	331	618	12,030	609	453,140
2017	318	588	11,715	574	459,050
2018	302	623	12,057	589	464,682
2019	257	661	11,997	608	464,884
2020	292	736	11,664	635	470,680

Historical Values (2011 - 2020):

Col. (19) represents actual energy sales including the impacts of existing conservation.

Col. (19) = Schedule 2.2 Col. (16) + Col. (17) + Col. (18). Historical NEL includes the impacts of existing conservation and agrees to Col. (5) on schedule 3.3.

Col. (20) represents the annual average of the twelve monthly values.

Col. (21) = Schedule 2.1 Col. (5) + Schedule 2.1 Col. (8) + Schedule 2.2 Col. (11) + Col. (20).

Schedule 2.3
Forecast of Energy Consumption
And Number of Customers by Customer Class

(1)	(17)	(18)	(19)	(20)	(21)
Year	Sales for Resale GWh	Utility Use & Losses GWh	Net Energy For Load GWh	Average No. of Other Customers	Total Average Number of Customers
FPL					
2021	6,740	5,324	123,038	5,439	5,188,943
Gulf					
2021	288	619	11,754	633	474,741
Integrated FPL and Gulf					
2022	7,130	6,216	135,579	6,442	5,717,534
2023	7,281	6,174	136,586	6,814	5,785,456
2024	7,195	6,172	137,503	7,184	5,856,372
2025	7,265	6,213	138,719	7,556	5,924,300
2026	7,323	6,257	139,751	7,725	5,990,248
2027	6,943	6,311	140,659	7,721	6,056,920
2028	7,061	6,400	142,324	7,721	6,124,321
2029	7,084	6,473	143,958	7,721	6,191,640
2030	7,209	6,563	145,816	7,721	6,258,775

Projected Values (2021 - 2030):

Col. (19) represents forecasted energy sales including the impact of incremental conservation and agrees to Col. (5) on Schedule 3.3.

Col. (19) = Schedule 2.2 Col. (16) + Col. (17) + Col. (18).

Col. (20) represents the annual average of the twelve monthly values.

Col. (21) = Schedule 2.1 Col. (5) + Schedule 2.1 Col. (8) + Schedule 2.2 Col. (11) + Col. (20).

Schedule 3.1: FPL
History of Summer Peak Demand (MW)

(1) Year	(2) Total	(3) Wholesale	(4) Retail	(5) Interruptible	(6) Res. Load Management	(7) Residential Conservation	(8) C/I Load Management	(9) C/I Conservation	(10) Net Firm Demand
2011	21,619	427	21,192	0	1,000	1,281	821	781	19,798
2012	21,440	431	21,009	0	1,013	1,351	833	810	19,594
2013	21,576	396	21,180	0	1,025	1,417	833	839	19,718
2014	22,935	1,155	21,780	0	1,010	1,494	843	866	21,082
2015	22,959	1,303	21,656	0	878	1,523	826	873	21,255
2016	23,858	1,367	22,491	0	882	1,548	836	888	22,140
2017	23,373	1,393	21,980	0	910	1,560	825	903	21,639
2018	23,217	1,338	21,879	0	866	1,571	866	916	21,485
2019	24,241	1,292	22,949	0	852	1,579	879	926	22,510
2020	24,499	1,530	22,969	0	845	1,589	887	940	22,767

Historical Values (2011 - 2020):

Col. (2) and Col. (3) are actual values for historical Summer peaks. As such, they incorporate the effects of conservation (Col. 7 & Col. 9) and may incorporate the effects of load control if load control was operated on these peak days. Col. (2) represents the actual Net Firm Demand.

Col. (5) through Col. (9) represent actual DSM capabilities and represent annual (12-month) values.

Col. (6) values for 2015-on reflect a hardware communications issue identified in 2015 that was subsequently resolved. A number of participating customers did not respond to FPL's efforts to reach them or refused access to correct the equipment problem at their home. As a result, these customers were removed from the program.

Col. (10) represents a hypothetical "Net Firm Demand" as if the load control values had definitely been exercised on the peak.
Col. (10) is derived by the formula: Col. (10) = Col. (2) - Col.(6) + Col. (8).

FPL's Summer Peak load in 2020 occurred in June.

Schedule 3.1: Gulf
History of Summer Peak Demand (MW)

(1) Year	(2) Total	(3) Wholesale	(4) Retail	(5) Interruptible	(6) Res. Load Management	(7) Residential Conservation	(8) C/I Load Management	(9) C/I Conservation	(10) Net Firm Demand
2011	2,535	89	2,446	0	0	186	0	198	2,535
2012	2,351	76	2,275	0	0	206	0	212	2,351
2013	2,362	74	2,288	0	0	229	0	220	2,362
2014	2,437	75	2,362	0	0	243	0	224	2,437
2015	2,495	78	2,417	0	0	256	0	231	2,495
2016	2,508	76	2,432	0	0	261	0	231	2,508
2017	2,434	74	2,360	0	0	266	0	232	2,434
2018	2,491	80	2,411	0	0	268	0	233	2,491
2019	2,472	75	2,397	0	0	270	0	234	2,472
2020	2,410	65	2,345	0	0	272	0	234	2,410

Historical Values (2011 - 2020):

Col. (2) and Col. (3) are actual values for historical Summer peaks and include the effects of conservation (Col. 7 & Col. 9).

Col. (4) represents "Retail Demand" and is derived by the formula: Col. (2) - Col. (3).

Col. (10) is derived by the formula Col. (10) = Col. (2) - Col. (6) - Col. (8).

Schedule 3.1
Forecast of Summer Peak Demand (MW)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
August of Year	Total	Wholesale	Retail	Interruptible	Res. Load Management*	Residential Conservation	C/I Load Management*	C/I Conservation	Net Firm Demand
					FPL				
2021	24,620	1,368	23,252	0	857	14	934	17	22,799
					Gulf				
2021	2,462	61	2,401	0	0	5	0	1	2,455
					Integrated FPL and Gulf				
2022	27,277	1,582	25,695	0	867	39	945	35	25,392
2023	27,771	1,606	26,166	0	874	60	956	54	25,828
2024	28,278	1,599	26,680	0	885	82	966	73	26,272
2025	28,675	1,605	27,070	0	904	89	977	80	26,625
2026	29,051	1,626	27,425	0	927	89	988	80	26,967
2027	29,340	1,558	27,781	0	950	89	999	80	27,221
2028	29,721	1,582	28,139	0	973	89	1,011	80	27,568
2029	30,233	1,605	28,628	0	996	89	1,022	80	28,047
2030	30,832	1,631	29,201	0	1,019	89	1,033	80	28,612

Projected Values (2021 - 2030):

Col. (2) - Col. (4) represent forecasted peak and do not include incremental conservation, cumulative load management, or incremental load management.

Col. (5) through Col. (9) represent cumulative load management, incremental conservation, and load management.
All values are projected August values.

Col. (8) represents FPL's Business On Call, CDR, CILC, and curtailable programs/rates.

Col. (10) represents a "Net Firm Demand" which accounts for all of the incremental conservation and assumes all of the load control is implemented on the peak. Col. (10) is derived by the formula: Col. (10) = Col. (2) - Col. (5) - Col. (6) - Col. (7) - Col. (8) - Col. (9).

* Res. Load Management and C/I Load Management include Lee County and FKEC whose loads are served by FPL.

Schedule 3.2: FPL
History of Winter Peak Demand (MW)

(1) Year	(2) Total	(3) Firm Wholesale	(4) Retail	(5) Interruptible	(6) Res. Load Management	(7) Residential Conservation	(8) C/I Load Management	(9) C/I Conservation	(10) Net Firm Demand
2011	21,126	383	20,743	0	903	717	723	303	19,501
2012	17,934	382	17,552	0	856	755	722	314	16,356
2013	15,931	348	15,583	0	843	781	567	326	14,521
2014	17,500	890	16,610	0	828	805	590	337	16,083
2015	19,718	1,329	18,389	0	822	835	551	346	18,345
2016	17,031	1,087	15,944	0	742	858	570	352	15,719
2017	17,172	1,098	16,074	0	759	861	577	364	15,836
2018	19,109	1,262	17,847	0	750	864	588	369	17,771
2019	16,795	1,432	15,363	0	706	867	613	379	15,476
2020	17,514	1,243	16,271	0	702	870	614	390	16,197

Historical Values (2011 - 2020):

Col. (2) and Col. (3) are actual values for historical Winter peaks. As such, they incorporate the effects of conservation (Col. 7 & Col. 9) and may incorporate the effects of load control if load control was operated on these peak days. Col. (2) represents the actual Net Firm Demand. For year 2011, the actual winter peak occurred in December of 2010.

Col. (5) through Col. (9) represent actual DSM capabilities and represent annual (12-month) values.

Col.(6) values for 2015-on reflect a hardware communications issue identified in 2015 that was subsequently resolved. A number of participating customers did not respond to FPL's efforts to reach them or refused access to correct the equipment problem at their home. As a result, these customers were removed from the program.

Col. (10) represents a hypothetical "Net Firm Demand" as if the load control values had definitely been exercised on the peak. Col. (10) is derived by the formula: Col. (10) = Col. (2) - Col.(6) + Col. (8).

Schedule 3.2: Gulf
History of Winter Peak Demand (MW)

(1) Year	(2) Total	(3) Firm Wholesale	(4) Retail	(5) Interruptible	(6) Res. Load Management	(7) Residential Conservation	(8) C/I Load Management	(9) C/I Conservation	(10) Net Firm Demand
2011	2,495	89	2,406	0	0	297	0	157	2,495
2012	2,139	70	2,069	0	0	317	0	165	2,139
2013	1,766	90	1,676	0	0	341	0	169	1,766
2014	2,694	85	2,609	0	0	356	0	172	2,694
2015	2,492	74	2,418	0	0	369	0	176	2,492
2016	2,043	80	1,963	0	0	374	0	176	2,043
2017	2,211	89	2,122	0	0	377	0	177	2,211
2018	2,809	70	2,739	0	0	379	0	178	2,809
2019	2,066	66	2,000	0	0	381	0	178	2,066
2020	2,129	69	2,060	0	0	382	0	178	2,129

Historical Values (2011 - 2020):

Col. (2) and Col. (3) are actual values for historical Winter peaks and include the effects of conservation (Col. 7 & Col. 9).

Col. (4) represents "Retail Demand" and is derived by the formula: Col. (2) - Col. (3).

Col. (10) is derived by the formula Col. (10) = Col. (2) - Col. (6) - Col. (8).

Schedule 3.2
Forecast of Winter Peak Demand (MW)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
January of Year	Total	Firm Wholesale	Retail	Interruptible	Res. Load Management*	Residential Conservation	C/I Load Management*	C/I Conservation	Net Firm Demand
					FPL				
2021	20,061	1,214	18,847	0	711	2	651	5	18,692
					Gulf				
2021	2,439	64	2,375	0	0	0	0	0	2,438
					Integrated FPL and Gulf				
2022	22,461	1,236	21,225	0	723	9	658	17	21,055
2023	22,869	1,277	21,592	0	734	16	664	29	21,426
2024	23,287	1,310	21,976	0	744	24	671	42	21,805
2025	23,624	1,313	22,311	0	763	33	677	54	22,098
2026	23,957	1,347	22,610	0	787	33	682	54	22,401
2027	24,199	1,296	22,903	0	811	33	687	54	22,614
2028	24,552	1,336	23,216	0	835	33	693	54	22,938
2029	24,916	1,378	23,537	0	859	33	698	54	23,272
2030	25,289	1,422	23,866	0	883	33	703	54	23,615

Projected Values (2021 - 2030):

Col. (2) - Col. (4) represent forecasted peak and do not include incremental conservation, cumulative load management, or incremental load management.

Col. (5) through Col. (9) represent cumulative load management, incremental conservation, and load management.
All values are projected January values.

Col. (8) represents FPL's Business On Call, CDR, CILC, and curtailable programs/rates.

Col. (10) represents a "Net Firm Demand" which accounts for all of the incremental conservation and assumes all of the load control is implemented on the peak. Col. (10) is derived by the formula: Col. (10) = Col. (2) - Col. (5) - Col. (6) - Col. (7) - Col. (8) - Col. (9).

* Res. Load Management and C/I Load Management include Lee County and FKEC whose loads are served by FPL.

Schedule 3.3: FPL
History of Annual Net Energy for Load (GWh)
(All values are "at the generator" values except for Col (8))

(1) Year	(2) Net Energy For Load without DSM GWh	(3) Residential Conservation GWh	(4) C/I Conservation GWh	(5) Actual Net Energy For Load GWh	(6) Sales for Resale GWh	(7) Utility Use & Losses GWh	(8) Actual Total Retail Sales (GWh)	(9) Load Factor(%)
2011	117,460	2,683	2,324	112,454	2,176	6,950	103,327	59.4%
2012	116,083	2,823	2,394	110,866	2,237	6,403	102,226	58.9%
2013	117,087	2,962	2,469	111,655	2,158	6,713	102,784	59.1%
2014	121,621	3,125	2,529	115,968	5,375	6,204	104,389	57.7%
2015	128,555	3,232	2,568	122,756	6,610	6,326	109,820	61.0%
2016	127,481	3,254	2,608	121,619	6,623	5,334	109,663	58.0%
2017	126,678	3,278	2,655	120,745	6,406	5,468	108,871	59.0%
2018	128,465	3,300	2,718	122,447	6,790	5,604	110,053	60.2%
2019	131,241	3,322	2,751	125,168	7,315	5,924	111,929	58.9%
2020	133,642	3,342	2,781	127,519	8,210	5,777	113,531	59.3%

Historical Values (2011 - 2020):

Col. (2) represents derived NEL not including conservation using the formula: Col. (2) = Col. (3) + Col. (4) + Col. (5)

Col. (3) & Col. (4) are annual (12-month) DSM values and represent total GWh reductions experienced each year.

Col. (8) is the Total Retail Sales calculated using the formula: Col. (8) = Col. (5) - Col. (6) - Col. (7). These values are at the meter.

Col. (9) is calculated using Col. (5) from this page and the greater of Col. (2) from Schedules 3.1 and 3.2 using the formula:
Col. (9) = ((Col. (5)*1000) / ((Col. (2) * 8760). Adjustments are made for leap years.

Schedule 3.3: Gulf
History of Annual Net Energy for Load (GWh)
(All values are "at the generator" values except for Col (8))

(1) Year	(2) Net Energy For Load without DSM GWh	(3) Residential Conservation GWh	(4) C/I Conservation GWh	(5) Actual Net Energy For Load GWh	(6) Sales for Resale GWh	(7) Utility Use & Losses GWh	(8) Total Retail Energy Sales (GWh)	(9) Load Factor(%)
2011	12,864	417	361	12,086	382	663	11,040	54.4%
2012	12,453	482	374	11,598	339	597	10,663	56.2%
2013	12,502	551	399	11,552	330	602	10,620	55.8%
2014	13,048	595	416	12,037	332	629	11,075	51.0%
2015	13,056	630	430	11,996	330	580	11,086	54.9%
2016	13,097	637	430	12,030	331	618	11,082	54.6%
2017	12,789	642	432	11,715	318	588	10,809	54.9%
2018	13,138	647	435	12,057	302	623	11,132	49.0%
2019	13,083	650	436	11,997	257	661	11,079	55.4%
2020	12,755	653	438	11,664	292	736	10,635	55.1%

Historical Values (2011 - 2020):

Col. (2) represents derived NEL not including conservation using the formula: Col. (2) = Col. (3) + Col. (4) + Col. (5)

Col. (3) & Col. (4) are annual (12-month) DSM values and represent total GWh reductions experienced each year.

Col. (8) is the Total Retail Sales calculated using the formula: Col. (8) = Col. (5) - Col. (6) - Col. (7). These values are at the meter.

Col. (9) is calculated using Col. (5) from this page and the greater of Col. (2) from Schedules 3.1 and 3.2 using the formula:
Col. (9) = ((Col. (5)*1000) / ((Col. (2) * 8760). Adjustments are made for leap years.

Schedule 3.3
Forecast of Annual Net Energy for Load (GWh)
(All values are "at the generator"values except for Col (8))

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Year	Forecasted Net Energy For Load without DSM GWh	Residential Conservation GWh	C/I Conservation GWh	Net Energy For Load Adjusted for DSM GWh	Sales for Resale GWh	Utility Use & Losses GWh	Forecasted Total Billed Retail Energy Sales w/o DSM GWh	Load Factor(%)
				FPL				
2021	123,120	35	47	123,038	6,740	5,324	111,056	57.0%
				Gulf				
2021	11,771	14	3	11,754	288	619	10,863	54.5%
				Integrated FPL and Gulf				
2022	135,744	82	82	135,579	7,130	6,216	122,398	56.7%
2023	136,818	116	116	136,586	7,281	6,174	123,363	56.1%
2024	137,806	152	151	137,503	7,195	6,172	124,439	55.4%
2025	139,022	152	151	138,719	7,265	6,213	125,544	55.2%
2026	140,055	152	151	139,751	7,323	6,257	126,475	54.9%
2027	140,962	152	151	140,659	6,943	6,311	127,708	54.7%
2028	142,628	152	151	142,324	7,061	6,400	129,167	54.5%
2029	144,262	152	151	143,958	7,084	6,473	130,704	54.4%
2030	146,120	152	151	145,816	7,209	6,563	132,349	54.0%

Projected Values (2021 - 2030):

Col. (2) represents Forecasted NEL and does not include incremental conservation. It is the summation of Cols. (3) through (5).

Col. (3) & Col. (4) are forecasted values representing reduction on sales from incremental conservation

Col. (5) is forecasted NEL and includes incremental conservation.

Col. (8) is Total Retail Sales. The values are calculated using the formula: Col. (8) = Col. (2) - Col. (6) - Col. (7).
These values are at the meter.

Col. (9) is calculated using Col. (5) from this page and Col. (10) from Schedule 3.1 using the formula:
Col. (9) = ((Col. (5)*1000) / ((Col. (2) * 8760). Adjustments are made for leap years.

Schedule 4: FPL
Previous Year Actual and Two-Year Forecast of
Total Peak Demand and Net Energy for Load (NEL) by Month

(1)	(2)	(3)	(4)	(5)	(6)	(7)
	2020 ACTUAL		2021 FORECAST		2022 FORECAST	
Month	Total Peak Demand MW	NEL GWh	Total Peak Demand MW	NEL GWh	Total Peak Demand MW	NEL GWh
JAN	17,514	8,859	20,061	9,044	NA	NA
FEB	18,429	8,563	19,140	8,276	NA	NA
MAR	20,602	9,910	19,111	9,147	NA	NA
APR	21,594	10,234	20,466	9,575	NA	NA
MAY	21,932	10,607	22,323	10,859	NA	NA
JUN	24,499	11,962	23,727	11,370	NA	NA
JUL	24,483	12,648	24,200	12,197	NA	NA
AUG	24,166	13,014	24,620	12,321	NA	NA
SEP	24,493	11,854	23,658	11,428	NA	NA
OCT	22,214	11,502	22,204	10,731	NA	NA
NOV	19,496	9,629	19,618	9,118	NA	NA
DEC	15,773	8,735	18,694	9,053	NA	NA
Annual Values:		**127,519**		**123,120**	NA	NA

Col. (3) annual value shown is consistent with the value shown in Col.(5) of Schedule 3.3.

Cols. (4) through (5) do not include the impacts of cumulative load management, incremental utility conservation, or incremental load management.

Cols. (6) and (7) are available in the forecast for the integrated FPL and Gulf System for 2022

Schedule 4: Gulf
Previous Year Actual and Two-Year Forecast of
Total Peak Demand and Net Energy for Load (NEL) by Month

(1)	(2)	(3)	(4)	(5)	(6)	(7)
	2020 ACTUAL		2021 FORECAST		2022 FORECAST	
Month	Total Peak Demand MW	NEL GWh	Total Peak Demand MW	NEL GWh	Total Peak Demand MW	NEL GWh
JAN	2,129	877	2,439	968	NA	NA
FEB	1,768	785	1,926	810	NA	NA
MAR	1,760	856	1,729	792	NA	NA
APR	1,807	783	1,730	816	NA	NA
MAY	2,077	958	2,138	998	NA	NA
JUN	2,318	1,156	2,360	1,166	NA	NA
JUL	2,392	1,245	2,462	1,261	NA	NA
AUG	2,410	1,253	2,409	1,232	NA	NA
SEP	2,394	1,033	2,272	1,083	NA	NA
OCT	2,076	964	2,002	910	NA	NA
NOV	1,666	813	1,714	823	NA	NA
DEC	2,068	942	1,892	912	NA	NA
Annual Values:		**11,664**		**11,771**	NA	NA

Col. (3) annual value shown is consistent with the value shown in Col.(5) of Schedule 3.3.

Cols. (4) through (5) do not include the impacts of incremental conservation.

Cols. (6) and (7) are available in the forecast for the integrated FPL and Gulf System for 2022

Schedule 4: Integrated FPL and Gulf
Previous Year Actual and Two-Year Forecast of
Total Peak Demand and Net Energy for Load (NEL) by Month

(1)	(2)	(3)	(4)	(5)	(6)	(7)
	2020 ACTUAL		2021 FORECAST		2022 FORECAST	
Month	Total Peak Demand MW	NEL GWh	Total Peak Demand MW	NEL GWh	Total Peak Demand MW	NEL GWh
JAN	NA	NA	NA	NA	22,461	10,049
FEB	NA	NA	NA	NA	20,551	9,193
MAR	NA	NA	NA	NA	20,574	9,973
APR	NA	NA	NA	NA	22,020	10,381
MAY	NA	NA	NA	NA	24,550	11,864
JUN	NA	NA	NA	NA	26,327	12,651
JUL	NA	NA	NA	NA	26,755	13,556
AUG	NA	NA	NA	NA	27,277	13,634
SEP	NA	NA	NA	NA	26,171	12,604
OCT	NA	NA	NA	NA	24,259	11,751
NOV	NA	NA	NA	NA	21,273	10,023
DEC	NA	NA	NA	NA	20,318	10,064
Annual Values:		NA		NA		**135,744**

Col. (3) annual value shown is consistent with the value shown in Col.(5) of Schedule 3.3.

Cols. (6) and (7) do not include the impacts of cumulative load management, incremental utility conservation, or incremental load management.

CHAPTER III

Projection of Incremental Resource Additions

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III. Projection of Incremental Resource Additions

III.A. FPL's Resource Planning:

FPL utilizes its well-established, integrated resource planning (IRP) process, in whole or in part as dictated by analysis needs, to determine: (i) the magnitude and timing of needed resources, and (ii) the type of resources that should be added. This section describes FPL's basic IRP process which was used during 2020 and early 2021 to develop the resource plan for FPL's and Gulf's areas that is presented in this 2021 Site Plan. It also discusses some of the key assumptions, in addition to a new load forecast discussed in the previous chapter, which were used in developing this resource plan.

Four Fundamental Steps of FPL's Resource Planning:

The four fundamental steps of FPL's resource planning process are:

Step 1: Determine the magnitude and timing of FPL's new resource needs;

Step 2: Identify which resource options and resource plans can meet the determined magnitude and timing of projected resource needs (*e.g.*, identify competing options and resource plans);

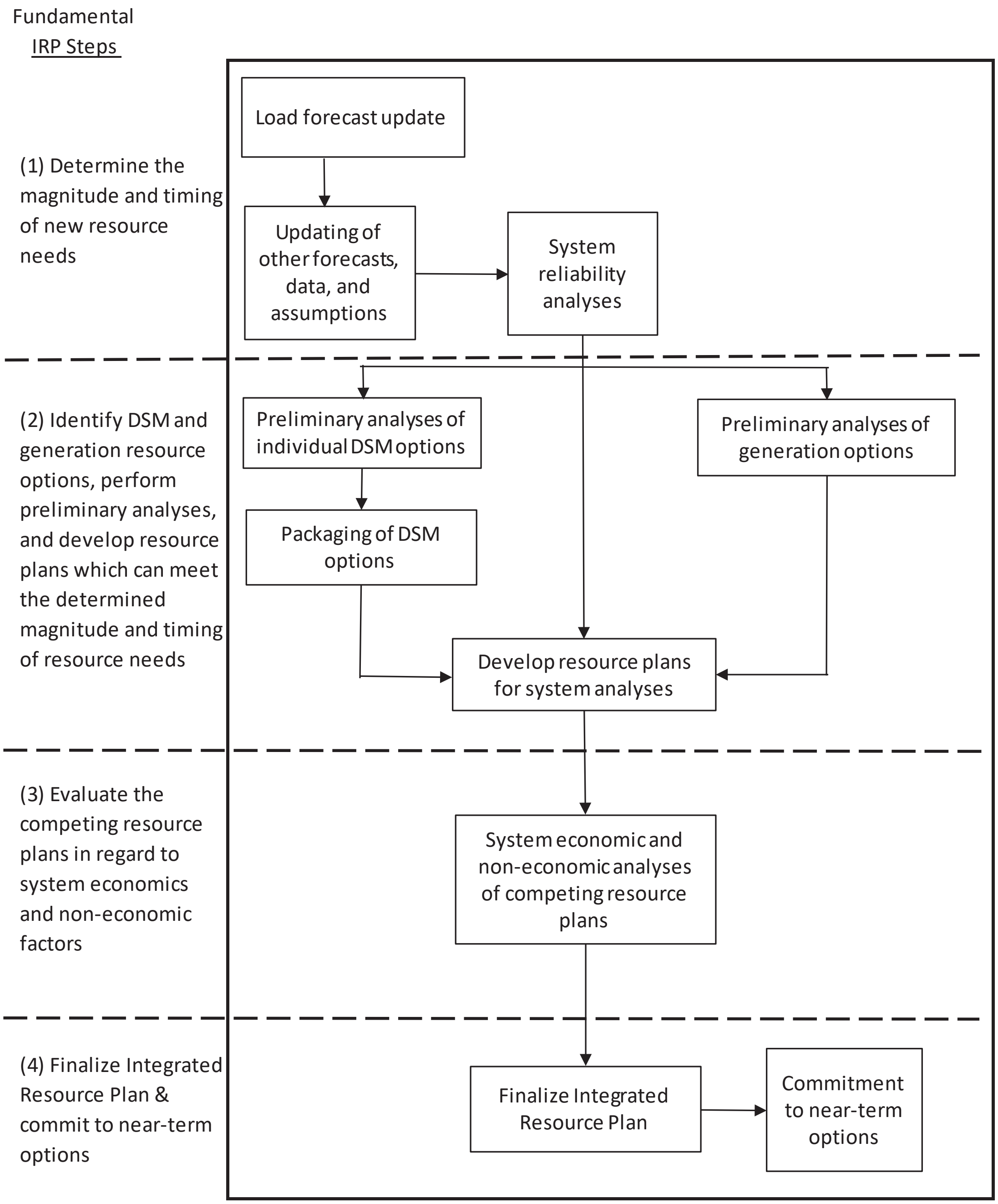
Step 3: Evaluate the competing options and resource plans in regard to system economics and non-economic factors; and,

Step 4: Select a resource plan and commit, as needed, to near-term options.

Figure III.A.1 graphically outlines the 4 steps.

Overview of IRP Process: Fundamental Steps

Figure III.A.1: Overview of IRP Process



Step 1: Determine the Magnitude and Timing of New Resource Needs:

The first of the four resource planning steps is essentially a determination of the amount and timing of megawatts (MW) of load reduction, new capacity additions, or a combination of both, which are needed to maintain and/or enhance system reliability. This step is often referred to as a reliability assessment for the utility system.

This analysis typically starts with an updated load forecast. Several databases are also updated in this first fundamental step, not only with the new information regarding forecasted loads, but also with other information that is used throughout other aspects of FPL's resource planning process. Examples of this new information include but are not limited to: delivered fuel price projections, current financial and economic assumptions, current power plant capability and operating assumptions, and current demand side management (DSM) demand and energy reduction assumptions.

FPL's process also includes key sets of projections regarding three specific types of resources: (1) generating unit capacity changes, (2) firm capacity power purchase agreements (PPAs), and (3) DSM implementation.

Key Assumptions Regarding the Three Types of Resources:

Generating Unit Capacity Additions:

The first set of assumptions, generating unit capacity changes, is based on current projections of new generating capacity additions and planned retirements of existing generating units. In this 2021 Site Plan, there are five (5) types of projected generation capacity changes through the 10-year reporting time frame of this document. These changes are listed below in general chronological order:

1) Additional Solar Energy Facilities:

   In this 2021 Site Plan, the resource plan projects the addition of approximately 9,313 MW of new solar PV generation during the 2021 through 2030 time period. Of that total addition, approximately 7,599 MW are projected to be sited in the current FPL service area and approximately 1,714 MW are projected to be sited in the current Gulf service area. These PV additions are consistent with FPL's "30-by-30" announcement in January 2019 which detailed FPL's plans to add 30 million solar PV panels cost-effectively by the year 2030. These projected solar additions for 2021 through 2030, when combined with solar additions made prior to 2020, will result in a total of approximately 11,657 MW of total installed PV by the end of 2030.

Of the 9,313 MW of total PV projected to be added from 2021-2030, approximately 5,662 MW is "fixed-tilt" solar, while the remaining 3,651 MW is "tracking" solar. In fixed-tilt solar configurations, the solar panels remain facing the same angle, while tracking solar changes the angle of the solar panels to follow the path of the sun during the day, generally resulting in greater annual energy production. This shift towards tracking technology in solar is being driven primarily by continued cost declines in tracking technology and the identification of more sites suitable for solar tracking facilities.

2) Additional Battery Storage:

As in FPL's 2020 Site Plan, a battery storage facility with a projected maximum output of 409 MW is projected to be sited at the existing Manatee plant site by late 2021. This addition is part of a plan to modernize the Manatee plant site which, in addition to the 409 MW battery, includes the retirement of the two existing Manatee steam generating units by late 2021. This large battery storage facility will be charged by solar energy from an existing nearby PV facility. Another 60 MW of battery storage, consisting of two 30 MW battery storage facilities that will be installed at two different locations in FPL's service area, are also planned for late 2021. Both of these battery storage facilities will also be charged by existing solar facilities. In addition, the resource plan presented in this Site Plan projects an additional approximately 700 MW of battery storage facilities will be installed by 2030. 400 MW of these storage facilities are projected to be sited in the current FPL service area, while the remaining 300 MW are projected to be sited in the current Gulf area.

3) Retirement of Existing Generating Units:

As discussed in FPL's 2020 Site Plan, FPL plans to retire its Manatee Units 1 and 2 in late 2021. These units are older steam generating units of approximately 800 MW each that have been in operation for more than 40 years. The units are now relatively inefficient units in regard to their ability to convert fuel into electricity. As a result, they are projected to no longer be cost-effective to operate.

In this 2021 Site Plan, these two Manatee units are still projected to be retired in late 2021. In addition, the retirement of FPL's ownership portion (approximately 76%) of the coal-fueled Scherer Unit 4 unit in Georgia is planned by January 2022. FPL's ownership portion of this unit is approximately 630 MW. Additionally, an early retirement of FPL/Gulf's ownership portion of two coal-fueled steam units by January 2024 is also planned. These units, Daniel Units 1 & 2, are located in the Mississippi Power service territory, and FPL/Gulf's 50% ownership interest in the two units totals approximately 500 MW.

4) <u>Enhancements of Existing Generating Units:</u>

In its 2020 Site Plan, FPL discussed plans to upgrade the combustion turbine (CT) components in a number of FPL's existing CC units. That upgrade effort is still included in the resource plan presented in this Site Plan. These additional upgrades are projected to be completed by 2026. Information regarding the specific units, timing, and magnitude of these upgrades is presented in Schedule 8 in this chapter.

Significant enhancement to existing generating units in Gulf's current service area were completed in 2020. The first of those was the conversion of Crist Units 6 & 7 from coal-fueled to natural gas-fueled. This conversion effort is already resulting in lower-cost energy generated by the units, substantial fixed-cost savings for Gulf area customers, and a significant reduction in emissions. The plant has accordingly been named the "Gulf Clean Energy Center." The second enhancement was a capacity upgrade to the Lansing Smith Unit 3 CC, which was completed in 2020. This upgrade has increased the firm capacity of the unit by more than 80 MW and is projected to result in cost savings for customers through both the deferral of future capacity needs and by increased output of lower cost natural gas-fueled energy production.

In addition, FPL is planning a pilot project that will result in hydrogen replacing a portion of the natural gas that is currently being used to fuel the existing Okeechobee CC unit. In the pilot project, hydrogen will be created by using solar energy, or other energy from the electric grid, to power an electrolyzer that separates water into hydrogen and oxygen. The hydrogen will be stored in on-site tanks until it is used as a fuel. Although natural gas burns with much fewer carbon dioxide (CO_2) emissions compared to oil or coal, hydrogen burns with no CO_2 emissions. Therefore, the objective of the pilot project is to test in practice the concept of replacing natural gas with hydrogen as a fuel for CC unit use. If successful, the pilot project is expected to guide the way for future use of hydrogen in a larger way as a fuel in existing and new *(i.e.*, the new Dania Beach Unit 7) CC units, thus lowering or eliminating CO_2 emissions from CC unit operation in the future. This pilot project is projected to go into service in late 2023.

5) <u>Addition of Cost-Effective Natural Gas-Fueled Generation:</u>

In its 2020 Site Plan, FPL's resource plan projected the addition of one new CC unit - the previously mentioned Dania Beach CC unit that will come in-service in 2022. This unit is a key component of the modernization of FPL's existing Lauderdale power plant site and it remains part of the resource plan in the 2021 Site Plan. In the current Gulf service area, four new CT units at the existing Gulf Clean Energy Center plant site are again part of the resource plan in the 2021 Site Plan. These four new CT units are being added based on system economics and for purposes of ensuring adequate fast start and fast ramping capabilities in that area of the system.

Firm Capacity PPAs:

The second set of assumptions involves other firm capacity power purchase agreements (PPAs). These assumptions are generally consistent with those presented in FPL and Gulf's 2020 Site Plan.

In regard to FPL's area, the most significant firm capacity PPA was with Indiantown Cogeneration LP (ICL). On January 5, 2017, with mutual consent of the parties involved and FPSC approval (in Order PSC-16-0506-FOF-EI), FPL acquired the equity interests in this coal-based PPA with ICL. This approval included both the PPA and the underlying asset (*i.e.*, the generating unit) from which FPL received firm capacity and energy. This PPA was terminated in late 2020 upon retirement of the senior debt in the project. In addition, the coal-fueled generating unit upon which the PPA was based was also retired in late 2020.

In regard to Gulf's area, the most significant firm capacity PPA is the Shell PPA with which Gulf receives 885 MW of firm capacity and energy from a CC unit in Alabama. That PPA is scheduled to terminate in May of 2023. Alabama Power has received approval from the Alabama Public Service Commission to acquire this generating unit.

The remaining projected firm capacity purchases for both areas are from independent power producers. Details for these other purchases, including the annual total capacity values, are presented in Chapter I in Tables I.A.3.2, I.A.3.3, I.B.3.2, and I.B.3.3. These purchased firm capacity amounts were incorporated in the resource planning work that led to the resource plan presented in this document.

DSM Implementation:

The third set of assumptions involves a projection of the amount of incremental DSM that FPL and Gulf anticipate implementing annually over the ten-year reporting period of 2021 through 2030 for this Site Plan. In 2019, the Florida Public Service Commission (FPSC) set DSM Goals for FPL, Gulf, and other Florida utilities that addressed the years 2020 through 2024. The annual amounts of Summer MW reduction, Winter MW reduction, and energy (MWh) reduction for the

FPL and Gulf areas detailed in the FPSC's DSM Goal's order (Order No. PSC-2019-0509-FOF-EG) through 2024 are accounted for in the resource plan presented in this Site Plan. For the years 2025 through 2029, the annual DSM levels proposed in the DSM Goals docket separately by FPL and Gulf – because they were projected to be cost-effective - are also accounted for in the resource plan presented in this Site Plan. Incremental DSM amounts for the year 2030 for FPL and Gulf, commensurate with the utility's projected DSM annual additions for 2025 through 2029, have been assumed as well. Those annual amounts are shown in Schedules 3.1, 3.2, and 3.3 in Chapter II.

The Three Reliability Criteria Used to Determine FPL's Projected Resource Needs:

FPL's resource planning process applies these key assumptions, plus the other updated information described above, in the first fundamental step: determining the magnitude and timing of future resource needs. This determination is accomplished through system reliability analyses. Until 2014, FPL's reliability analyses were based on dual planning criteria, including a minimum peak-period total reserve margin (TRM) of 20% (FPL applies this criterion to both Summer and Winter peaks) and a maximum loss-of-load probability (LOLP) of 0.1 day per year. Both criteria are commonly used throughout the utility industry. Beginning in 2014, FPL began utilizing a third reliability criterion: a 10% generation-only reserve margin (GRM).

Until the acquisition of Gulf by NextEra Energy in January 2019, the reliability criteria used for Gulf was determined by analyses of the entire Southern Company system of which Gulf was a part. It is projected that Southern Company will continue to operate Gulf's generating units as part of its system until the new North Florida Resiliency Connection transmission line is in-service by mid-year 2022. At that time, FPL will begin to operate Gulf's generating units as well as FPL's units as part of a single, integrated electrical system. In addition, the generation-based reliability of the Gulf area will be evaluated, and the area planned, using FPL's current three reliability criteria described above.

These reliability criteria utilize two basic types of methodologies: deterministic and probabilistic. The calculation of excess firm capacity at the annual system peaks (reserve margin) is a common method, and this relatively simple deterministic calculation can be performed on a spreadsheet. It provides an indication of the adequacy of a generating system's capacity resources compared to its load during peak periods. However, deterministic methods do not take into account probabilistic-related elements, such as the impact of individual unit failures. For example, two 50 MW units that can be counted on to run 90% of the time are more valuable in regard to utility system reliability than is one 100 MW unit that also can be counted on to run

90% of the time. Probabilistic methods can also account for the value of being part of an interconnected system with access to multiple capacity sources.

For this reason, probabilistic methodologies have been used to provide an additional perspective on the reliability of a generating system, and a number of them are used to perform system reliability analyses. Among the most widely used is loss-of-load probability (LOLP), which FPL's resource planning group utilizes. Simply stated, LOLP is an index of how well a generating system may be able to meet its firm demand (*i.e.*, a measure of how often load may exceed available resources). In contrast to reserve margin, the calculation of LOLP looks at the daily peak demands for each year, while taking into consideration such probabilistic events as the unavailability of individual generators due to scheduled maintenance or forced outages.

LOLP is expressed in terms of the projected probability that a utility will be unable to meet its entire firm load at some point during a year. The probability of not being able to meet the firm load is calculated for each day of the year using the daily peak hourly load. These daily probabilities are then summed to develop an annual probability value. This annual probability value is commonly expressed as "the number of days per year" that the system firm load could not be met. The standard for LOLP used by FPL's resource planning group, is a maximum of 0.1 day per year which is commonly accepted throughout the industry. This analysis requires a more complicated calculation methodology than the reserve margin analysis. LOLP analyses are typically carried out using computer software models, such as the Tie Line Assistance and Generation Reliability (TIGER) program used by FPL.

In 2010, FPL's integrated resource planning work examined a then-projected fundamental change in FPL's resource plans. This change was a significant shift in the mix of generation and DSM resources that could result in FPL becoming increasingly reliant on DSM resources, rather than generation resources, to maintain system reliability. As discussed in several subsequent FPL Site Plans, extensive analyses examined this shift from a system reliability perspective.

In these analyses, FPL developed a key new metric: a generation-only reserve margin (GRM). This GRM metric reflects reserves that would be provided only by actual generating resources. The GRM value is calculated by setting to zero all incremental energy efficiency (EE) and load management (LM), plus all existing LM, to derive another useful version of a reserve margin calculation. The resulting GRM value provides an indication of the respective roles that DSM and generation are projected to play each year as FPL maintains its 20% Summer and Winter total reserve margins (which account for both generation and DSM resources).

These analyses examined the two types of resources, DSM and Supply options, from both an operational and a resource planning perspective. Based on these analyses, FPL concluded that resource plans for its system with identical total reserve margins, but different GRM values, are not equal in regard to system reliability. A resource plan with a higher GRM value is projected to result in more MW being available to system operators on adverse peak load days, and in lower LOLP values, than a resource plan with a lower GRM value, even though both resource plans have an identical total reserve margin value. In other words, it matters what resources are used to meet a reserve margin criterion such as 20%. Therefore, in 2014 FPL implemented a minimum GRM criterion of 10% as a third reliability criterion in its resource planning process.

The 10% minimum Summer and Winter GRM criterion augments the other two reliability criteria that FPL's resource planning group uses: the 20% TRM criterion for Summer and Winter and the 0.1 day/year LOLP criterion. All three reliability criteria are useful to identify the timing and magnitude of the resource need because of the different perspectives the three criteria provide. In addition, the GRM criterion is particularly useful in providing direction regarding the mix of generation (combined cycle, solar, etc.) and DSM resources that should be added to maintain and enhance system reliability.

Step 2: Identify Resource Options and Plans That Can Meet the Determined Magnitude and Timing of Projected Resource Needs:

The initial activities associated with this second fundamental step of resource planning generally proceed concurrently with the activities associated with Step 1. During Step 2, preliminary economic screening analyses of new capacity options that are identical, or virtually identical, in certain key characteristics may be conducted to determine what type of new capacity option appears to be the most competitive on FPL's system. Preliminary analyses also can help identify capacity size (MW) values, projected construction/permitting schedules, and operating parameters and costs. Similarly, preliminary economic screening analyses of new DSM options and/or evaluation of existing DSM options are often conducted in this second fundamental IRP step.

FPL's resource planning group typically utilizes an optimization model to perform the preliminary economic screening of generation resource options. For the preliminary economic screening analyses of DSM resource options, FPL typically uses its DSM Conservation, Planning, and Forecasting (CPF) model, which is an FPL spreadsheet model utilizing the FPSC's approved methodology for performing preliminary economic screening of individual DSM measures and programs. A years-to-payback screening test based on a two-year payback criterion is also used in the preliminary economic screening of individual DSM measures and programs in order to minimize the probability of paying incentives to customers who would have implemented a DSM measure anyway without a utility incentive (*i.e.*, free riders). Then, as the focus of DSM analyses progresses from analysis of individual DSM measures to the development of DSM portfolios, FPL typically uses two additional models. One is a proprietary non-linear programming (NLP) model that is used to analyze the potential for lowering system peak loads through additional load management/demand response capability. The other model that is utilized is a proprietary linear programming (LP) model with which DSM portfolios are developed.

The next step is typically to “package” the individual new resource options, both Supply options and DSM portfolios, emerging from these preliminary economic screening analyses into different resource plans that are designed to meet the system reliability criteria. In other words, resource plans are created by combining individual resource options so that the timing and magnitude of projected new resource needs are met. The creation of these competing resource plans is typically carried out using spreadsheet and/or dynamic programming techniques.

At the conclusion of the second fundamental resource planning step, a number of different combinations of new resource options (*i.e.*, resource plans) of a magnitude and timing necessary to meet the projected resource needs are identified.

Step 3: Evaluate the Competing Options and Resource Plans in Regard to System Economics and Non-Economic Factors:

At the completion of fundamental Steps 1 and 2, the most viable new resource options have been identified, and these resource options have been combined into a number of resource plans that each meet the magnitude and timing of projected resource needs. The stage is set for evaluating these resource options and resource plans in system economic analyses that aim to account for all of the impacts to the utility system from the competing resource options/resource plans. FPL’s resource planning group typically utilizes the AURORA optimization model to develop and perform the system economic analyses of resource plans. Other spreadsheet models may also be used to further analyze the resource plans.

The basic economic analyses of the competing resource plans focus on total system economics. The standard basis for comparing the economics of competing resource plans is their relative impact on electricity rate levels, with the general objective of minimizing the projected levelized system average electric rate (*i.e.*, a Rate Impact Measure or RIM methodology). In analyses in which the DSM contribution has already been determined through the same IRP process and/or FPSC approval, and therefore the only competing options are new generating units and/or purchase options, comparisons of the impacts of competing resource plans on both electricity rates and system revenue requirements will yield identical outcomes in regard to the relative rankings of the resource options being evaluated. Consequently, the competing options and resource plans in such cases can be evaluated on a system cumulative present value revenue requirement (CPVRR) basis.

FPL's resource planning group also includes other factors in its evaluation of resource options and resource plans. Although these factors may have an economic component or impact, they are often discussed in quantitative but non-economic terms, such as percentages, tons, etc., rather than in terms of dollars. These factors are often referred to as "system concerns or factors," which include (but are not limited to) maintaining/enhancing fuel diversity and maintaining a regional balance between load and generating capacity, particularly in the Southeastern Florida region of FPL's area that consists of Miami-Dade and Broward counties. In conducting the evaluations needed to determine which resource options and resource plans are best for the utility system, the non-economic evaluations are conducted with an eye to whether the system concern is positively or negatively impacted by a given resource option or resource plan. These and other factors are discussed later in this chapter in section III.C.

Step 4: Finalizing the Current Resource Plan

The results of the previous three fundamental steps are typically used to develop a new or updated resource plan. The current resource plan presented in this 2021 Site Plan is summarized in the following section.

III.B. Projected Incremental Resource Changes in the Resource Plan

The projection of major changes in the current resource plan for the combined service areas, including both utility-owned generation and PPAs, for the years 2021 through 2030 is summarized in Table ES-1 in the Executive Summary. The changes are presented in terms of Summer firm capacity values. Although this table does not specifically identify the impacts of projected DSM additions on projected resource needs and the resource plan, the projected DSM additions are consistent with the recent DSM Goals order regarding DSM Goals for both FPL and Gulf through the year 2024. In addition, projected cost-effective amounts of DSM for the years 2025 through 2030 are also assumed. Thus, DSM impacts are fully accounted for in the resource plan in this Site Plan.

A summary of some of the larger resource additions/retirements for both systems/areas include, but are not necessarily limited to, those listed below (in approximate chronological order):

In the current FPL system/area:

- New solar (PV) additions from 2021 through 2030 of approximately 7,599 MW (nameplate);
- Capacity upgrades at a number of FPL's existing CC units through 2026;
- Retirement of FPL's ownership portion (approximately 630 MW) of the Scherer 4 coal unit by January 2022;
- Retirement of the Manatee existing steam Units 1 & 2 (approximately 1,620 MW) by late 2021;
- A 409 MW battery storage facility at the Manatee plant site, plus two 30 MW battery storage facilities at different sites, by late 2021;
- The modernization of the existing Lauderdale power plant site in mid-2022 with the new DBEC Unit 7 CC (approximately 1,160 MW); and
- A total of approximately 400 MW of battery storage in 2029 and 2030.

In the current Gulf system/area:

- New solar (PV) additions from 2022 through 2030 of approximately 1,714 MW (nameplate);
- A new FPL-to-Gulf transmission line (the NFRC line) by mid-2022 enabling a bidirectional transfer capability between the two areas of up to 850 MW;
- Four new CTs at the Gulf Clean Energy Center (formerly Crist) plant site (approximately 940 MW) by the beginning of 2022;
- Expiration (as per terms of the contract) of 885 MW from the Shell PPA in May 2023;
- The retirement of Gulf's ownership portion of the coal-fueled Daniel Units 1 & 2 (approximately 500 MW) by the beginning of 2024; and
- A total of approximately 300 MW of battery storage in 2030.

FPL notes that, with the exception of certain resource additions and retirements listed above in the earlier years of the 2021 through 2030 time period addressed in this 2021 Site Plan, final decisions on other resource options shown in this Site Plan are not needed at this time, nor have they been made. This is particularly relevant to resource additions shown for years increasingly further out in the 10-year reporting period. Consequently, those resource additions are more prone to future change.

III.C Discussion of the Resource Plan and Issues Impacting Resource Planning Work

In considering the resource plan presented in this Site Plan, it is useful to note that there are at least seven (7) significant factors that either influenced the current resource plan or which may result in future changes. These factors are discussed below (in no particular order).

1. **Maintaining a Balance Between Load and Generation in Southeastern Florida:** An imbalance exists between regionally installed generation and regional peak load in Southeastern Florida (Miami-Dade and Broward counties). As a result of that imbalance, a significant amount of energy required in the Southeastern Florida region during peak periods is provided by importing energy through the transmission system from generating units located outside the region, operating less efficient generating units located in Southeastern Florida out of economic dispatch, or a combination of the two. FPL's prior planning work concluded that, as load inside the region grows, additional installed generating capacity and/or load reduction in this region, or additional installed transmission capacity capable of delivering more electricity from outside the region, would be required to continue to address this imbalance.

   Partly because of the lower transmission-related costs resulting from their location in or adjacent to Southeastern Florida, at least five capacity additions since the year 2000 (Turkey Point Unit 5, West County Energy Center Units 1, 2, & 3, and the modernization of the Port Everglades plant) were determined to be the most cost-effective options to meet FPL's then projected capacity needs. In addition, FPL has added increased capacity at its existing two nuclear units at Turkey Point as part of the nuclear capacity uprates project.

   The balance between load and generation in the Southeastern Florida region was further enhanced by decisions to proceed with two other projects. First, the Corbett-Sugar-Quarry (CSQ) transmission line was added in mid-2019. This new line significantly increased FPL's ability to import capacity and energy into the region from generators located outside of the region. Second, the modernization of the existing Lauderdale plant site, which will result in an additional 279 MW of generation capacity in Southeastern Florida from the new DBEC Unit 7 in 2022, will significantly assist in maintaining and enhancing a balance between load and generation in this important region.

2. Maintaining/Enhancing System Fuel Diversity:

In 2020, FPL used natural gas to generate approximately 74% of the total electricity it delivered to its customers. By 2030, due largely to significant solar additions, the percentage of electricity generated by natural gas for the single integrated system is projected to decrease to approximately 61% based on the resource plan presented in this Site Plan. Due to this still significant reliance on natural gas, as well as evolving environmental regulations, opportunities to economically maintain and enhance fuel diversity are continually sought, both in regard to type of fuel and fuel delivery, with due consideration given to system economics.

In 2007, following express direction by the FPSC, FPL sought approval from the FPSC to add two new advanced technology coal units to its system in 2013 and 2014, respectively. However, these units were not approved. Since that time, coal units have ceased to be a viable generation option for a number of reasons which include: (i) environmental regulations regarding coal units, (ii) increased availability of natural gas, (iii) much lower forecasted costs for natural gas, and (iv) increased economic competitiveness of solar and battery storage. Consequently, FPL does not believe that new advanced technology coal units are viable fuel diversity enhancement options in Florida.

Therefore, FPL has focused on: (i) cost-effectively adding solar energy and nuclear energy generation to enhance fuel diversity, (ii) diversifying the sources of natural gas, (iii) diversifying the gas transportation paths used to deliver natural gas to FPL's generating units, and (iv) using natural gas more efficiently. In addition, FPL is planning a pilot project to test the concept of using hydrogen as a substitute for some of the natural gas now being used to fuel one of its existing CC units. This pilot project was also discussed in the Executive Summary.

<u>Solar Energy:</u> Assuming that annual additions of PV will be cost-effective from 2021-on, this 2021 Site Plan projects that FPL will have a total of approximately 11,650 MW of PV generation by the end of 2030. Such a level of PV nameplate capacity would represent about 33% of FPL's and Gulf's current total installed capacity (MW). However, the impact of PV contribution in terms of actual energy produced (MWh) is smaller. Because solar energy can only be generated during daylight hours and is impacted by factors such as clouds and rain, PV has a capacity factor of approximately 26% to 30% in the state of Florida. As a result, FPL's solar additions would be projected to supply approximately 17.5%

of the total energy (MWh) delivered in 2030 in the two areas (as shown in Schedule 6.2 later in this chapter).[9]

Based on the resource plan presented in this 2021 Site Plan, it is projected that the cleanest energy sources such as low-emission natural gas, zero-emission nuclear, and zero-emission solar – will provide approximately 99% of all energy produced in the single, integrated system in 2030 - with zero-emission sources (including new solar facilities that are associated with FPL's Solar Together program[10]) alone providing approximately 38% of all energy produced by the system in 2030. This percentage of energy that is projected to be delivered by zero-emission sources is significant for a utility system of this size, especially when considering that the total amount of energy projected to be delivered to customers in 2030 will have also increased. The projections of energy by fuel/generation type are presented in Schedules 6.1 and 6.2 later in this chapter.

<u>Nuclear Energy:</u> In 2008, the FPSC approved the need to increase capacity at FPL's four existing nuclear units and authorized the company to recover project-related expenditures that were approved as a result of annual nuclear cost recovery filings. FPL successfully completed this nuclear capacity uprate project. Approximately 520 MW of additional nuclear capacity was delivered by the project, which represents an increase of approximately 30% more incremental capacity than was originally forecasted when the project began. Additional uprates followed which resulted in approximately 40 MW more capacity. FPL's customers are benefitting from lower fuel costs and reduced system emissions provided by this additional nuclear capacity.

In June 2009, FPL began work to obtain all of the licenses, permits, and approvals that are necessary to construct and operate two new nuclear units at its Turkey Point site in the future. These licenses, permits, and approvals will provide FPL with the opportunity to construct these nuclear units and then to operate the units for at least 40 years thereafter. The Combined Operating Licenses (COL) for the prospective new Turkey Point Units 6 & 7 were granted by the Nuclear Regulatory Commission (NRC) in April 2018. FPL has paused in its determination of whether to seek FPSC approval to move forward with construction of the new nuclear units. FPL intends to incorporate into any such assessment the construction experience of two nuclear units currently being constructed by Georgia Power at its Vogtle

[9] As a rule of thumb, approximately 620 MW of PV added in 2021, and approximately 665 MW of PV added in 2030 will account for 1% of total energy delivered on the single, integrated system in those years.

[10] In the Solar Together community solar program, participating customers share in the costs and benefits of a dedicated FPL Solar Together PV facility and are entitled, upon their request, to have the environmental attributes associated with their participation retired by FPL on their behalf.

site, and similar units developed and operating in China. As a result, the earliest possible in-service dates for Turkey Point 6 & 7 are beyond the 2021 through 2030 time period addressed in this docket.

In addition, on January 30, 2018, FPL applied to the NRC for Subsequent License Renewal (SLR) for FPL's existing Turkey Point Units 3 & 4. The previous license terms for these two existing nuclear units extended into the years 2032 and 2033, respectively. The SLR requested approval to extend the operating licenses by 20 years to 2052 and 2053, respectively. The NRC granted approval for the SLR in December 2019. Consequently, FPL's resource plan includes the continued operation of Turkey Point Units 3 & 4 through the new license termination dates, providing firm capacity into the important load center of Miami-Dade and Broward Counties, as well as zero-emission baseload energy.

FPL currently plans to apply to the NRC in the 3rd Quarter of 2021 for an SLR for its existing St. Lucie nuclear Units 1 & 2. If approved by the NRC, the SLRs for St. Lucie Units 1 and 2 will extend the licenses for those facilities for an additional 20 years, until 2056 and 2063, respectively. The NRC's review of FPL's SLR request for St. Lucie Units 1 and 2 is expected to take approximately 18-months after the request is filed.

Nuclear capacity remains an important consideration in resource planning work, and this Site Plan continues to present the Turkey Point site as a Preferred Site for the new and/or continuing source of nuclear capacity and energy.

<u>Natural gas sourcing and delivery:</u> In 2013, the FPSC approved FPL's contracts to bring more natural gas into FPL's service territory through a third natural gas pipeline system into Florida. The process by the pipeline companies to obtain approval from the Federal Energy Regulatory Commission (FERC) for the new pipeline system, consisting of the Sabal Trail and Florida Southeast Connection pipelines, culminated in receiving a FERC certificate of approval on February 2, 2016. The new pipeline system is now in-service and utilizes an independent route that results in a more reliable, economic, and diverse natural gas supply for FPL customers and the State of Florida.

<u>Using natural gas more efficiently:</u> FPL has sought ways to utilize natural gas more efficiently for a number of years. Since 2008, after receiving FPSC approval, FPL modernized the following plant sites by retiring older steam generating units and replacing them with new, highly efficient CC units: Cape Canaveral, Riviera Beach, and Port Everglades.

Similarly, the modernization of the Lauderdale site in 2022 will also enhance FPL's ability to utilize natural gas more efficiently. The modernization project is well underway and the dismantlement of the two older, relatively fuel-inefficient generating units, Lauderdale Units 4 & 5, has been completed. In 2022, a new fuel-efficient CC unit will be added at the same site: DBEC Unit 7. Part of the decision to proceed with the modernization of the Lauderdale site was the projection that the total amount of natural gas that will be used on FPL's system will be reduced with the new CC unit compared to what the usage would have been if the two older units had continued to operate.

Addition of Gulf Assets**:** Through the acquisition of Gulf, FPL now owns two generating plants in the Florida Panhandle. Plant Crist, located in the Pensacola area, currently runs on natural gas. Plant Smith, located near Panama City, has a CC natural gas plant and a small CT unit on site. FPL has access to gas transportation capacity on the Gulf South Pipeline Company, LP (Gulf South) and the Florida Gas Transmission Company, LLC (FGT) pipelines to serve these plants. Uprates at Plant Smith's Unit 3 to increase the output of the unit were completed in 2020. To support the gas conversion at Plant Crist, a new plant lateral has been constructed connecting Plant Crist to the FGT pipeline. Also, the Crist plant was recently renamed as the "Gulf Clean Energy Center." Four new CTs will be added at the Gulf Clean Energy Center in late 2021; these units will have the capability to burn either natural gas or ultra-low sulfur distillate (ULSD) fuel oil.

In the future, FPL's resource planning group will continue to identify and evaluate alternatives that may maintain or enhance system fuel diversity. In this regard, efforts are also being made to maintain the ability to utilize ULSD oil at existing units that have that capability. In addition, the CTs that FPL installed at its existing Lauderdale and Fort Myers sites in 2016, which replaced older GT units that were retired, have the capability to burn either natural gas or ULSD fuel oil.

3. Maintaining an Appropriate Balance Between Generation and DSM Resources for System Reliability:

As mentioned earlier in Section III. A, FPL utilizes a 10% Generation-Only Reserve Margin (GRM) to ensure that system reliability is not negatively affected by an overreliance on non-generation resources, particularly at times of extreme load. This GRM reliability criterion was developed as a result of extensive analyses – which have been described in detail in prior FPL Site Plans – of FPL's system from both resource planning and system operations perspectives. The potential for overreliance upon non-generating resources for system reliability remains an important resource planning issue and is one that will continue to be examined in ongoing resource planning work.

4. The Significant Impacts of Federal and State Energy-Efficiency Codes and Standards:

As discussed in Chapter II, the load forecasts for both the FPL and Gulf areas include projected impacts from federal and state energy-efficiency codes and standards. The magnitude of energy efficiency that is currently projected to be delivered to customers of the single, integrated system through these codes and standards is significant.

Current projections are that a cumulative Summer peak reduction impact of 5,332 MW, from these codes and standards beginning in 2005 (the year the National Energy Policy Act was enacted) and extending through 2030 (*i.e.*, the last year in the 2021 through 2030 reporting time period for this Site Plan), will occur compared to what the projected load would have been without the codes and standards. The projected incremental Summer MW impact from these codes and standards from the end of 2020 through 2030 reporting period of this Site Plan is the equivalent of an approximate 17% reduction compared to what the projected peak load would have been without the codes and standards. In regard to energy, the cumulative reduction attributed to the impact of the codes and standards from 2005 to 2030 is projected to reach 11,108 GWh since 2005. This reduction is the equivalent of an approximate 8% reduction compared to what the projected annual energy would have been without the codes and standards. The significant impacts of these energy-efficiency codes and standards, from a 2005 starting point, for the years 2021-2030 are presented in the table below.

Table III.C.4.1: Projected FPL and Gulf Integrated System Codes and Standards Impact

	Codes and Standards Impact		
	FPL And Gulf Combined		
	Summer Peak (MW)	Winter Peak (MW)	Annual Energy (GWh)
2021	4,019	635	7,698
2022	4,275	683	8,182
2023	4,445	729	8,529
2024	4,573	776	9,050
2025	4,733	820	9,447
2026	4,889	865	9,845
2027	5,048	909	10,205
2028	5,220	942	10,510
2029	5,276	974	10,779
2030	5,332	1,016	11,108

In addition to lowering the load forecast from what it otherwise would have been, and thus serving to lower projected load and resource needs, this projected energy efficiency from the codes and standards also affects resource planning in another way: it lowers the potential for utility DSM programs to cost-effectively deliver energy efficiency. This effect was taken into account by the FPSC when it set DSM Goals in 2014. This fact was also prominently discussed in the 2019 DSM Goals docket in which DSM Goals were set for the years 2020 through 2024.

5. **The trends of decreasing costs for fuel, decreasing costs for new generating units, and increasing fuel efficiency of new generating units**:

   There are a number of factors that drive FPL's system costs. Three of the most important of these are: (i) forecasted natural gas costs, (ii) projected costs for new generating units, and (iii) the efficiency with which FPL's generating units convert fuel into electricity. When comparing forecasts of these factors over at least the last 5 years, the trends for each of these factors is in a direction that results in lower system costs for FPL's customers. For example, when comparing the 2016 forecasted cost for natural gas for the year 2021 with the current (2021) forecasted cost for 2021, there has been more than a 33% decrease in projected natural gas costs. In addition, in regard to the fuel efficiency of FPL's generating units, the amount of natural gas (measured in mmBTU of natural gas needed to produce a kWh of electricity) declined from 7,272 in 2016 to approximately 7,064 today. This improvement in fuel efficiency is truly significant, especially when considering the approximately 20,000 MW of gas-fueled generation on FPL's system.

These trends of steadily lowering of key components of FPL's system costs are very beneficial to FPL's customers because they help to lower FPL's electric rates [11].

6. **Projected changes in CO_2 regulation and associated compliance costs:**
   Since 2007, FPL has evaluated potential carbon dioxide (CO_2) regulation and/or legislation and has utilized projected compliance costs for CO_2 emissions from the consultant ICF in its resource planning work. However, there always has been an unavoidable level of uncertainty regarding the timing and magnitude of the cost impacts of the potential regulation/legislation. This level of uncertainty around projected CO_2 compliance costs continued to exist in early November 2020, when FPL froze assumptions for its 2021 resource planning work, largely due to questions regarding federal policy stemming from the new administration and potential legislative action by the U.S. Congress. Because of this uncertainty, and after consulting with ICF, FPL used the same forecast of potential CO_2 compliance costs in its 2021 planning work that helped develop the resource plan presented in this document as it did in its 2020 planning. FPL views this as an appropriate assumption for resource planning purposes.

7. **Projected increases in electric vehicle (EV) adoption:**
   FPL's current load forecast includes a significantly higher projection of EV adoption than did the load forecast used to develop the resource plan in the 2020 Site Plan. This results in projections of both higher annual MWh usage and higher Summer peak hour MW load than was the case in the last Site Plan as discussed further in Chapter II of this document. Both the higher MWh and peak hour MW impacts will have resource planning implications.

III.D Demand Side Management (DSM)

FPL has sought and implemented cost-effective DSM programs since 1978. As such, cost-effective DSM has been a key focus of FPL's resource planning work for more than 40 years. During that time, FPL's DSM programs have included many energy efficiency and load management programs and initiatives. Similarly, Gulf has also pursued cost-effective DSM for decades.

[11] However, because the potential benefits of utility demand-side management (DSM) programs are based on DSM's ability to avoid utility system costs such as those described above, the trend of steadily decreasing FPL system costs automatically results in a significant lowering of the cost-effectiveness of utility DSM.

DSM Goals were set for FPL, Gulf, and other Florida utilities in November 2019. As discussed in FPL's testimony in the 2019 DSM Goals filing that led to these Goals being set, there are several important market forces affecting the feasibility and cost-effectiveness of utility DSM programs. The first of these is the growing impact of federal and state energy-efficiency codes and standards. As discussed first in Chapters I and II, and earlier in Section III.C above, the projected incremental impacts of these energy-efficiency codes and standards during the 2021 through 2030 time period has significantly lowered FPL's projected load and resource needs. In addition, these energy-efficiency codes and standards significantly reduce the potential for cost-effective utility DSM programs.

The second market force discussed in FPL's DSM Goals Testimony is FPL's lower generating costs with which DSM must compete (Gulf's generating costs are also lower than they were in prior years.) There are several reasons for these lower generating costs. One of these is lower fuel costs, particularly lower natural gas costs. In regard to DSM, as fuel costs decline, the benefit realized by each kWh of energy reduced by DSM is also reduced. As a result, the benefit from DSM's kWh reductions has been significantly reduced from what it had been when Florida previously established DSM Goals. For example, from 2016 to 2021, FPL's projected fuel costs in $ per mmBTU for the year 2021 have decreased from $4.51 to $3.00, a percentage decrease of 34%. Lower forecasted natural gas costs are very beneficial for FPL's customers because they result in lower fuel costs and lower electric rates. But, at the same time, lower fuel costs also result in lower potential fuel savings benefits from the kWh reductions of DSM measures. These lowered benefit values result in DSM being less cost-effective than it was in the past.

Another reason for the lower generating costs and the resultant decline in the cost-effectiveness of utility DSM on the FPL system is the steadily increasing efficiency with which FPL generates electricity. FPL's generating system has steadily become more efficient in regard to its ability to generate electricity using less fossil fuel. For example, the FPL system is projected to use almost 30% less fossil fuel to generate a MWh in 2021 than it did in 2001. Again, this is very good for FPL's customers because it helps to significantly lower fuel costs and electric rates. However, the improvements in generating system efficiency affect DSM cost-effectiveness in much the same way as lower forecasted fuel costs: both lower the fuel costs of energy delivered to FPL's customers. Therefore, the improvements in generating system efficiency further reduce the potential fuel savings benefits from the kWh reduction impacts of DSM, thus further lowering potential DSM benefits and DSM cost-effectiveness.

These market forces were topics that were prominently discussed when new DSM Goals for the years 2020 through 2024 were set for FPL, Gulf, and other Florida utilities by the FPSC in the

4th Quarter of 2019. Consideration of these market forces, and of the effects of energy-efficiency codes and standards, were undoubtedly factors helping lead the FPSC to decide to maintain the DSM Goals at the same levels that had been set five years earlier, and to resist efforts to greatly increase DSM Goals for the Florida utilities and their customers.

For resource planning purposes, the DSM Goals set for both FPL and Gulf through 2024 are accounted for in this Site Plan. In addition, the annual DSM levels proposed separately by FPL and Gulf for the years 2025 through 2029 in the DSM Goals docket are accounted for in this Site Plan because these annual levels of DSM were projected to be cost-effective during the DSM Goals docket. Incremental DSM amounts for the year 2030 for both FPL and Gulf, commensurate with each utility's projected DSM annual additions for 2025 through 2029, have been assumed as well.

In February 2020, FPL and Gulf submitted to the FPSC their respective DSM Plans with which they will strive to meet the DSM Goals for 2020 through 2024. The FPSC approved FPL's DSM Plan and Gulf's DSM Plan in Order PSC-2020-0291-CO-EG on August 28, 2020. A summary of the programs for both FPL and Gulf is provided below.

DSM Programs and Research & Development Efforts In FPL's DSM Plan

1. **Residential Home Energy Survey (HES)**
   This program educates customers on energy efficiency and encourages implementation of recommended practices and measures, even if these are not included in FPL's DSM programs. The HES is also used to identify potential candidates for other FPL DSM programs.

2. **Residential Load Management (On Call)**
   This program allows FPL to turn off certain customer-selected appliances using FPL-installed equipment during periods of extreme demand, capacity shortages, system emergencies, or for system frequency regulation.

3. **Residential Air Conditioning**
   This program encourages customers to install high-efficiency central air-conditioning systems.

4. **Residential Ceiling Insulation**
   This program encourages customers to improve their home's thermal efficiency.

5. **Residential New Construction (BuildSmart®)**

   This program encourages builders and developers to design and construct new homes to achieve BuildSmart® certification and move towards ENERGY STAR® qualifications.

6. **Residential Low Income**

   This program assists low income customers through FPL-conducted Energy Retrofits and state Weatherization Assistance Provider (WAP) agencies.

7. **Business Energy Evaluation (BEE)**

   This program educates customers on energy efficiency and encourages implementation of recommended practices and measures, even if these are not included in FPL's DSM programs. The BEE is also used to identify potential candidates for other FPL DSM programs.

8. **Commercial/Industrial Demand Reduction (CDR)**

   This program allows FPL to control customer loads of 200 kW or greater during periods of extreme demand, capacity shortages, or system emergencies.

9. **Commercial/Industrial Load Control (CILC)**

   This program allows FPL to control customer loads of 200 kW or greater during periods of extreme demand, capacity shortages or system emergencies. It was closed to new participants as of December 31, 2000.

10. **Business On Call**

    This program allows FPL to turn off customers' direct expansion central electric air conditioning units using FPL-installed equipment during periods of extreme demand, capacity shortages, or system emergencies.

11. **Business Heating, Ventilating and Air Conditioning (HVAC)**

    This program encourages customers to install high-efficiency HVAC systems.

12. **Business Lighting**

    This program encourages customers to install high-efficiency lighting systems.

13. **Business Custom Incentive (BCI)**

    This program encourages customers to install unique high-efficiency technologies not covered by other FPL DSM programs.

14. **Conservation Research & Development (CRD) Project**

    This project consists of research studies designed to: identify new energy-efficient technologies; evaluate and quantify their impacts on energy, demand and customers; and, where appropriate and cost-effective, incorporate an emerging technology into a DSM program.

DSM Programs and Research & Development Efforts In Gulf's DSM Plan

1. **Residential Energy Audit**

   This program educates customers on energy efficiency through energy conservation advice and information that encourages the implementation of efficiency measures and behaviors resulting in energy and utility bill savings. The Residential Energy Audit program is also used to identify potential candidates for other Gulf Power DSM programs.

2. ***Energy Select***

   This program is designed to provide the customer with a means of conveniently and automatically controlling and monitoring energy purchases in responses to prices that vary during the day and by season in relation to Gulf's cost of producing or purchasing energy. The *Energy Select* system includes field units utilizing a communication gateway, major appliance load control relays, and a programmable thermostat, all operating at the customer's home.

3. **Community Energy Saver Program**

   This program is designed to assist low-income families with energy costs through the direct installation of conservation measures at no cost to them. The program also educates families on energy efficiency techniques and behavioral changes to help control their energy use and reduce their utility operating costs.

4. **Residential Ceiling Insulation**

   This program encourages customers to improve their home's thermal efficiency.

5. **Residential Heat Pump**

   This program encourages customers to install high-efficiency heat pump systems.

6. **Residential Variable Speed Pool Pump**

   This program encourages customers to install high-efficiency variable speed pool pump systems.

7. **Commercial/Industrial Energy Survey**

   This program educates customers on energy efficiency and encourages them to participate in applicable DSM programs and/or implement other recommended actions not included as part of Gulf Business programs.

8. **Business Heating, Ventilating and Air Conditioning (HVAC)**

   This program encourages customers to install high-efficiency HVAC systems.

9. **Commercial Curtailable Load Program**

   This program allows Gulf to request curtailment of customer loads with a minimum commitment of 4,000 kW of Non-Firm Demand. The program will be closed to new participants when the total contracted Non-Firm Demand reaches 50 MW.

10. **Commercial/Industrial Custom Incentive**

    This program is designed to establish the ability to offer advanced energy services and energy efficient end-user equipment (including comprehensive audits, design, and construction of energy conservation projects) not offered through other programs to Commercial or Industrial customers.

11. **Conservation Demonstration & Development**

    The program is designed to serve as an umbrella program for the identification, evaluation, demonstration, data collection and development of new or emerging end-use technologies.

III.E Transmission Plan

The transmission plan will allow for the reliable delivery of the required capacity and energy to FPL’s and Gulf’s retail and wholesale customers. The following table presents the proposed future additions of 230 kV and above bulk transmission lines that must be certified under the Transmission Line Siting Act (TLSA) for the FPL and Gulf areas. There is one such line in FPL’s area, but none in Gulf’s area, for this 10-year reporting period.

Table III.E.1: List of Proposed Power Lines

(1) Line Ownership	(2) Terminals (To)	(3) Terminals (From)	(4) Line Length CKT. Miles	(5) Commercial In-Service Date (Mo/Yr)	(6) Nominal Voltage (KV)	(7) Capacity (MVA)
FPL	Levee [1/]	Midway	150	2030	500	2598

1/ Final order certifying the corridor was issued in April 1990. Construction of 138 miles is complete and in-service. Another phase of the project will utilize the remaining 12 mile section of the Levee-Midway corridor and will bring a second 500 kV line to feed Conservation 500/230 kV substation. The second Conservation 500 kV line is currently projected to be built no earlier than 2030 with the month in which the line would go into service unknown at this time.

In addition, there will be a 161 kV transmission line addition that connects the FPL and Gulf areas which will allow an enhanced level of economic energy transfer between the two areas. The two substation terminals are Raven (FPL area) and Sinai Cemetery (Gulf area). The new line, named the North Florida Resiliency Connection (NFRC) line, is projected to be in-service by June 2022.

There will also be transmission facilities needed to connect several projected generation capacity additions to the system transmission grid in both the FPL and Gulf areas. These transmission facilities are described on the following pages. Other generation capacity additions, such as the Manatee, Sunshine, and Echo River Battery Storage projects in late 2021, and the Dania Beach Clean Energy Center Unit 7 in mid-2022, will not require new transmission lines. Sites for longer term additions, such as projected PV additions for 2024-on, have not yet been definitively determined so no transmission analyses for these additions have been performed.

III.E.1 Transmission Facilities for the Discovery Solar Energy Center in Brevard County

The work required to connect the approximate 74.5 MW (nameplate, AC) Discovery Solar Energy Center in Brevard County in the 2nd Quarter of 2021 is projected to be:

I. Substation:

1. Construct a new single bus, two (2) breaker 115 kV substation (Rocket) on the project site on the FPL C5-Barna 115 kV line.
2. Add one 115/34.5 kV main step-up transformer (85 MVA) with a 115 kV breaker to connect PV inverter array.
3. Construct 34.5 kV bus to connect the PV array to Rocket 115 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:

1. Loop the C5-Barna 115 kV line into Rocket substation.
2. No additional upgrades are expected to be necessary at this time.

III.E.2 Transmission Facilities for the Orange Blossom Solar Energy Center in Indian River County

The work required to connect the approximate 74.5 MW (nameplate, AC) Orange Blossom Solar Energy Center in Indian River County in the 2nd Quarter of 2021 is projected to be:

I. Substation:

1. Construct a new 230 kV substation (Finca) on the project site.
2. Add one 230 kV line switch at Finca bifurcating Eldora-Heritage 230 kV line approximately 1 mile from Eldora
3. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
4. Construct 34.5 kV bus to connect the PV array to Finca 230 kV Substation.
5. Add relays and other protective equipment.
6. Breaker replacements: None

II. Transmission:

1. Loop the Eldora-Heritage 230 kV line approximately 1 mile from Eldora at Finca substation.
2. No additional upgrades are expected to be necessary at this time.

III.E.3 Transmission Facilities for the Sabal Palm Solar Energy Center in Palm Beach County

The work required to connect the approximate 74.5 MW (nameplate, AC) Sabal Palm Solar Energy Center in Palm Beach County in the 2nd Quarter of 2021 is projected to be:

I. Substation:

1. Construct a new 230 kV substation (Costa) on the project site.
2. Add one 230 kV line switch at Costa for string bus to Minto substation
3. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
4. Construct 34.5 kV bus to connect the PV array to Costa 230 kV Substation.
5. Add one 230 kV breaker to close ring bus at Minto substation
6. Add relays and other protective equipment.
7. Breaker replacements: None

II. Transmission:

1. Construct approximately 1.5 miles string bus from Minto 230 kV to Costa substation.
2. No additional upgrades are expected to be necessary at this time.

III.E.4 Transmission Facilities for the Fort Drum Solar Energy Center in Okeechobee County

The work required to connect the approximate 74.5 MW (nameplate, AC) Fort Drum Solar Energy Center in Okeechobee County in the 2nd Quarter of 2021 is projected to be:

I. Substation:

None. Solar PV project to be connected to low-side of Okeechobee Clean Energy Center Combustion Turbine Generator Step-up transformer inside the existing plant, which is connected to Fort Drum 500 kV Substation.

II. Transmission:

None. Solar PV project to be connected to low-side of Okeechobee Clean Energy Center Combustion Turbine Generator Step-up transformer inside the existing plant, which is connected to Fort Drum 500 kV Substation.

III.E.5 Transmission Facilities for the Willow Solar Energy Center in Manatee County

The work required to connect the approximate 74.5 MW (nameplate, AC) Willow Solar Energy Center in Manatee County in the 2nd Quarter of 2021 is projected to be:

I. Substation:

1. Construct a new single bus, two (2) breaker 230 kV substation (Coachwhip) on the project site on the FPL Sunshine-Keentown 230 kV line.
2. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
3. Construct 34.5 kV bus to connect the PV array to new Coachwhip 230 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:

1. Loop the Sunshine-Keentown 230 kV line into new Coachwhip substation.
2. No additional upgrades are expected to be necessary at this time.

III.E.6 Transmission Facilities for Manatee Battery Storage Center in Manatee County

The approximately 409 MW battery storage addition that will be sited in Manatee County with a projected in-service date of late 2021 does not require any new offsite transmission lines.

III.E.7 Transmission Facilities for Sunshine Gateway Battery Storage addition in Columbia County

The 30 MW battery storage facility projected to be in-service in late 2021 that will be added to the existing Sunshine Gateway Solar Energy Center in Columbia County does not require any new offsite transmission lines.

III.E.8 Transmission Facilities for Echo River Battery Storage addition in Suwannee County

The 30 MW battery storage facility projected to be in-service in late 2021 that will be added to the existing Echo River Solar Energy Center in Suwannee County does not require any new offsite transmission lines.

III.E.9 Transmission Facilities for the Gulf Clean Energy Center Unit 8 Combustion Turbine Project in Escambia County

The work required to connect Gulf Clean Energy Center Unit 8, which consists of four simple cycle combustion turbines (CT) in late 2021, to the Gulf system in Escambia County is projected to be:

I. Substation:

1. Construct a 230 kV switchyard (Conecuh) for the four (4) approximately 235 MW CTs on Gulf Clean Energy Center Plant property. Switchyard will have five (5) bays with breaker-and-a-half configuration.
2. Install four (4) main step-up transformers (4 - 315 MVA), one for each CT.
3. Install thirteen (13) - 230 kV independent-pole breakers in the Conecuh switchyard.
4. Replace all Crist 230 kV breakers with independent-pole breakers.
5. Replace 230/115kV autotransformer transformer with a 500 MVA unit at Bellview substation.
6. Add relays and other protective equipment.

II. Transmission:

1. Loop existing Crist-Alligator Swamp #2-230kV and Crist-Bellview 230kV lines into new Conecuh switchyard.
2. Relocate line terminal for Crist-Barry 230kV line into Conecuh substation.
3. Upgrade Brentwood-Crist 230kV to 1930 Amps (768 MVA, ~7.6 miles).
4. Upgrade Conecuh-Crist #1 and #2-230kV lines to 2000 Amps (797 MVA, ~0.2 miles).
5. Upgrade Crist-Scenic Hills #1-115kV to 1800 Amps (359 MVA, ~2.9 miles).
6. Upgrade Eastgate-Scenic Hills 115kV to 1005 Amps (200 MVA, ~4.8 miles).
7. Upgrade Bellview-Conecuh 230kV to 1930 Amps (768 MVA, 8.9 miles).

III.E.10 Transmission Facilities for the Blue Springs Solar Energy Center in Jackson County

The work required to connect the approximate 74.5 MW (nameplate, AC) Blue Springs Solar Energy Center in Jackson County in the 4th Quarter of 2021 is projected to be:

I. Substation:

1. Construct a new single bus, two (2) breaker 115 kV substation (Americus) on the project site, approximately 2 miles from the Cypress – Chipola section of the Gulf Marianna – West Grand Ridge 115 kV line.
2. Add one 115/34.5 kV main step-up transformer (85 MVA) with a 115 kV breaker to connect PV inverter array.
3. Construct 34.5 kV bus to connect the PV array to Americus 115 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:

1. Loop the Cypress – Chipola section of the Gulf Marianna – West Grand Ridge 115 kV line into Americus substation.
2. No additional upgrades are expected to be necessary at this time.

III.E.11 Transmission Facilities for the Cotton Creek Solar Energy Center in Escambia County

The work required to connect the approximate 74.5 MW (nameplate, AC) Cotton Creek Solar Energy Center in Escambia County in the 4th Quarter of 2021 is projected to be:

I. Substation:

1. Construct a new single bus, two (2) breaker 115 kV substation ("Bogia") on the project site, approximately 0.5 miles from the Champion – Flomaton section of the Flomaton – Brentwood 115 kV line.
2. Add one 115/34.5 kV main step-up transformer (85 MVA) with a 115 kV breaker to connect PV inverter array.
3. Construct 34.5 kV bus to connect the PV array to Bogia 115 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:

1. Loop the Champion – Flomaton section of the Flomaton – Brentwood 115 kV line into Bogia substation.
2. No additional upgrades are expected to be necessary at this time.

III.E.12 Transmission Facilities for the Ghost Orchid Solar Energy Center in Hendry County

The work required to connect the approximate 74.5 MW (nameplate, AC) Ghost Orchid Solar Energy Center in Hendry County in the 1st Quarter of 2022 is projected to be:

I. Substation:

1. Construct the north 500kV bus portion of a future double breaker substation (“Ghost”) with three 500kV breakers in close proximity to the Andytown – Orange River 500kV line.
2. Add one 500/34.5 kV main step-up transformer (85 MVA) with a 500 kV breaker to connect PV inverter array.
3. Construct 34.5 kV bus to connect the PV array to new Ghost 230 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:

1. Split and construct approximately 0.25 miles with two separate 500kV circuit structures to loop the Andytown – Orange River 500kV line into the new Ghost substation. Include optical ground wire fiber optics into Ghost substation.
2. No additional upgrades are expected to be necessary at this time.

III.E.13 Transmission Facilities for the Sawgrass Solar Energy Center in Hendry County

The work required to connect the approximate 74.5 MW (nameplate, AC) Sawgrass Solar Energy Center in Hendry County in the 1st Quarter of 2022 is projected to be:

I. Substation:

1. Extend 500 kV bus at Ghost substation and interconnect the 500/34.5kV transformer through a 500kV breaker.
2. Construct 34.5 kV bus to connect the PV array to Ghost 500 kV Substation.
3. Add relays and other protective equipment.
4. Breaker replacements: None

II. Transmission:

1. No additional upgrades are expected to be necessary at this time.

III.E.14 Transmission Facilities for the Sundew Solar Energy Center in St. Lucie County

The work required to connect the approximate 74.5 MW (nameplate, AC) Sundew Solar Energy Center in St. Lucie County in the 1st Quarter of 2022 is projected to be:

I. Substation:

1. Construct a new single bus, two (2) breaker 230 kV substation (“Athena”) on the project site approximately 0.6 miles from the FPL Sherman-Heru 230 kV line corridor.
2. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
3. Construct 34.5 kV buss to connect the PV array to Athena 230 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:

1. Loop the Sherman-Heru 230 kV line (approximately 0.6 miles) into Athena substation
2. No additional upgrades are expected to be necessary at this time.

III.E.15 Transmission Facilities for the Immokalee Solar Energy Center in Collier County

The work required to connect the approximate 74.5 MW (nameplate, AC) Immokalee Solar Energy Center in Collier County in the 1st Quarter of 2022 is projected to be:

I. Substation:

1. Construct a new single bus, two (2) breaker 230 kV substation (Name to be determined later) adjacent to the FPL Buckingham-Bobcat 230 kV line corridor.
2. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
3. Construct 34.5 kV buss to connect the PV array to TBD 230 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:

1. Loop the adjacent Buckingham-Bobcat 230 kV line into substation (name to be determined later)
2. No additional upgrades are expected to be necessary at this time.

III.E.16 Transmission Facilities for the Grove Solar Energy Center in Indian River County

The work required to connect the approximate 74.5 MW (nameplate, AC) Grove Solar Energy Center in Indian River County in the 1st Quarter of 2022 is projected to be:

I. Substation:

1. Expand existing Eldora solar substation and construct a three (3) breaker 230kV ring bus.
2. Construct a new 230 kV substation (Name to be determined later) at the project site
3. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
4. Construct 34.5 kV buss to connect the PV array to TBD 230 kV Substation.
5. Add relays and other protective equipment.
6. Breaker replacements: None

II. Transmission:

1. Connect the Eldora substation to the substation (name to be determined later) via a 5 mile 230 kV line
2. No additional upgrades are expected to be necessary at this time.

III.E.17 Transmission Facilities for the Elder Branch Solar Energy Center in Manatee County

The work required to connect the approximate 74.5 MW (nameplate, AC) Elder Branch Solar Energy Center in Manatee County in the 1st Quarter of 2022 is projected to be:

I. Substation:

1. Construct a new single bus, two (2) breaker 230 kV substation (Saffold) on the project site on the FPL Manatee-Duette 230 kV line.
2. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
3. Construct 34.5 kV bus to connect the PV array to new Saffold 230 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:

1. Loop the Manatee-Duette 230 kV line into new Saffold substation.
2. No additional upgrades are expected to be necessary at this time.

III.E.18 Transmission Facilities for the Lauderdale Plant Modernization (Dania Beach Clean Energy Center Unit 7) in Broward County

The Lauderdale Modernization project (Dania Beach Clean Energy Center Unit 7) that is projected to be completed by mid-2022 does not require any new offsite transmission lines.

III.E.19 Transmission Facilities for the Everglades Solar Energy Center in Miami-Dade County

The work required to connect the approximate 74.5 MW (nameplate, AC) Everglades Solar Energy Center in Miami-Dade County in the 1st Quarter of 2023 is projected to be:

I. Substation:

1. Construct a new single bus, two (2) breaker 138 kV substation ("Maco") on PV site approximately 1.3 miles from the Avocado-Mango section of the FPL Krome-Farmlife 138 kV line corridor.
2. Add one 138/34.5 kV main step-up transformer (85 MVA) to connect PV inverter array.
3. Construct 34.5 kV buss to connect the PV array to Maco 138 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:

1. Loop the Avocado-Mango section of the FPL Krome-Farmlife138 kV line into Maco substation (approximately 1.3 miles).
2. No additional upgrades are expected to be necessary at this time.

III.E.20 Transmission Facilities for the White Tail Solar Energy Center in Martin County

The work required to connect the approximate 74.5 MW (nameplate, AC) White Tail Solar Energy Center in Martin County in the 1st Quarter of 2023 is projected to be:

I. Substation:

1. Construct a new single bus, two (2) breaker 230 kV substation (“Kiwi”) on the project site approximately 2 miles north of the Hummingbird-Bridge section of the FPL Bridge-Indiantown #1 230 kV line.
2. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
3. Construct 34.5 kV bus to connect the PV array to Kiwi 230 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:

1. Loop the Hummingbird-Bridge section of the FPL Bridge-Indiantown #1 230 kV line (approximately 2 miles) into Kiwi substation.
2. No additional upgrades are expected to be necessary at this time.

III.E.21 Transmission Facilities for the Bluefield Preserve Solar Energy Center in St. Lucie County

The work required to connect the approximate 74.5 MW (nameplate, AC) Bluefield Preserve Solar Energy Center in St. Lucie County in the 1st Quarter of 2023 is projected to be:

I. Substation:

1. Construct a new single bus, two (2) breaker 230 kV substation (Name to be determined later) adjacent to the FPL Sherman-Heru 230 kV line corridor.
2. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
3. Construct 34.5 kV buss to connect the PV array to 230 kV Substation (name to be determined later).
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:

1. Loop the adjacent Sherman-Heru 230 kV line into substation (name to be determined later)
2. No additional upgrades are expected to be necessary at this time.

III.E.22 Transmission Facilities for the Cavendish Solar Energy Center in Okeechobee County

The work required to connect the approximate 74.5 MW (nameplate, AC) Cavendish Solar Energy Center in Okeechobee County in the 1st Quarter of 2023 is projected to be:

I. Substation:

None. Solar PV project to be connected to low-side of Okeechobee Clean Energy Center Combustion Turbine Generator Step-up transformer inside the existing plant, which is connected to Fort Drum 500 kV Substation.

II. Transmission:

None. Solar PV project to be connected to low-side of Okeechobee Clean Energy Center Combustion Turbine Generator Step-up transformer inside the existing plant, which is connected to Fort Drum 500 kV Substation.

III.E.23 Transmission Facilities for the Anhinga Solar Energy Center in Clay County

The work required to connect the approximate 74.5 MW (nameplate, AC) Anhinga Solar Energy Center in Clay County in the 1st Quarter of 2023 is projected to be:

I. Substation:

1. Construct a new 230 kV substation (Name to be determined later) on the project site.
2. Add one 230 kV line switch at new substation to connect to Leno substation (Magnolia Springs Solar Energy Center)
3. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
4. Construct 34.5 kV bus to connect the PV array to 230 kV Substation (name to be determined later).
5. Add relays and other protective equipment.
6. Breaker replacements: None

II. Transmission:

1. Connect new substation line switch via string bus to Leno substation.
2. No additional upgrades are expected to be necessary at this time

III.E.24 Transmission Facilities for the Blackwater River Solar Energy Center in Santa Rosa County

The work required to connect the approximate 74.5 MW (nameplate, AC) Blackwater River Solar Energy Center in Santa Rosa County in the 1st Quarter of 2023 is projected to be:

I. Substation:

1. Construct a new single bus, two (2) breaker 230 kV substation ("Rooster") on the project site approximately 1.2 miles south of the Shoal River-Alligator Swamp 230 kV line.
2. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
3. Construct 34.5 kV bus to connect the PV array to Rooster 230 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:

1. Loop the Alligator Swamp-Antioch Road section of the Shoal River-Alligator Swamp 230 kV line (approximately 1.2 miles) into Rooster substation.
2. No additional upgrades are expected to be necessary at this time.

III.E.25 Transmission Facilities for the Chipola Solar Energy Center in Calhoun County

The work required to connect the approximate 74.5 MW (nameplate, AC) Chipola Solar Energy Center in Calhoun County in the 1st Quarter of 2023 is projected to be:

I. Substation:

1. Construct a new single bus, two (2) breaker 230 kV substation (“Melvin”) on the project site adjacent to the Smith-Sinai 230 kV line.
2. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
3. Construct 34.5 kV bus to connect the PV array to Melvin 230 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:

1. Loop the Smith-Sinai 230 kV line into Melvin substation.
2. No additional upgrades are expected to be necessary at this time.

III.E.26 Transmission Facilities for the Flowers Creek Solar Energy Center in Calhoun County

The work required to connect the approximate 74.5 MW (nameplate, AC) Flowers Creek Solar Energy Center in Calhoun County in the 1st Quarter of 2023 is projected to be:

I. Substation:

a. Construct a new single bus, two (2) breaker 115 kV substation ("Grady") on the project site adjacent to the Callaway-Sinai 115 kV line.
b. Add one 115/34.5 kV main step-up transformer (85 MVA) with a 115 kV breaker to connect PV inverter array.
c. Construct 34.5 kV bus to connect the PV array to Grady 115 kV Substation.
d. Add relays and other protective equipment.
e. Breaker replacements: None

II. Transmission:

3. Loop the Callaway-Sinai 115 kV line into Grady substation on site.
4. No additional upgrades are expected to be necessary at this time.

III.E.27 Transmission Facilities for the First City Solar Energy Center in Escambia County

The work required to connect the approximate 74.5 MW (nameplate, AC) First City Solar Energy Center in Escambia County in the 1st Quarter of 2023 is projected to be:

I. Substation:

1. Construct a new single bus, two (2) breaker 230 kV substation (name to be determined later) on the project site, approximately 0.3 miles from the North Brewton-Alligator Swamp 230 kV line.
2. Add one 230/34.5 kV main step-up transformer (85 MVA) with a 230 kV breaker to connect PV inverter array.
3. Construct 34.5 kV bus to connect the PV array to new 230 kV substation (name to be determined later).
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:

1. Loop the North Brewton-Alligator Swamp 230 kV line (approximately 0.3 mile) into new substation(name to be determined later).
2. No additional upgrades are expected to be necessary at this time.

III.E.28 Transmission Facilities for the Apalachee Solar Energy Center in Jackson County

The work required to connect the approximate 74.5 MW (nameplate, AC) Apalachee Solar Energy Center in Jackson County in the 1st Quarter of 2023 is projected to be:

I. Substation:

1. Construct a new single bus, two (2) breaker 115 kV substation (Dellwood) on the project site, near the Gulf Marianna – West Grand Ridge 115 kV line.
2. Add one 115/34.5 kV main step-up transformer (85 MVA) with a 115 kV breaker to connect PV inverter array.
3. Construct 34.5 kV bus to connect the PV array to Dellwood 115 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:

1. Loop the Gulf Marianna – West Grand Ridge 115 kV line into Dellwood substation.
2. No additional upgrades are expected to be necessary at this time.

III.F. Renewable Resources and Storage Technology

Overview:

Even though solar energy-based resource options were generally not economically competitive on FPL's and Gulf's system until the 2016 time frame, both companies have been actively involved in renewable energy resource research and development since the mid-1970s. These activities have been numerous and varied as described below.

FPL's and Gulf's Renewable Energy Efforts Through 2020:

FPL has been the leading Florida utility in examining ways to effectively utilize renewable energy technologies to serve its customers. Since 1976, FPL has been an industry leader in renewable energy research and development and in facilitating the implementation of various renewable energy technologies. FPL's and Gulf's renewable energy efforts through 2020 are briefly discussed in five categories of solar/renewable activities. Plans for new renewable energy facilities from 2021 through 2030 are then discussed in a separate section.

1) Early Research & Development Efforts:

In the late 1970s, FPL assisted the Florida Solar Energy Center (FSEC) in demonstrating the first residential PV system east of the Mississippi River. This PV installation at FSEC's Brevard County location was in operation for more than 15 years and provided valuable information about PV performance capabilities in Florida on both a daily and annual basis. In 1984, FPL installed a second PV system at its Flagami substation in Miami. This 10-kilowatt (kW) system operated for a number of years before it was removed to make room for substation expansion. In addition, FPL maintained a thin-film PV test facility at the FPL Martin Plant Site for a number of years to test new thin-film PV technologies.

Gulf has evaluated the potential for wind as a renewable energy resource in Northwest Florida through meteorological research along the coastal area. Gulf also participated in joint efforts with Southern Company research on various PV technology evaluations.

2) Demand Side & Customer Efforts:

In terms of utilizing renewable energy sources to meet its customers' needs, FPL initiated the first utility-sponsored conservation program in Florida designed to facilitate the implementation of solar technologies by its customers. FPL's Conservation Water Heating Program, first implemented in 1982, offered incentive payments to customers who chose solar water heaters. Before the program ended (because it was no longer cost-effective), FPL paid incentives to approximately 48,000 customers who installed solar water heaters.

In the mid-1980s, FPL introduced another renewable energy program, FPL's Passive Home Program. This program was created to broadly disseminate information about passive solar building design techniques that are most applicable in Florida's climate. As part of this program, three Florida architectural firms created complete construction blueprints for six passive home designs with the assistance of the FSEC and FPL. These designs and blueprints were available to customers at a low cost. During its existence, the program received a U.S. Department of Energy award for innovation and also led to a revision of the Florida Model Energy Building Code which was the incorporation of one of the most significant passive design techniques highlighted in the program: radiant barrier insulation.

FPL has continued to analyze and promote PV utilization. These efforts have included PV research, such as the 1991 research project to evaluate the feasibility of using small PV systems to directly power residential swimming pool pumps. FPL's PV efforts also included educational efforts, such as FPL's Next Generation Solar Station Program. This initiative delivered teacher training and curriculum that was tied to the Sunshine Teacher Standards in Florida. The program provided teacher grants to promote and fund projects in the classrooms.

Gulf offered customers the opportunity to contribute to the development of solar PV beginning with the Solar for Schools program in the 1995 DSM Plan. This voluntary program ultimately developed multiple PV installations in schools across Northwest Florida and was used primarily for educational purposes. In 1999, Gulf offered customers an additional opportunity through an optional rate rider. The PV Rate Rider program was intended to give customers an opportunity to contribute towards the construction of a solar PV facility along with other customers across the Southern Company territory.

In 2008, Gulf received FPSC approval to offer an experimental solar water heating program. This program was intended to help customers overcome the high initial cost of adopting the solar thermal water heating technology. The program spanned three years and was absorbed into a larger portfolio of renewable program offerings in Gulf's 2010 DSM Plan.

In 2009, as part of its DSM Goals decision, the FPSC imposed a requirement for Florida's investor-owned utilities to spend up to a certain capped amount annually to facilitate demand-side solar water heater and PV applications. The annual spending caps for these applications over the five-year period was approximately $15.5 million per year for FPL and approximately $576,000 per year for Gulf. In response to this direction, FPL received approval from the FPSC in 2011 to initiate a solar pilot portfolio consisting of three PV-based programs and three solar water heating-based programs, plus a Renewable Research and Demonstration project. Gulf received similar approval from the FPSC in 2011 to initiate a solar pilot portfolio consisting of two PV-based programs and two solar water heating-based programs. Analyses of the results by both FPL and Gulf from these pilot programs since their inception consistently showed that none of these pilot programs was cost-effective for customers using any of the three cost-effectiveness screening tests used by the State of Florida. As a result, consistent with the FPSC's December 2014 DSM Goals Order No. PSC-14-0696-FOF-EU, these pilot programs expired on December 31, 2015.

Gulf conducted market research in 2015 indicating customer interest in a renewable energy alternative to rooftop PV. After further research into innovative offerings across the industry, Gulf developed a subscription-based program model commonly known as community solar. Gulf received FPSC approval in 2016 for a Community Solar program intended to facilitate construction of a 1 MW facility in Northwest Florida once adequate subscriptions were secured. However, customer interest to-date has not been adequate to justify construction of the project.

In addition, FPL and Gulf assist customers interested in installing PV equipment at their facilities. Consistent with Florida Administrative Code Rule 25-6.065, Interconnection and Net Metering of Customer-Owned Renewable Generation, FPL works with customers to interconnect these customer-owned PV systems. Through December 2020, approximately 25,000 customer systems (predominantly residential) have been interconnected with FPL and approximately 5,600 customer systems (predominately residential) have been interconnected with Gulf. These values represent approximately 0.3% of FPL's total number of customers, and approximately 0.5% of Gulf's total number of customers, respectively.

3) <u>Supply Side Efforts – Power Purchases:</u>

FPL has facilitated a number of renewable energy projects (facilities which burn bagasse, waste wood, municipal waste, etc.) through power purchase agreements (PPAs). FPL purchases firm capacity and energy, and/or as-available energy, from these types of facilities. For example, FPL has a contract to receive firm capacity from the Solid Waste Authority of Palm Beach (SWA) through April 2034.

Gulf currently has three PPAs with solar facilities totaling approximately 120 MW of nameplate capacity. In addition, Gulf has two PPAs totaling approximately 81 MW based, at least in part, on receiving wind-produced firm amounts of hourly energy from out-of-state sources. Tables I.A.3.1, I.A.3.2, I.A.3.3, I.B.3.1, I.B.3.2, and I.B.3.3 in Chapter I provide information regarding both firm and non-firm capacity PPAs from renewable energy facilities in the two areas.

4) <u>Supply Side Efforts – Utility Owned Facilities:</u>

At the time this Site Plan is filed (April 1, 2021), FPL is projected to own 37 universal solar generating facilities, and Gulf owns one universal solar generating facility. All but one of these facilities are PV facilities and together they represent approximately 2,643 MW (nameplate) of generation for FPL and 74.5 MW (nameplate) of generation for Gulf Power. The other facility is a 75 MW solar thermal facility. Each of these solar facilities is listed below in Table III.F.1.

Table III.F.1: List of FPL & Gulf-Owned Solar Facilities Through April 2021

	Solar Energy Center	Project	County	Nameplate MW	Type	COD
			FPL Area			
1	Desoto	-	Desoto	25	Tracking	Oct-09
2	Space Coast	-	Brevard	10	Fixed	Apr-10
3	Martin	-	Martin	75	Solar Thermal	Dec-10
4	Manatee	-	Manatee	74.5	Fixed	Dec-16
5	Citrus	-	DeSoto	74.5	Fixed	Dec-16
6	Babcock	-	Charlotte	74.5	Fixed	Dec-16
7	Horizon	SoBRA	Alachua / Putnam	74.5	Fixed	Jan-18
8	Coral Farms	SoBRA	Putnam	74.5	Fixed	Jan-18
9	Wildflower	SoBRA	DeSoto	74.5	Fixed	Jan-18
10	Indian River	SoBRA	Indian River	74.5	Fixed	Jan-18
11	Blue Cypress	SoBRA	Indian River	74.5	Fixed	Mar-18
12	Barefoot Bay	SoBRA	Brevard	74.5	Fixed	Mar-18
13	Hammock	SoBRA	Hendry	74.5	Fixed	Mar-18
14	Loggerhead	SoBRA	St. Lucie	74.5	Fixed	Mar-18
15	Miami-Dade	SoBRA	Miami-Dade	74.5	Fixed	Jan-19
16	Interstate	SoBRA	St. Lucie	74.5	Fixed	Jan-19
17	Sunshine Gateway	SoBRA	Columbia	74.5	Fixed	Jan-19
18	Pioneer Trail	SoBRA	Volusia	74.5	Fixed	Jan-19
19	Sweetbay	ST	Martin	74.5	Fixed	Jan-20
20	Northern Preserve	ST	Baker	74.5	Fixed	Jan-20
21	Cattle Ranch	ST	Desoto	74.5	Tracking	Jan-20
22	Twin Lakes	ST	Putnam	74.5	Tracking	Jan-20
23	Blue Heron	ST	Hendry	74.5	Fixed	Jan-20
24	Babcock Preserve	ST	Charlotte	74.5	Fixed	Jan-20
25	Hibiscus	SoBRA	Palm Beach	74.5	Fixed	Apr-20
26	Okeechobee	SoBRA	Okeechobee	74.5	Fixed	Apr-20
27	Southfork	SoBRA	Manatee	74.5	Tracking	Apr-20
28	Echo River	SoBRA	Suwannee	74.5	Tracking	Apr-20
29	Lakeside	ST	Okeechobee	74.5	Fixed	Dec-20
30	Trailside	ST	St. Johns	74.5	Tracking	Dec-20
31	Union Springs	ST	Union	74.5	Tracking	Dec-20
32	Egret	ST	Baker	74.5	Tracking	Dec-20
33	Nassau	ST	Nassau	74.5	Tracking	Dec-20
34	Magnolia Springs	ST	Clay	74.5	Tracking	Mar-21
35	Pelican	ST	St. Lucie	74.5	Fixed	Mar-21
36	Palm Bay	ST	Brevard	74.5	Fixed	Mar-21
37	Rodeo	ST	DeSoto	74.5	Tracking	Mar-21
			Gulf Power Area			
38	Blue Indigo	-	Jackson	74.5	Tracking	Apr-20
			Totals			
			FPL Area Total Nameplate MW:	2,643		
			Gulf Power Area Total Nameplate MW:	75		
			Total Nameplate MW:	2,718		

5) **Ongoing Research & Development Efforts:**

FPL has a "Living Lab" across several of its office locations and select customer sites to demonstrate FPL's renewable energy commitment to employees and visitors. Through various Living Lab projects, FPL is able to evaluate multiple solar and storage technologies and applications for the purpose of developing a renewable business model resulting in the most cost-effective and reliable uses for FPL's customers. FPL currently has approximately 317 kW of PV as part of the Living Lab, including a 157 kW floating solar installation in Miami-Dade County that can enable FPL to compare generation and O&M costs for floating versus ground-mount solar PV. In 2020, FPL expanded the Living Lab to include residential sites around Palm Beach County to test battery storage in a residential setting. The test addresses both potential benefits of having a 5-to-8 kW storage system for home backup power and the ability of FPL to remotely control the storage systems to provide services to the electric grid. FPL plans to continue to expand the Living Lab as new technologies come to market, including plans to test additional solar technologies, including solar PV paired with battery storage in a residential setting, and 500 kW of linear generators in 2021.

FPL has also been in discussions with several private companies on multiple emerging technology initiatives, including ocean current, thermal storage, hydrogen, fuel cell technology, and energy storage.

In regard to PV's impact on the FPL system, FPL developed a methodology to determine what firm capacity value at FPL's Summer and Winter peak hours would be appropriate to apply to existing, and potential PV facilities. The potential capacity contribution of PV facilities is dependent upon a number of factors including (but not necessarily limited to): site location, technology, design, and the total amount of solar that is operating on FPL's system. (Note that the Martin solar thermal facility is a "fuel-substitute" facility, not a facility that provides additional capacity and energy. The solar thermal facility displaces the use of fossil fuel to produce steam on the FPL system when the solar thermal facility is operating.)

Based on the results of its analyses using that methodology, firm capacity values are assigned to each new solar facility. These firm capacity values are described in terms of the percentage of the facility's nameplate (AC) rating that can be counted on as firm capacity at the Summer and Winter peak load hours. For example, two of FPL's earliest PV facilities, DeSoto and Space Coast, have been assigned firm capacity values of approximately 46% for DeSoto and 32% for Space Coast at FPL's Summer peak hour (that typically occurs in the 4 p.m. to 5 p.m. hour), but contribute no firm capacity during FPL's Winter peak hour (that typically occurs in the 7 a.m. to 8 a.m. hour). Similarly, each new solar facility is assigned a specific firm capacity value based on the factors described above. Information on each solar unit's firm capacity is available in the footnotes of Schedule 1 in Chapter I and the entries for new units in Schedule 8 later in this chapter.

Gulf conducted research on residential Tesla Powerwall battery systems to evaluate both the potential to shift solar contribution to peak hours and to dispatch storage as a demand-response resource.

Renewable Energy, Battery Storage, and Electric Vehicle Projections for 2021 through 2030:

This section addresses efforts regarding renewable energy in both universal (utility-scale) and distributed solar, as well as FPL's SolarTogether program. In addition, efforts regarding battery storage are also addressed. These efforts and plans are summarized below.

1) Universal Solar:

In 2009, FPL constructed 110 MW of solar energy facilities including two PV facilities totaling 35 MW and one 75 MW solar thermal facility. From 2009 through 2017, the costs of solar equipment, especially PV equipment, declined significantly and universal (i.e., utility-scale) PV facilities at a number of sites became increasingly competitive economically with more conventional generation options. As a result, FPL added three new PV facilities of approximately 74.5 MW each near the end of 2016.

In the first quarter of 2018, eight additional PV facilities of 74.5 MW each, or 596 MW in total, also went into commercial operation. These eight PV facilities were added under the Solar Base Rate Adjustment (SoBRA) provision of the Commission's order approving the settlement agreement for FPL's last base rate case in 2016 (Order No. PSC-16-0560-AS-EI) and comprised two groups of four solar facilities each. In 2019, four more 74.5 MW PV facilities, or approximately 298 MW, were added as SoBRA facilities. An additional four 74.5 MW PV facilities, or approximately 298 MW, were placed into commercial operation in the 2nd Quarter of 2020. This completed the addition of solar under the current SoBRA mechanism.

In addition to the SoBRA additions described above, FPL also added six PV facilities of 74.5 MW each, or approximately 447 MW, in the first quarter of 2020, another five facilities of 74.5 MW each, or approximately 372.5 MW in the fourth quarter of 2020, and another four facilities of 74.5 MW, or approximately 298 MW in the first quarter of 2021 under the FPL

SolarTogether™ (ST) program approved by the FPSC in March 2020 (Order PSC-2020-0084-S-EI). A total of five additional 74.5 MW sites totaling approximately 372.5 MW are currently under construction as part of the ST program. These five sites are projected to be placed into service between April and June of 2021.

In regard to Gulf's area, one new 74.5 MW utility-owned PV facility was placed into commercial operation in April of 2020. Two additional 74.5 MW PV facilities will be placed into service in December 2021.

The resource plan presented in this Site Plan continues to show significant increases in solar (PV) resources over the 10-year reporting period. Approximately 9,313 MW of additional PV generation is projected to be added in the 2021 through 2030 time period with approximately 7,599 MW sited in FPL's area and approximately 1,714 MW sited in Gulf's area. These additional PV facilities are projected to be 74.5 MW each. When combining these projected solar additions with the approximately 2,345 MW of solar PV already installed on FPL's system at the end of 2020, the projected total of solar PV for the single integrated utility by the end of 2030 is equal to 11,657 MW. This planned solar implementation schedule is consistent with FPL's January 2019 announcement of its "30-by-30" plan in which FPL stated an objective to install more than 30 million solar panels on FPL's system by the year 2030.

Ongoing resource planning work will continue to analyze the projected system economics of solar and all other resource options. Information regarding the Preferred and Potential Sites for the projected solar additions, particularly in the near-term, is presented in Chapter IV.

2) <u>Distributed PV Pilot Programs:</u>

FPL began implementation of two distributed PV pilot programs in 2015. The first is a voluntary, community-based, solar partnership pilot to install new solar-powered generating facilities. The program is funded by contributions from customers who volunteer to participate in the pilot and does not rely on subsidies from non-participating customers. The second program has installed approximately 3.8 MW of distributed generation (DG) PV and expired at the end of 2020. The objective of this second program was to collect grid integration data for DG PV and develop operational best practices for addressing potential problems that may be identified. The MW installed under this pilot program will continue to be evaluated for these purposes. A brief description of these pilot programs follows.

a) <u>Voluntary, Community-Based Solar Partnership Pilot Program:</u>

The Voluntary Solar Pilot Program, named FPL SolarNow™, provides FPL customers with a flexible opportunity to support development of solar power in Florida. The FPSC approved FPL's request for this three-year pilot program in Order No. PSC-14-0468-TRF-EI on August 29, 2014. The pilot program's tariff became effective in January 2015. The final program disposition and five-year extension of the pilot was approved on December 1, 2020 by the FPSC in Order No. PSC-2020-0508-TRF-EI, and will now sunset on December 31, 2025.

This pilot program provides all customers the opportunity to support bringing solar projects into local communities by funding the construction of solar facilities in local public areas, such as parks, zoos, schools, and museums. Customers can participate in the program through voluntary contributions of $9/month. As of the end of 2020, there were 51,916 participants enrolled in the Voluntary Solar Pilot Program. This program has installed 77 projects located in 36 communities within the FPL service territory. These projects represent approximately 2,528 kW-DC of PV generation.

b) <u>C&I Solar Partnership Pilot Program:</u>

This pilot program was conducted in partnership with interested commercial and industrial customers over an approximately 5-year period and expired in 2020. Limited investments were made in PV facilities located at customer sites on selected distribution circuits within FPL's service territory.

The primary objective was to examine the effect of high localized PV penetration on FPL's distribution system and to determine how best to address any problems that may be identified. FPL installed approximately 3.7 MW of PV facilities on circuits that experience specific loading conditions to better study feeder loading impacts. In addition, FPL evaluated the integration of solar into urban areas to test its impact on the distribution system on feeders that are heavily loaded as well as investigate the capabilities of "bifacial solar panel" technology, which, unlike traditional panels, is able to produce energy on both sides.

3) <u>FPL SolarTogether™ Program:</u>

In March of 2019, FPL filed for FPSC approval of a community solar program under the market name FPL SolarTogether™. This voluntary program offers FPL customers the option to purchase solar output/attributes from cost-effective, large-scale solar energy centers. The proposed program does not require customers who participate to be bound to a long-term contract or subject to upfront enrollment costs or termination penalties. Under this program, participants' monthly electric bills show both a subscription charge and a subscription credit line item associated with the subscribers' share of the actual solar energy generated. The FPL SolarTogether™ program leverages the economies of scale of universal solar to deliver long-term savings to both program participants and non-participants.

In March 2020, the FPSC approved the FPL SolarTogether™ program (Order PSC-2020-0084-S-EI). The first phase of the program will add 1,490 MW of new solar facilities[12]. Program open enrollment began on March 17, 2020, receiving very favorable reception by residential, small business, and commercial customers. At month end March 2020 the program had fully subscribed the 447 MW of operational FPL SolarTogether™ solar sites and taken in over 1,000 MW of Commercial Industrial and Government (C&I-G) waitlisted subscription requests. Steady enrollment growth continued throughout 2020.

Eleven of the twenty approved solar sites under this program were completed in 2020. Four additional sites were completed in February and March of 2021 and the remaining five sites are expected to become commercially operational between April and June 2021. As of this same time, total subscriptions for the program have reached 1,367 MW of the 1,490 MW available and is 92% subscribed. The 1,118 MW allocated to commercial industrial and governmental (CI&G) customers is sold out as a result of the 2018-2019 pre-registration efforts and the waitlisted subscriptions for this segment is over 1,700 MW.[13] The residential and small business subscriptions have topped 250 MW of the 335 MW available and is 75% subscribed. Finally, the low-income portion of SolarTogether, marketed as FPL SunAssist[RM] opened for enrollment on January 14, 2021 and has subscribed approximately 7 MW of the 37.5 MW available, or 18% subscribed, as of month end January 2021.

Battery Storage Efforts:

Battery storage technology has continued to advance, and the costs of storage are projected to continue to decline. As a result, battery storage, particularly when charged

[12] In the SolarTogether community solar program, participating customers share in the costs and benefits of a dedicated FPL SolarTogether PV facility and are entitled, upon their request, to have the environmental attributes associated with their participation retired by FPL on their behalf.
[13] The FPL SolarTogether™ C&I-G waitlist was closed to new requests in April of 2020 at which time the total requests had exceeded 1,700 MW.

solely by utility-scale solar facilities, has become an economically competitive firm capacity option for FPL's system. As previously discussed, a 409 MW battery storage facility will be added in late 2021 at the existing Manatee plant site to partially offset the loss of capacity that will occur with the retirement of existing Manatee Units 1 & 2. Additional battery storage capacity is projected to be added by late 2021 with 30 MW of battery storage added at both the existing Sunshine Gateway Solar Energy Center and at the Echo River Solar Energy Center. An additional total of approximately 700 MW of battery storage is also included in the resource plan in the years 2029 and 2030. These 700 MW are distributed in both FPL's area and Gulf's area.

In addition, FPL is analyzing the potential of battery storage technology to benefit FPL's customers in other ways. These analyses have been, and are currently, being carried out through implementation of two pilot projects designed to evaluate different potential applications for batteries on FPL's system.

The objectives of the two pilot projects are to identify the most promising applications for batteries on FPL's system and to gain experience with battery installation and operation. This information will position FPL to expeditiously take advantage of battery storage for the benefit of FPL's and Gulf's customers as the economics of the technology continue to improve. For the purpose of discussing these two pilot projects, they will be referred to as the "small scale" and "large scale" storage pilot projects.

1) <u>Small Scale Storage Pilot Projects:</u>

In 2016 and early 2017, FPL installed approximately 4 MW of battery storage systems, spread across six sites, with the general objective of demonstrating the operational capabilities of batteries and learning how to integrate them into FPL's system. These small storage projects were designed with a distinct set of high-priority battery storage grid applications in mind. These applications include: peak shaving, frequency response, and backup power. In addition, these initial projects were designed to provide FPL with an opportunity to determine how to best integrate storage into FPL's operational software systems and how best to dispatch and/or control the storage systems.

To this end, FPL installed multiple projects that have been in service for more than 3 years and have yielded valuable information regarding the applications listed above. These projects include: (i) a 1.5 MW battery in Miami-Dade County using second life automotive batteries for peak shaving and frequency response found that high in-house integration costs coupled with low remaining capacity in second life batteries do not support the business case, (ii) a 1.5 MW battery in Monroe County for backup power and voltage support showcased the complexity of working with customer's equipment, (iii) a relocatable 0.75 MW uninterruptible power supply (UPS) battery at Trividia Health, Inc. in Broward county provides consistent support to mitigate customer's momentary disruptions and reliability issues but relocation is costly and requires high technical expertise, and (iv) smaller kilowatt-scale systems in several communities for distributed storage reliability applications successfully provide reliability support for residential customers during grid events but FPL found front-of-the-meter deployment is more expensive than behind-the-meter installations.

2) **Large Scale (50 MW) Storage Pilot Project:**

The small-scale battery storage pilot projects described above are complemented by up to 50 MW of additional battery projects. These pilot projects were authorized under the Settlement Agreement in FPL's 2016 base rate case. The 50 MW of batteries that have been, and will continue to be deployed in this larger pilot project have expanded the number of storage applications and configurations that FPL will be able to test, as well as making the scale of deployment more meaningful, given the large size of FPL's system.

The first two storage projects under this pilot, placed in-service in the first Quarter of 2018, involve pairing battery storage with existing universal PV facilities. One of the projects is a 4 MW battery sited at FPL's Citrus Solar Energy Center. This project captures clipped (curtailed) solar energy from the solar panels during high solar insolation hours, then releases this energy in other hours. The second of these two projects is a 10 MW battery at FPL's Babcock Ranch Solar Energy Center. This project is designed to shift PV output from non-peak times to peak times and to provide "smoothing" of solar output and regulation services. These two projects are designed to enhance the operations of existing solar facilities that were installed in 2016. The data and lessons gathered from these two projects enable more optimized design configurations for solar-paired battery projects as well as improved operational parameters for economic dispatch.

In the fourth Quarter of 2019 a 10 MW battery in Wynwood, a dense urban area close to downtown Miami, went into service. The project is designed to examine the use of batteries to support the distribution system with a focus on addressing grid, system, and customer challenges. Key learnings relate to the challenges of installing a battery in a dense urban area, including the decision to install in a building to allow for increased energy density, and integration into the distribution control system to allow for seamless integration into the Automated Feeder Switching system.

Two additional projects placed in-service in the third quarter of 2020 are designed to enhance reliability for FPL customers and the grid. One is an 11.5 MW battery that will augment the new Dania Beach Clean Energy Center Unit 7 now under construction. This battery will provide FPL an opportunity to test using battery storage to black start large generating units. The other is a 3 MW battery alongside an existing solar PV system to create a microgrid. The microgrid will be used for local resiliency and to provide additional grid services, including mitigation of disruptions potentially caused by solar in the distribution system. The projects have thus far yielded valuable learnings about interconnection approach and properly sizing the battery to account for the inrush current needed to energize the load for these applications.

The remaining portion of the approved 50 MW of storage capacity is in development or construction. In the first quarter of 2021 FPL is adding 1 MW to the existing Babcock Ranch Battery Storage System to test the design and performance of various battery augmentation solutions to mitigate degradation. The last three projects explore battery storage opportunities associated with electric vehicles (EVs) and EV infrastructure. The first is 1.25 MW of Electric-Vehicle-to-Grid (EV2G) batteries using electric school buses that will be able to discharge electricity to the grid when needed. The project will explore the potential for utilizing electric vehicles as grid resources on FPL's system for the first time ever. The first bus was delivered in the third quarter of 2020 and four more buses will be delivered in 2021.

The second EV plus storage pilot adds 0.35 MW of storage to two FPL EVolution pilot sites in Columbia County and Nassau County for a total of 0.7 MW of storage. Pairing battery storage with EV fast charging stations is expected to provide grid benefits in the form of peak shaving and a reduction in distribution upgrades. The third and final pilot project, the "FPL EVolution Hub", has two parts: (i) 7.25 MW of storage paired with 5 MW solar PV to create a renewable microgrid, and (ii) two trailers each fitted with 0.65 MW (total 1.3 MW) of storage and 6 EV (12 total) fast chargers. The microgrid will be used to charge the trailers that will be deployed throughout FPL territory during grid events to increase resiliency for EV charging. These final pilot projects are under development with in-service dates throughout 2021.

A summary of FPL's battery storage facilities is presented in Table III.F.2 below.

Table III.F.2: List of FPL Battery Storage Facilities

In-Service Date	Location/Projects	Status	Nameplate MW
2016-2017	2016 Pilots	Operation	4
2018	Citrus Solar Energy Center	Operation	4
2018	Babcock Solar Energy Center	Operation	10
2019	Wynwood	Operation	10
2020	Dania Beach Energy Center	Operation	11.5
2020	University Microgrid	Operation	3
2020	EV2G	Operation	1.25
2021	Manatee	Construction	409
2021	Sunshine Gateway	Construction	30
2021	Echo River	Construction	30
2021	EV + Storage	Development	0.7
2021	FPL EVolution Hub	Development	8.55
		Total:	**522**

Electric Vehicle Efforts:

Florida continues to rank in the top three in the nation for electric vehicle (EV) adoption, and more Floridians are buying electric vehicles every year. FPL began implementation of its new FPL EVolution pilot program in 2019 to support the growth of EVs with the goal to install more than 1,000 charging ports, thus increasing the availability of public charging for EVs in Florida by 50%. This pilot program will be conducted in partnership with interested host customers over an approximate 3-year period. Limited investments will be made in EV charging infrastructure. Installations will encompass different EV charging technologies and market segments, including level 2 workplace and fleet charging at public and/or private workplaces; destination charging at well-attended locations; residential charging at customers' homes; and DC fast charging in high-traffic areas and strategically-located sites along highway corridors and evacuation routes to further enable long distance travel for EV drivers. These places will include Florida's Turnpike Service Plazas, public parking areas, tourist attractions, hospitals, and large businesses that employ hundreds of Florida residents. As of December 31, 2020, FPL has installed 306 ports at 60 locations.

The primary objective of this pilot program for FPL, as a regulated utility, is to gather data and learnings ahead of mass EV adoption to ensure future EV investments enhance service and reduce costs. The FPL EVolution Pilot focuses on three key areas: a) influences of infrastructure build-out on adoption; b) rate structures and demand models; and c) grid impacts of fast-charging. The FPL EVolution pilot has provided FPL valuable early insights and best practices into EV charging infrastructure deployment in the areas of siting, equipment, installation, and grid reliability.

In addition, on December 21, 2020 by Order Number 20200512-TRF-EI, the Florida Public Service Commission approved FPL's petition requesting approval of three optional EV public charging pilot tariffs. The first tariff establishes a rate for utility owned public EV fast charging stations. The tariff enables FPL to charge drivers directly at certain FPL EVolution fast charging stations. The second set of tariffs apply to third-party public charging stations operating in FPL's service area. The tariffs and associated rates limit the demand cost associated with general service demand rates billed to the charging stations. The tariffs took effect in January 2021 and will last for a period of five years.

Next Generation DSM Options

FPL is constantly analyzing future trends – such as the steady increase in EVs and the emergence of behind-the-meter (BTM) batteries – to create forward-thinking programs that meet customers' evolving energy needs while delivering clean, reliable and affordable energy. Both EVs and BTM batteries change customers' demand patterns for electricity. As such, FPL considers these as demand side impacts. Therefore, the emergence of EVs and BTM batteries are areas that FPL is examining for potential "next generation" DSM options.

III.G Fuel Mix and Fuel Price Forecasts

1. Fuel Mix: FPL and Gulf

Until the mid-1980s, FPL relied primarily on a combination of fuel oil, natural gas, and nuclear energy to generate electricity with significant reliance on oil–fueled generation. In the early 1980s, FPL began to purchase "coal-by-wire." In 1987, coal was first added to the fuel mix through FPL's partial ownership (20%) and additional purchases (30%) from the St. Johns River Power Park (SJRPP). This allowed FPL to meet its customers' energy needs with a more diversified mix of energy sources. Additional coal resources were added with the partial acquisition (76%) of Scherer Unit 4, which began serving FPL's customers in 1991.

The trend since the early 1990s has been a steady increase in the amount of natural gas, which FPL uses to produce electricity due, in part, to the introduction of highly efficient and cost-effective CC generating units and the ready availability of abundant, U.S.-produced natural gas. FPL placed into commercial operation two new gas-fueled CC units at the West

County Energy Center (WCEC) site in 2009. FPL added a third new CC unit to the WCEC site in 2011. In addition, FPL has completed the modernization of its Cape Canaveral, Riviera Beach, and Port Everglades plant sites. These new CC units have dramatically improved the efficiency of FPL's generation system in general and, more specifically, the efficiency with which natural gas is utilized. In March of 2018, the FPSC authorized a modernization of FPL's Lauderdale site in which two existing steam-type generating units were retired in late 2018, and a new, much more fuel-efficient CC unit, DBEC Unit 7, will be added at the site by mid-2022.

The uprates at Plant Smith's Unit 3 in Gulf's area will increase the efficiency of the current unit, and alternatives that allow more output from existing units across the FPL and Gulf systems will continue to be evaluated. The addition of 4 CT's at the Gulf Clean Energy Center (formerly Plant Crist) in 2021, capable of burning natural gas or ULSD oil, will provide additional fuel diversity and reliability.

FPL has also taken measures over the last few years to reduce the use of coal as a fuel. FPL shuttered Cedar Bay in 2016, St. Johns River Power Park in 2018, and the Indiantown Co-Gen coal-fueled unit in late 2020. Gulf's conversion of the Crist plant to natural gas in 2020, plus the retirement of Gulf's ownership portion of the Daniel Units 1 & 2 in January 2024 demonstrates a continued commitment to eliminate coal from the generation portfolio.

In addition, FPL increased its utilization of nuclear energy through capacity uprates of its four existing nuclear units. With these uprates, more than 500 MW of additional nuclear capacity have been added to the FPL system. As mentioned previously, FPL has obtained the Combined Operating Licenses from the NRC for two new nuclear units, Turkey Point Units 6 & 7. FPL has now paused in this process to decide when to pursue approval from the FPSC to proceed to construction. In addition, on January 30, 2018, FPL applied to the Nuclear Regulatory Commission (NRC) for Subsequent License Renewal (SLR) for FPL's Turkey Point Units 3 & 4. The current license terms for these two existing nuclear units extend into the years 2032 and 2033, respectively. The SLR request has now been approved by the NRC which extends the operating licenses for Turkey Point Units 3 & 4 by 20 years to 2052 and 2053, respectively.

FPL also plans to apply to the NRC in the 3rd Quarter of 2021 for an SLR for its existing St. Lucie nuclear Units 1 & 2. If approved by the NRC, the SLRs for St. Lucie Units 1 and 2 will extend the licenses for those facilities for an additional 20 years, until 2056 and 2063, respectively. The NRC's review of FPL's SLR request for St. Lucie Units 1 and 2 is expected to take approximately 18 months after the request is filed.

In regard to utilizing renewable energy, by April 2021, FPL will have an approximate 75 MW solar thermal steam generating facility at the existing Martin site and a total of approximately 2,568 MW PV generating capability comprised mainly of 74.5 MW solar facilities at 36 other sites. In addition, Gulf has one 74.5 MW PV facility. A significant amount of additional solar is projected in the current resource plan as discussed throughout this Site Plan. However, as previously discussed in this chapter, the contribution to fuel diversity of this additional PV capability will be lower on a MWh basis than the large MW additions of PV might suggest.

Ongoing resource planning work will continue to focus on identifying and evaluating alternatives that would most cost-effectively maintain and/or enhance long-term fuel diversity. These fuel-diverse alternatives may include: the purchase of power from renewable energy facilities, additional solar energy facilities, obtaining additional access to diversified sources of natural gas such as liquefied natural gas (LNG) and natural gas from the Mid-Continent and Marcellus regions, preserving the ability to utilize fuel oil at existing units, and increased utilization of nuclear energy. (As previously discussed, new, advanced technology coal-fueled generating units are no longer considered as viable options in Florida in the 10-year reporting period of this document.) The evaluation of the feasibility and cost-effectiveness of these and other possible fuel diversity alternatives will be part of on-going resource planning efforts.

As part of the effort to introduce further fuel diversity and resiliency into FPL's generation system, a hydrogen electrolysis pilot project is currently being proposed at FPL's Okeechobee combined cycle unit. This pilot will utilize solar energy to perform electrolysis and generate hydrogen fuel. This hydrogen fuel will then be burned in a portion of the CC unit to test the capability of FPL's existing units to burn hydrogen instead of natural gas. This proposed pilot would allow FPL to assess how the combustion turbine units in a combined cycle operate with a hydrogen fuel mix and also will provide insight into how a hydrogen fuel production and storage facility can be effectively used on site with combustion turbine units. To provide a source of hydrogen to burn for this pilot, FPL is proposing to build an approximate 25 MW electrolyzer and a storage facility for the production and on-site storage of hydrogen at Okeechobee. The electrolyzer would be interconnected with generation at the Okeechobee site so that electrical energy from a solar facility can be used in the electrolyzer to separate water into hydrogen and oxygen gases. The oxygen is released into the air while the hydrogen is compressed and stored on-site where it can later be used as fuel in the combustion turbine units at the Okeechobee site. Although natural gas burns with much fewer carbon dioxide (CO_2) emissions compared to oil or coal, hydrogen burns with no CO_2 emissions. Therefore, the objective of the pilot project is to test in practice the concept of replacing natural gas with hydrogen as a fuel for CC unit use. If successful, the pilot project is expected to guide the way for future use of hydrogen in a larger way as a fuel in existing and new *(i.e.*, the new Dania Beach Unit 7) CC units, thus lowering or eliminating CO_2 emissions from CC unit operation in the future. This pilot project is projected to go into service in late 2023.

Current use of various fuels to supply energy to customers, plus a projection of this "fuel mix" through 2030 based on the resource plan presented in this document, is presented in Schedules 5, 6.1, and 6.2 that appear later in this chapter. As noted on Schedules 6.1 and 6.2, the fuel mix projections for the Gulf system for the year 2021 is provided by the Southern Company which will continue to operate the Gulf generating units until the FPL and Gulf systems are integrated into a single operating system.

2. Fossil Fuel Cost Forecasts

FPL's Fuel Cost Forecasts

Fossil fuel price forecasts, and the resulting projected price differentials between fuels, are major drivers used to evaluate alternatives for meeting future resource needs. FPL's forecasts are generally consistent with other published contemporary forecasts. An October 2020 fuel cost forecast was used in the analyses which developed the resource plan presented in this 2021 Site Plan.

Future oil and natural gas prices, and to a lesser extent, coal prices, are inherently uncertain due to a significant number of unpredictable and uncontrollable drivers that influence the short- and long-term price of oil, natural gas, and coal. These drivers include U.S. and worldwide demand, production capacity, economic growth, environmental requirements, and politics.

The inherent uncertainty and unpredictability of these factors today and in the future clearly underscore the need to develop a set of plausible oil, natural gas, and solid fuel (coal) price scenarios that will bound a reasonable set of long-term price outcomes. In this light, Low, Medium, and High price forecasts for fossil fuels were developed in anticipation of the 2021 resource planning work.

FPL's Medium price forecast methodology is consistent for oil and natural gas. For oil and natural gas commodity prices, FPL's Medium price forecast applies the following methodology:

a. For the then current + 2 years (2020-2022), the methodology used the October 2020 forward curve for New York Harbor 0.7% sulfur heavy oil, WTI Crude Oil, Ultra-Low Sulfur Diesel (ULSD) fuel oil, and Henry Hub natural gas commodity prices;

b. For the next two years (2023 and 2024), FPL used a 50/50 blend of the October 2020 forward curve and the most current projections at the time from The PIRA Energy Group (now part of S&P Global);

c. For the 2025 through 2040 period, FPL used the annual projections from The PIRA Energy Group for oil commodity prices;

d. For the 2025 through 2050 period FPL used the annual projections from The PIRA Group for natural gas commodity prices; and,

e. For the period beyond 2040 for oil and beyond 2050 for natural gas, FPL used the real rate of escalation from the Energy Information Administration (EIA). In addition to the development of oil and natural gas commodity prices, nominal price forecasts also were prepared for oil and natural gas transportation costs. The addition of commodity and transportation forecasts resulted in delivered price forecasts.

FPL's Medium price forecast methodology is also consistent for coal prices. Forecasted coal prices were based upon the following approach:

a. JD Energy provides regular (once every 1-2 months) short-term price forecasts (currently through 2022 issued in September 2020) for Powder River Basin (PRB) minemouth/FOB coal.

b. JD Energy also provides a long-term price forecast through 2065 of the delivered price of coal to Scherer. The most recent forecast was issued in September 2019.

c. The short term delivered coal price forecast for Plant Scherer is updated with PRB minemouth/FOB coal price updates from JD Energy while keeping the long-term prices the same as the September 2019 long-term forecast.

d. Beyond 2065, prices are escalated at JD Energy's annual price escalation from 2064 to 2065.

In cases where multiple fuel cost forecasts are used, a Medium fuel cost forecast is developed first. FPL's approach has been to then adjust the Medium fuel cost forecast upward (for the High fuel cost forecast) or downward (for the Low fuel cost forecast) by multiplying the annual cost values from the Medium fuel cost forecast by a factor of (1 + the historical volatility of the 12-month forward price, one year ahead) for the High fuel cost forecast, or by a factor of (1 – the historical volatility of the 12-month forward price, one year ahead) for the Low fuel cost forecast.

Gulf Power's Fuel Cost Forecasts

Fossil fuel price forecasts, and the resulting projected price differentials between fuels, are major drivers used to evaluate alternatives for meeting future resource needs. Gulf Power's forecasts are generally consistent with other published contemporary forecasts. An October 2020 fuel cost forecast was used in analyses, the results of which led to the resource plan presented in this 2021 Site Plan.

Future oil and natural gas prices, and to a lesser extent, coal prices, are inherently uncertain due to a significant number of unpredictable and uncontrollable drivers that influence the short- and long-term price of oil, natural gas, and coal. These drivers include U.S. and worldwide demand, production capacity, economic growth, environmental requirements, and politics.

The inherent uncertainty and unpredictability of these factors today and in the future clearly underscore the need to develop a set of plausible oil, natural gas, and solid fuel (coal) price scenarios that will bound a reasonable set of long-term price outcomes. In this light, Low, Medium, and High price forecasts for fossil fuels were developed in anticipation of the 2021 resource planning work.

Gulf's Medium price forecast methodology for natural gas is consistent with FPL's methodology for natural gas and light oil. For natural gas and light oil commodity prices, Gulf's Medium price forecast applies the following methodology:

a. For the then current + 2 years (2020-2022), the methodology used the October 2020 forward curve for Henry Hub natural gas and Ultra-Low Sulfur Diesel (ULSD) fuel oil commodity prices;

b. For the next two years (2023 and 2024), a 50/50 blend of the October 2020 forward curve, and the most current projections at the time from The PIRA Energy Group (now part of S&P Global), were used;

c. For the 2025 through 2040 period, the annual projections from The PIRA Energy Group were used for oil commodity prices;

d. For the 2025 through 2050 period the annual projections from The PIRA Energy Group were used for natural gas commodity prices; and,

e. For the period beyond 2040 for oil and beyond 2050 for natural gas, the real rate of escalation from the Energy Information Administration (EIA) was used. In addition to the development of oil and natural gas commodity prices, nominal price forecasts also were prepared for oil and natural gas transportation costs. The addition of commodity and transportation forecasts resulted in delivered price forecasts.

Gulf's Medium price forecast methodology for coal is also consistent with FPL's methodology for coal prices at Plant Scherer. Forecasted coal prices were based upon the following approach:

a. JD Energy provides regular (once every 1-2 months) short-term price forecasts (currently through 2022 issued in September 2020) for Powder River Basin (PRB), Uinta Basin, Illinois River Basin (ILB) and Colombian minemouth/FOB coal.

b. JD Energy also provides a long-term price forecast through 2065 of the delivered price of coal to Plant Scherer. The most recent forecast was issued in September 2019.

c. The short-term delivered coal price forecast for Plant Scherer is updated with PRB minemouth/FOB coal price updates from JD Energy while keeping the long-term prices the same as the September 2019 long-term forecast.

d. Currently coal price forecasts for Plant Daniel are kept the same as the September 2019 long-term coal forecast provided by JD Energy.

e. Beyond 2065, all plant prices are escalated at JD Energy's annual price escalation from 2064 to 2065.

In cases where multiple fuel cost forecasts are used, a Medium fuel cost forecast is developed first. Then the Medium fuel cost forecast is adjusted upward (for the High fuel cost forecast) or downward (for the Low fuel cost forecast) by multiplying the annual cost values from the Medium fuel cost forecast by a factor of (1 + the historical volatility of the 12-month forward price, one year ahead) for the High fuel cost forecast, or by a factor of (1 – the historical volatility of the 12-month forward price, one year ahead) for the Low fuel cost forecast.

3. Natural Gas Storage

FPL currently has under contract 4.0 billion cubic feet (Bcf) of firm natural gas storage capacity at the Bay Gas storage facility in Alabama. This contract has been extended through March 31, 2024. FPL has predominately utilized natural gas storage to help mitigate gas supply problems caused by severe weather and/or infrastructure problems. To diversify FPL's natural gas storage portfolio, FPL entered into a storage contract with SG Resources Mississippi, L.L.C. (Southern Pines Storage) for 1 Bcf of storage capacity. The current contract with Southern Pines Storage is set to expire March 31, 2022. This storage facility is located in Mississippi and is connected to numerous pipelines including FGT, Southeast Supply Header, and Transco. Gulf currently holds total storage capacity of 1.93 Bcf across three facilities: Bay Gas (0.58 Bcf), Leaf River (0.85 Bcf), and Petal (0.50 Bcf). This storage capacity is utilized for Plant Smith, Gulf Clean Energy Center (formerly Plant Crist), and Gulf's SENA (Shell) PPA.

Over the past several years, FPL has acquired upstream transportation capacity on several pipelines to help mitigate the risk of off shore supply problems caused by severe weather in the Gulf of Mexico. While this transportation capacity has reduced FPL's off-shore exposure, a portion of FPL's supply portfolio remains tied to off-shore natural gas sources. Therefore, natural gas storage remains an important tool to help mitigate the risk of supply disruptions.

As FPL's reliance on natural gas has increased, its ability to manage the daily "swings" that can occur on its system due to weather and unit availability changes has become more challenging, particularly from oversupply situations. Natural gas storage is a valuable tool to help manage the daily balancing of supply and demand. From a balancing perspective, injection and withdrawal rights associated with gas storage have become an increasingly important part of the evaluation of overall gas storage requirements.

As the integrated utility system grows to meet customer needs, it must maintain adequate gas storage capacity to continue to help mitigate supply and/or infrastructure problems and to provide the ability to manage its supply and demand on a daily basis. The gas storage portfolio is continually evaluated and subscription for additional gas storage capacity is possible if needed to help increase reliability, provide the necessary flexibility to respond to demand changes, and diversify the overall portfolio.

4. Securing Additional Natural Gas:

Significant reliance upon natural gas to produce electricity for FPL's customers is projected to continue over the long-term due to FPL's growing load. The addition of highly fuel-efficient CC units at Cape Canaveral, Riviera Beach, Port Everglades, and Okeechobee, plus the additional CC capacity at the Dania Beach site that will come in-service in 2022, will reduce the growth in natural gas use from what it otherwise might have been due to the high fuel-efficiency levels of these new CC units. In addition, as discussed above, FPL currently plans to add significantly more solar PV facilities that utilize no fossil fuel.

FPL has historically purchased the gas transportation capacity required for new natural gas supply from two existing natural gas pipeline companies: FGT and Gulfstream. In mid-2017, a third new pipeline system, consisting of the Sabal Trail and Florida Southeast Connection pipelines, went into operation. This new pipeline system is now providing fuel for FPL's Riviera, Okeechobee, and Martin plants. The new pipeline system will also allow needed support for gas-fueled FPL generation facilities in several counties.

Southern Company Services (SCS) is currently managing the fuel supply for the Gulf power plants with the exception of Plant Smith and the Gulf Clean Energy Center (formerly Plant Crist). The fuel supply responsibilities for these plants was transitioned to Gulf in 2020. Gulf will continue to work with SCS to transition fuel-related activities prior to pool exit.

5. Nuclear Fuel Cost Forecast

This section discusses the various steps needed to fabricate nuclear fuel for delivery to nuclear power plants, the method used to forecast the price for each step, and other comments regarding FPL's nuclear fuel cost forecast.

a) Steps Required for Nuclear Fuel to be delivered to FPL's Plants

Four separate steps are required before nuclear fuel can be used in a commercial nuclear power reactor. These steps are summarized below.

(1) Mining: Uranium is produced in many countries such as Canada, Australia, Kazakhstan, and the United States. During the first step, uranium is mined from the ground using techniques such as open pit mining, underground mining, in-situ leaching operations, or production as a by-product from other mining operations, such as gold, copper, or phosphate rocks. The product from this first step is the raw uranium delivered as an oxide, U_3O_8 (sometimes referred to as yellowcake).

(2) Conversion: During the second step, the U3O8 is chemically converted into UF6 which, when heated, changes into a gaseous state. This second step further removes any chemical impurities and serves as preparation for the third step, which requires uranium to be in a gaseous state.

(3) Enrichment: Natural uranium contains 0.711% of uranium at an atomic mass of 235 (U-235) and 99.289% of uranium at an atomic mass of 238 (U-238). FPL's nuclear reactors use uranium with a higher percentage of up to almost five percent (5%) of U-235 atoms. Because natural uranium does not contain a sufficient amount of U-235, the third step increases the percentage amount of U-235 from 0.711% to a level specified when designing the reactor core (typically in a range from approximately 2.0% to as high as 4.95%). The output of this enrichment process is enriched uranium in the form of UF6.

(4) Fabrication: During the last step, fuel fabrication, the enriched UF6 is changed to a UO2 powder, pressed into pellets, and fed into tubes, which are sealed and bundled together into fuel assemblies. These fuel assemblies are then delivered to the plant site for insertion in a reactor.

Like other utilities, FPL has purchased raw uranium and the other components of the nuclear fuel cycle separately from numerous suppliers from different countries.

b) Price Forecasts for Each Step

(1) Mining: The impact of the earthquake and tsunami that struck the Fukushima nuclear complex in Japan in March 2011 is still being felt in the uranium market because the majority of the Japanese nuclear reactors are still not operating. As a result, current demand has remained declined and several of the production facilities have either closed or announced delays. Factors of importance are:

- Some of the uranium inventory from the U.S. Department of Energy (DOE) is finding its way into the market periodically to fund cleanup of certain Department of Energy facilities.
- Although only two new nuclear units are scheduled to start production in the U.S. during the next 2 to 3 years, other countries, more specifically China, have announced an increase in construction of new units which may cause uranium prices to trend up in the near future.

Over a 10-year horizon, FPL expects the market to be more consistent with market fundamentals. The supply picture remains stable, with laws enacted in 2020 to resolve the import of Russian-enriched uranium, by allowing continued imports of Russian-enriched uranium to meet about 15-24% of needs from 2021-2040 for currently operating and new units. New and current uranium production facilities are decreasing capacity due to continued low prices and demands. Actual demand tends to grow over time because of the long lead time to build nuclear units. However, FPL cannot discount the possibility of future periodic sharp increases in prices, but believes such occurrences will likely be temporary in nature.

(2) Conversion: The conversion market is also in a state of flux due to the Fukushima events. Planned production is currently forecasted to be insufficient to meet a higher demand scenario, but it is projected to be sufficient to meet most reference case scenarios. As with additional raw uranium production, supply will expand beyond the current level if more firm commitments are made. FPL expects long-term price stability for conversion services to support world demand.

(3) Enrichment: Since the Fukushima events in March 2011, the near-term price of enrichment services has declined. However, plans for construction of several new facilities that were expected to come on-line after 2011 have been delayed and/or cancelled. Also, some of the existing high operating cost diffusion plants have shut down. As with supply for the other steps of the nuclear fuel cycle, expansion of future capacity is feasible within the lead time for constructing new nuclear units and any other projected increase in demand. Meanwhile, world supply and demand will continue to be balanced such that FPL expects adequate supply of enrichment services. The current supply/demand profile will likely result in the price of enrichment services remaining stable for the next few years, then starting to increase.

(4) Fabrication: Because the nuclear fuel fabrication process is highly regulated by the Nuclear Regulatory Commission (NRC), not all production facilities can qualify as suppliers to nuclear reactors in the U.S. Although world supply and demand is expected to show significant excess capacity for the foreseeable future, the gap is not as wide for U.S. supply and demand. The supply for the U.S. market is expected to be sufficient to meet U.S. demand for the foreseeable future.

c) Other Comments Regarding FPL's Nuclear Fuel Cost Forecast

FPL's nuclear fuel price forecasts are the result of FPL's analysis based on inputs from various nuclear fuel market expert reports and studies. There is adequate projected supply, including planned and prospective mine expansions, to meet FPL demands, including operation of the Turkey Point nuclear units through the recently approved second life extension through the early 2050s.

Schedule 5: Actual
Fuel Requirements

	Fuel Requirements	Units	Actual 1/ 2019	2020	2019	2020
			FPL		Gulf	
(1)	Nuclear	Trillion BTU	303	307	0	0
(2)	Coal	1,000 TON	1,684	1,135	2,687	1,389
(3)	Residual (FO6) - Total	1,000 BBL	187	94	0	0
(4)	Steam	1,000 BBL	187	94	0	0
(5)	Distillate (FO2) - Total	1,000 BBL	203	89	17	8
(6)	Steam	1,000 BBL	1	5	17	8
(7)	CC	1,000 BBL	191	65	0	0
(8)	CT	1,000 BBL	11	19	0	0
(10)	Natural Gas - Total	1,000 MCF	665,984	656,163	64,368	83,576
(11)	Steam	1,000 MCF	29,028	27,492	1,124	4,764
(12)	CC	1,000 MCF	630,185	624,821	63,245	35,973
(13)	CC PPAs - Gas	1,000 MCF	0	0	0	42,839
(14)	CT	1,000 MCF	6,771	3,850	0	0
(15)	Other 2/	1,000 MCF	0	0	0	251

1/ Source: A Schedules.
2/ Perdido Units' landfill gas burn included in Other
Note: Solar contributions are provided on Schedules 6.1 and 6.2.

Schedule 5: Forecasted
Fuel Requirements

Fuel Requirements	Units	2021 FPL	2021 Gulf	2022	2023	2024	2025	2026	2027	2028	2029	2030
				Forecasted (Integrated FPL and Gulf)								
(1) Nuclear	Trillion BTU	297	0	305	301	299	305	301	300	306	301	300
(2) Coal	1,000 TON	421	2,455	185	164	161	155	133	157	149	155	161
(3) Residual (FO6) - Total	1,000 BBL	11	0	0	0	0	0	0	0	0	0	0
(4) Steam	1,000 BBL	11	0	0	0	0	0	0	0	0	0	0
(5) Distillate (FO2) - Total	1,000 BBL	19	4	44	10	10	17	10	16	13	14	11
(6) Steam	1,000 BBL	19	0	43	10	8	16	10	13	13	14	11
(7) CC	1,000 BBL	0	0	0	0	0	0	0	0	0	0	0
(8) CT	1,000 BBL	0	4	1	0	2	1	1	2	0	0	0
(10) Natural Gas - Total	1,000 MCF	590,466	85,934	655,018	651,889	644,051	634,269	627,153	619,342	610,403	607,360	603,972
(11) Steam	1,000 MCF	628	13,919	4,805	7,141	8,430	7,650	5,053	5,166	4,678	5,321	2,253
(12) CC	1,000 MCF	586,405	33,912	603,203	625,636	628,330	619,770	619,101	610,476	602,114	597,961	598,992
(13) CC PPAs - Gas	1,000 MCF	0	37,094	39,310	9,676	0	0	0	0	0	0	0
(14) CT	1,000 MCF	3,434	1,009	7,699	9,436	7,291	6,849	2,999	3,700	3,611	4,077	2,726
(15) Other [2/]	1,000 MCF	0	245	245	245	245	240	245	245	245	256	0

1/ Source: A Schedules.
2/ Perdido Units' landfill gas burn included in Other
Note: Solar contributions are provided on Schedules 6.1 and 6.2.

Schedule 6.1 Actual
Energy Sources

	Energy Sources	Units	Actual [1/] 2019	2020	2019	2020
			FPL		Gulf	
(1)	Annual Energy Interchange [2/]	GWH	0	0	(3,556)	(2,671)
(2)	Nuclear	GWH	27,791	28,221	0	0
(3)	Coal	GWH	2,488	1,636	4,125	2,067
(4)	Residual(FO6) -Total	GWH	223.5	53.1	0	0
(5)	Steam	GWH	224	53	0	0
(6)	Distillate(FO2) -Total	GWH	223.5	65.6	0	0
(7)	Steam	GWH	14	2	0	0
(8)	CC	GWH	204	54	0	0
(9)	CT	GWH	5	10	0	0
(10)	Natural Gas -Total	GWH	93,373	95,278	8,808	10,474
(11)	Steam	GWH	2,442	2,357	62	383
(12)	CC	GWH	90,302	92,553	3,913	4,967
(13)	CC PPAs - Gas	GWH	0	0	4,833	5,053
(14)	CT	GWH	630	368	0	70
(15)	Solar [3/]	GWH	2,396	3,785	232	392
(16)	PV	GWH	2,368	2,835	0	158
(17)	Solar Together [4/]	GWH	0	920	0	0
(18)	Solar Thermal	GWH	28	30	0	0
(19)	Solar PPAs	GWH	0	0	232	234
(20)	Wind PPAs	GWH	0	0	1,031	1,031
(21)	Other [5/]	GWH	(1,328)	(1,519)	1,356	372
	Net Energy For Load [6/]	GWH	125,168	127,519	11,997	11,664

1/ Sources: Actuals for FPL and Gulf: A Schedules and Actual Data for Next Generation Solar Centers Report.
2/ Represents interchange between FPL/Gulf and other utilities. For Gulf, this number represents the net energy exchange with Southern Co.
3/ Represents output from FPL and Gulf's Solar PV, Solar Together, Solar Thermal, and Solar PPA facilities.
4/ The values shown represent energy produced from FPL-owned solar facilities that are part of FPL’s SolarTogether (ST) program. At the request of any ST participant, environmental attributes in the form of renewable energy certificates for that participant’s allocation of the total energy produced will be retired on the participant’s behalf.
5/ Represents a forecast of energy expected to be purchased from Qualifying Facilities, Independent Power Producers, etc., net of Economy and other Power Sales.

Schedule 6.2 Actual
Energy Sources % by Fuel Type

	Energy Source	Units	Actual[1/] 2019 FPL	2020 FPL	2019 Gulf	2020 Gulf
(1)	Annual Energy Interchange[2/]	%	0.0	0.0	(29.6)	(22.9)
(2)	Nuclear	%	22.2	22.1	0.0	0.0
(3)	Coal	%	2.0	1.3	34.4	17.7
(4)	Residual (FO6) -Total	%	0.2	0.0	0.0	0.0
(5)	Steam	%	0.2	0.0	0.0	0.0
(6)	Distillate (FO2) -Total	%	0.2	0.1	0.0	0.0
(7)	Steam	%	0.0	0.0	0.0	0.0
(8)	CC	%	0.2	0.0	0.0	0.0
(9)	CT	%	0.0	0.0	0.0	0.0
(10)	Natural Gas -Total	%	74.6	74.7	73.4	89.8
(11)	Steam	%	2.0	1.8	0.5	3.3
(12)	CC	%	72.1	72.6	32.6	42.6
(13)	CC PPAs - Gas	%	0.0	0.0	40.3	43.3
(14)	CT	%	0.5	0.3	0.0	0.6
(15)	Solar 3[/]	%	1.9	3.0	1.9	3.4
(16)	PV	%	1.9	2.2	0.0	1.4
(17)	Solar Together[4/]	%	0.0	0.7	0.0	0.0
(18)	Solar Thermal	%	0.0	0.0	0.0	0.0
(19)	Solar PPAs	%	0.0	0.0	1.9	2.0
(20)	Wind PPAs	%	0.0	0.0	8.6	8.8
(21)	Other[5/]	%	(1.1)	(1.2)	11.3	3.2
			100	100	100	100

1/ Sources: Actuals for FPL and Gulf: A Schedules and Actual Data for Next Generation Solar Centers Report.
2/ Represents interchange between FPL/Gulf and other utilities. For Gulf, this number represents the net energy exchange with Southern Co.
3/ Represents output from FPL and Gulf's Solar PV, Solar Together, Solar Thermal, and Solar PPA facilities.
4/ The values shown represent energy produced from FPL-owned solar facilities that are part of FPL's SolarTogether (ST) program. At the request of any ST participant, environmental attributes in the form of renewable energy certificates for that participant's allocation of the total energy produced will be retired on the participant's behalf.
5/ Represents a forecast of energy expected to be purchased from Qualifying Facilities, Independent Power Producers, etc., net of Economy and other Power Sales.

Schedule 6.1 Forecasted
Energy Sources

	Energy Sources	Units	2021		2022	2023	2024	2025	2026	2027	2028	2029	2030
			FPL	Gulf [1/]	Forecasted – Integrated FPL and Gulf								
(1)	Annual Energy Interchange [2/]	GWH	0	(3,000)	0	0	0	0	0	0	0	0	0
(2)	Nuclear	GWH	28,105	0	28,888	28,484	28,305	28,823	28,483	28,423	28,994	28,484	28,421
(3)	Coal	GWH	613	1,906	268	244	239	232	197	231	219	228	238
(4)	Residual(FO6) -Total	GWH	8	0	0	0	0	0	0	0	0	0	0
(5)	Steam	GWH	8	0	0	0	0	0	0	0	0	0	0
(6)	Distillate(FO2) -Total	GWH	7	2	17	4	4	7	4	6	5	5	4
(7)	Steam	GWH	7	0	17	4	3	6	3	5	5	5	4
(8)	CC	GWH	0	0	0	0	0	0	0	0	0	0	0
(9)	CT	GWH	0	2	0	0	1	1	0	1	0	0	0
(10)	Natural Gas -Total	GWH	87,292	11,241	96,181	96,120	95,099	93,771	93,093	91,924	90,386	90,035	89,672
(11)	Steam	GWH	61	1,048	422	642	756	693	453	475	429	487	208
(12)	CC	GWH	86,897	4,952	89,521	93,229	93,654	92,424	92,352	91,093	89,610	89,156	89,202
(13)	CC PPAs - Gas	GWH	0	5,174	5,495	1,351	0	0	0	0	0	0	0
(14)	CT	GWH	334	67	743	898	689	653	289	356	347	392	263
(15)	Solar [3/]	GWH	6,043	413	7,889	9,499	11,638	13,600	15,723	17,844	20,489	23,026	25,607
(16)	PV	GWH	3,218	190	4,608	6,235	8,384	10,371	12,511	14,650	17,303	19,866	22,464
(17)	Solar Together [4/]	GWH	2,795	0	3,028	3,011	3,002	2,978	2,961	2,945	2,936	2,912	2,896
(18)	Solar Thermal	GWH	30	0	30	30	30	30	30	30	30	30	30
(19)	Solar PPAs	GWH	0	223	223	222	222	221	220	219	219	218	217
(20)	Wind PPAs	GWH	0	1,031	1,031	1,031	1,033	1,031	1,031	1,031	1,033	1,031	1,031
(21)	Other [5/]	GWH	1,054	178	1,469	1,437	1,488	1,559	1,524	1,504	1,502	1,453	1,147
	Net Energy For Load 6/	GWH	123,120	11,771	135,744	136,818	137,806	139,022	140,055	140,962	142,628	144,262	146,120

1/ Sources: Forecast for Gulf 2021: Projections from Southern Company.
2/ Represents interchange between FPL/Gulf and other utilities. For Gulf, this number represents the net energy exchange with Southern Co.
3/ Represents output from FPL and Gulf's Solar PV, Solar Together, Solar Thermal, and Solar PPA facilities.
4/ The values shown represent energy produced from FPL-owned solar facilities that are part of FPL's SolarTogether (ST) program. At the request of any ST participant, environmental attributes in the form of renewable energy certificates for that participant's allocation of the total energy produced will be retired on the participant's behalf.
5/ Represents a forecast of energy expected to be purchased from Qualifying Facilities, Independent Power Producers, etc., net of Economy and other Power Sales.
6/ Net Energy For Load values for the years 2021 - 2030 are also shown in Col. (2) on Schedule 3.3.

Schedule 6.2 Forecasted
Energy Sources % by Fuel Type

	Energy Source	Units	2021		Forecasted 2022	2023	2024	2025	2026	2027	2028	2029	2030
			FPL	Gulf [1/]	Integrated FPL and Gulf								
(1)	Annual Energy Interchange [2/]	%	0.0	(25.5)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(2)	Nuclear	%	22.8	0.0	21.3	20.8	20.5	20.7	20.3	20.2	20.3	19.7	19.5
(3)	Coal	%	0.5	16.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2
(4)	Residual (FO6) -Total	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(5)	Steam	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(6)	Distillate (FO2) -Total	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(7)	Steam	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(8)	CC	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(9)	CT	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(10)	Natural Gas -Total	%	70.9	95.5	70.9	70.3	69.0	67.5	66.5	65.2	63.4	62.4	61.4
(11)	Steam	%	0.0	8.9	0.3	0.5	0.5	0.5	0.3	0.3	0.3	0.3	0.1
(12)	CC	%	70.6	42.1	65.9	68.1	68.0	66.5	65.9	64.6	62.8	61.8	61.0
(13)	CC PPAs - Gas	%	0.0	44.0	4.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(14)	CT	%	0.3	0.6	0.5	0.7	0.5	0.5	0.2	0.3	0.2	0.3	0.2
(15)	Solar [3/]	%	4.9	3.5	5.8	6.9	8.4	9.8	11.2	12.7	14.4	16.0	17.5
(16)	PV	%	2.6	1.6	3.4	4.6	6.1	7.5	8.9	10.4	12.1	13.8	15.4
(17)	Solar Together [4/]	%	2.3	0.0	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.0	2.0
(18)	Solar Thermal	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(19)	Solar PPAs	%	0.0	1.9	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1
(20)	Wind PPAs	%	0.0	8.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7
(21)	Other [5/]	%	0.9	1.5	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	0.8
			100	100	100	100	100	100	100	100	100	100	100

1/ Sources: Forecast for Gulf 2021: Projections from Southern Company.
2/ Represents interchange between FPL/Gulf and other utilities. For Gulf, this number represents the net energy exchange with Southern Co.
3/ Represents output from FPL and Gulf's Solar PV, Solar Together, Solar Thermal, and Solar PPA facilities.
4/ The values shown represent energy produced from FPL-owned solar facilities that are part of FPL's SolarTogether (ST) program.
At the request of any ST participant, environmental attributes in the form of renewable energy certificates for that participant's allocation of the total energy produced will be retired on the participant's behalf.
5/ Represents a forecast of energy expected to be purchased from Qualifying Facilities, Independent Power Producers, etc., net of Economy and other Power Sales.

Schedule 7.1
Forecast of Capacity, Demand, and Scheduled Maintenance At Time Of Summer Peak

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
August of Year	Firm Installed Capacity MW	Firm Capacity Import MW	Firm Capacity Export MW	Firm QF MW	Total Firm Capacity Available MW	Total Peak Demand MW	DSM MW	Firm Summer Peak Demand MW	Total Reserve Margin Before Maintenance MW	% of Peak	Scheduled Maintenance MW	Total Reserve Margin After Maintenance MW	% of Peak	Generation Only Reserve Margin After Maintenance MW	% of Peak
								FPL							
2021	27,623	110	0	434	28,166	24,621	1,821	22,800	5,367	23.5	0	5,367	23.5	3,545	14.4
								Gulf							
2021	2,440	1,015	0	0	3,456	2,462	6	2,456	1,000	40.7	0	1,000	40.7	994	40.4
								Integrated FPL and Gulf							
2022	30,741	1,125	0	4	31,870	27,277	1,886	25,392	6,478	25.5	0	6,478	25.5	4,592	16.8
2023	31,163	240	0	4	31,407	27,771	1,943	25,828	5,579	21.6	0	5,579	21.6	3,636	13.1
2024	31,300	240	0	4	31,543	28,278	2,006	26,272	5,271	20.1	0	5,271	20.1	3,265	11.5
2025	31,750	240	0	4	31,993	28,675	2,050	26,625	5,368	20.2	0	5,368	20.2	3,318	11.6
2026	32,135	240	0	4	32,378	29,051	2,084	26,967	5,411	20.1	0	5,411	20.1	3,327	11.5
2027	32,440	240	0	0	32,679	29,340	2,118	27,221	5,458	20.1	0	5,458	20.1	3,340	11.4
2028	32,868	239	0	0	33,107	29,721	2,152	27,568	5,539	20.1	0	5,539	20.1	3,386	11.4
2029	33,436	239	0	0	33,676	30,233	2,186	28,047	5,629	20.1	0	5,629	20.1	3,442	11.4
2030	34,109	239	0	0	34,348	30,832	2,221	28,612	5,736	20.0	0	5,736	20.0	3,515	11.4

Col. (2) represents capacity additions and changes projected to be in-service by June 1st. These MW are generally considered to be available to meet Summer peak loads which are forecasted to occur during August of the year indicated.
Col. (6) = Col.(2) + Col.(3) - Col(4) + Col(5).
Col.(7) reflects the 2021 load forecast without incremental DSM or cumulative load management.
Col.(8) represents cumulative load management capability, plus incremental conservation and load management, from 9/2020-on intended for use with the 2021 load forecast.
Col.(10) = Col.(6) - Col.(9)
Col.(11) = Col.(10) / Col.(9)
Col.(12) indicates the capacity of units projected to be out-of-service for planned maintenance during the Summer peak period.
Col.(13) = Col.(10) - Col.(12)
Col.(14) = Col.(13) / Col.(9)
Col.(15) = Col.(6) - Col.(7) - Col.(12)
Col.(16) = Col.(15) / Col.(7)

Schedule 7.2
Forecast of Capacity, Demand, and Scheduled Maintenance At Time Of Winter Peak

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
January of Year	Firm Installed Capacity	Firm Capacity Import	Firm Capacity Export	Firm QF	Total Firm Capacity Available	Total Peak Demand	DSM	Firm Winter Peak Demand	Total Reserve Margin Before Maintenance		Scheduled Maintenance	Total Reserve Margin After Maintenance		Generation Only Reserve Margin After Maintenance	
	MW	MW	MW	MW	MW	MW	MW	MW	MW	% of Peak	MW	MW	% of Peak	MW	% of Peak
FPL															
2021	26,993	110	0	404	27,507	20,068	1,370	18,698	8,809	47.1	0	8,809	47.1	7,439	37.1
Gulf															
2021	2,388	994	0	0	3,382	2,174	1	2,173	1,209	55.6	0	1,209	55.6	1,208	55.6
Integrated FPL and Gulf															
2022	28,521	1,104	0	4	29,629	22,461	1,406	21,055	8,574	40.7	0	8,574	40.7	7,168	31.9
2023	29,749	1,104	0	4	30,857	22,869	1,443	21,426	9,431	44.0	0	9,431	44.0	7,988	34.9
2024	29,380	219	0	4	29,603	23,287	1,482	21,805	7,798	35.8	0	7,798	35.8	6,316	27.1
2025	29,395	219	0	4	29,618	23,624	1,527	22,097	7,521	34.0	0	7,521	34.0	5,994	25.4
2026	29,390	219	0	4	29,613	23,957	1,556	22,401	7,212	32.2	0	7,212	32.2	5,656	23.6
2027	29,312	219	0	0	29,531	24,199	1,585	22,614	6,918	30.6	0	6,918	30.6	5,332	22.0
2028	29,272	219	0	0	29,491	24,552	1,615	22,937	6,554	28.6	0	6,554	28.6	4,939	20.1
2029	29,572	219	0	0	29,791	24,916	1,644	23,272	6,519	28.0	0	6,519	28.0	4,875	19.6
2030	29,969	219	0	0	30,188	25,289	1,673	23,616	6,572	27.8	0	6,572	27.8	4,899	19.4

Col. (2) represents capacity additions and changes projected to be in-service by January 1st. These MW are generally considered to be available to meet Winter peak loads which are forecasted to occur during January of the year indicated.
Col. (6) = Col.(2) + Col.(3) - Col(4) + Col(5).
Col.(7) reflects the 2021 load forecast without incremental DSM or cumulative load management.
Col.(8) represents cumulative load management capability, plus incremental conservation and load management, from 9/2020-on intended for use with the 2021 load forecast.
Col.(10) = Col.(6) - Col.(9)
Col.(11) = Col.(10) / Col.(9)
Col.(12) indicates the capacity of units projected to be out-of-service for planned maintenance during the Winter peak period.
Col.(13) = Col.(10) - Col.(12)
Col.(14) = Col.(13) / Col.(9)
Col.(15) = Col.(6) - Col.(7) - Col.(12)
Col.(16) = Col.(15) / Col.(7)

Schedule 8

Planned And Prospective Generating Facility Additions And Changes (1) : FPL

	(2)	(3)	(4)	(5)	(5)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
				Fuel		Fuel Transport		Const.	Comm.	Expected	Gen. Max.	Firm Net Capability (2)		
Plant Name	Unit No.	Location	Unit Type	Pri.	Alt.	Pri.	Alt.	Start Mo./Yr.	In-Service Mo./Yr.	Retirement Mo./Yr.	Nameplate KW	Winter MW	Summer MW	Status
ADDITIONS/ CHANGES														
FPL Changes														
2021														
Magnolia Springs Solar(3)	1	Clay County	PV	Solar	Solar	N/A	N/A	-	1st Q 2021	Unknown	74,500	-	36	P
Pelican Solar(3)	1	St. Lucie County	PV	Solar	Solar	N/A	N/A	-	1st Q 2021	Unknown	74,500	-	36	P
Palm Bay Solar(3)	1	Brevard County	PV	Solar	Solar	N/A	N/A	-	1st Q 2021	Unknown	74,500	-	36	P
Rodeo Solar(3)	1	DeSoto County	PV	Solar	Solar	N/A	N/A	-	1st Q 2021	Unknown	74,500	-	36	P
Discovery Solar(3)	1	Brevard County	PV	Solar	Solar	N/A	N/A	-	2nd Q 2021	Unknown	74,500	-	36	P
Orange Blossom Solar(3)	1	Indian River County	PV	Solar	Solar	N/A	N/A	-	2nd Q 2021	Unknown	74,500	-	36	P
Sabal Palm Solar(3)	1	Palm Beach County	PV	Solar	Solar	N/A	N/A	-	2nd Q 2021	Unknown	74,500	-	36	P
Fort Drum Solar(3)	1	Okeechobee County	PV	Solar	Solar	N/A	N/A	-	2nd Q 2021	Unknown	74,500	-	36	P
Willow Solar(3)	1	Manatee County	PV	Solar	Solar	N/A	N/A	-	2nd Q 2021	Unknown	74,500	-	36	P
Solar Degradation(3)	NA	NA	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	(3)	OT
											2021 Changes/Additions Total:	**0**	**321**	
Integrated FPL and Gulf: Former FPL Area Changes														
2022														
Manatee Retirement	1	Manatee County	ST	NG	FO6	PL	WA	-	Oct-76	4th Q 2021	863,300	(821)	(813)	P
Manatee Retirement	2	Manatee County	ST	NG	FO6	PL	WA	-	Dec-77	4th Q 2021	863,300	(821)	(813)	P
Scherer Retirement	4	Monroe, GA	ST	SUB	No	RR	No	-	Jul-89	4th Q 2021	680,368	(635)	(634)	P
Manatee Battery Storage	1	Manatee County	BS	N/A	N/A	N/A	N/A	-	4th Q 2021	Unknown	409,000	409	409	P
Sunshine Gateway Battery Storage	1	Columbia County	BS	N/A	N/A	N/A	N/A	-	4th Q 2021	Unknown	30,000	30	30	P
Echo River Battery Storage	1	Suwannee County	BS	N/A	N/A	N/A	N/A	-	4th Q 2021	Unknown	30,000	30	30	P
Ghost Orchid Solar (3)	1	Hendry County	PV	Solar	Solar	N/A	N/A	-	1st Q 2022	Unknown	74,500	-	39	P
Sawgrass Solar (3)	1	Hendry County	PV	Solar	Solar	N/A	N/A	-	1st Q 2022	Unknown	74,500	-	39	P
Sundew Solar (3)	1	St. Lucie County	PV	Solar	Solar	N/A	N/A	-	1st Q 2022	Unknown	74,500	-	39	P
Immokalee Solar (3)	1	Collier County	PV	Solar	Solar	N/A	N/A	-	1st Q 2022	Unknown	74,500	-	39	P
Grove Solar (3)	1	Indian River	PV	Solar	Solar	N/A	N/A	-	1st Q 2022	Unknown	74,500	-	39	P
Elder Branch Solar (3)	1	Manatee County	PV	Solar	Solar	N/A	N/A	-	1st Q 2022	Unknown	74,500	-	39	P
Manatee Upgrade	3	Manatee County	ST	NG	FO6	PL	WA	-	2nd Q 2022	Unknown	1,301,382	-	47	P
Martin Upgrade	8	Martin County	CC	NG	FO2	PL	TK		2nd Q 2022	Unknown	1,301,382	-	11	
Dania Beach Clean Energy Center	7	Broward County	CC	NG	FO2	PL	WA	-	2nd Q 2022	Unknown	1,163,000	-	1,163	P
Solar Degradation(3)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	(6)	OT
											2022 Changes/Additions Total:	**(1,808)**	**(345)**	

(1) Schedule 8 shows only planned and prospective changes to FPL and Gulf generating facilities and does not reflect changes to purchases. Changes to purchases are reflected on Tables ES-1, I.A.3.1, I.A.3.2, I.B.3.1 and I.B.3.2.

(2) The Winter Total MW value consists of all generation additions and changes achieved by January. The Summer Total MW value consists of all generation additions and changes achieved by June. All MW additions/changes occurring after June each year will be acounted for in reserve margin calculations in the following year. MW Difference in Changes/Additions Total due to rounding.

(3) Solar MW values reflect firm capacity only values, not nameplate ratings and FPL currently assumes 0.3% degradation annually for PV output.

Schedule 8
Planned And Prospective Generating Facility Additions And Changes [1] : Combined FPL and Gulf

	(2)	(3)	(4)	(5)	(5)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
				Fuel		Fuel Transport		Const.	Comm.	Expected	Gen. Max.	Firm Net Capability [2]		
Plant Name	Unit No.	Location	Unit Type	Pri.	Alt.	Pri.	Alt.	Start Mo./Yr.	In-Service Mo./Yr.	Retirement Mo./Yr.	Nameplate KW	Winter MW	Summer MW	Status
ADDITIONS/ CHANGES														
Integrated FPL and Gulf Continued: Former FPL Area Changes														
2023														
Dania Beach Clean Energy Center	7	Broward County	CC	NG	FO2	PL	WA		Jun-22	Unknown	1,176,000	1,176	-	P
Manatee Upgrade	3	Manatee County	CC	NG	No	PL	No	-	3rd Q 2022	Unknown	1,301,382	-	16	OP
Manatee Upgrade	3	Manatee County	CC	NG	No	PL	No	-	1st Q 2023	Unknown	1,301,382	28	-	OP
Everglades Solar [3]	1	Miami Dade County	PV	Solar	Solar	N/A	N/A	-	1st Q 2023	Unknown	74,500	-	30	P
White Tail Solar [3]	1	Martin County	PV	Solar	Solar	N/A	N/A	-	1st Q 2023	Unknown	74,500	-	30	P
Bluefield Preserve Solar [3]	1	St. Lucie County	PV	Solar	Solar	N/A	N/A	-	1st Q 2023	Unknown	74,500	-	30	P
Cavendish Solar [3]	1	Okeechobee County	PV	Solar	Solar	N/A	N/A	-	1st Q 2023	Unknown	74,500	-	30	P
Anhinga Solar [3]	1	Clay County	PV	Solar	Solar	N/A	N/A	-	1st Q 2023	Unknown	74,500	-	30	P
Martin Upgrade	8	Martin County	CC	NG	FO2	PL	TK	-	1st Q 2023	Unknown	1,301,382	14	-	OP
Sanford Upgrade	4	Volusia County	CC	NG	No	PL	No	-	1st Q 2023	Unknown	1,265,732	10	18	OP
Sanford Upgrade	5	Volusia County	CC	NG	No	PL	No	-	1st Q 2023	Unknown	1,265,732	-	9	OP
Turkey Point Upgrade	5	Miami Dade County	CC	NG	FO2	PL	TK	-	2nd Q 2023	Unknown	1,301,382	-	45	OP
Fort Myers Upgrade	2	Lee County	CC	NG	No	PL	No	-	2nd Q 2023	Unknown	1,836,798	-	4	OP
Solar Degradation [3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	(7)	OT
											2023 Changes/Additions Total:	**1,228**	**237**	
2024														
Sanford Upgrade	5	Volusia County	CC	NG	No	PL	No		3rd Q 2023	Unknown	1,265,732	-	17	OP
Solar PV [3]		Unknown	PV	Solar	Solar	N/A	N/A	-	1st Q 2024	Unknown	521,500	-	263	P
Martin Upgrade	8	Martin County	CC	NG	FO2	PL	TK	-	1st Q 2024	Unknown	1,301,382	14	21	OP
Sanford Upgrade	4	Volusia County	CC	NG	No	PL	No	-	1st Q 2024	Unknown	1,265,732	19	17	OP
Sanford Upgrade	5	Volusia County	CC	NG	No	PL	No	-	1st Q 2024	Unknown	1,265,732	29	-	OP
Turkey Point Upgrade	5	Miami Dade County	CC	NG	FO2	PL	TK	-	1st Q 2024	Unknown	1,301,382	28	-	OP
Fort Myers Upgrade	2	Lee County	CC	NG	No	PL	No	-	1st Q 2024	Unknown	1,836,798	21	-	OP
Fort Myers Upgrade	2	Lee County	CC	NG	No	PL	No	-	2nd Q 2024	Unknown	1,836,798	-	18	OP
Turkey Point Upgrade	5	Miami Dade County	CC	NG	FO2	PL	TK	-	2nd Q 2024	Unknown	1,301,382	-	67	OP
Manatee Upgrade	3	Manatee County	CC	NG	No	PL	No	-	2nd Q 2024	Unknown	1,301,382	-	58	OP
Okeechobee Energy Center Upgrade	1	Okeechobee County	CC	NG	FO2	PL	TK	Jun-17	2nd Q 2024	Unknown	1,886,150	22	15	OP
Solar Degradation [3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	(7)	OT
											2024 Changes/Additions Total:	**133**	**469**	
2025														
Fort Myers Upgrade	2	Lee County	CC	NG	No	PL	No	-	1st Q 2025	Unknown	1,836,798	32	-	OP
Sanford Upgrade	4	Volusia County	CC	NG	No	PL	No	-	1st Q 2025	Unknown	1,265,732	9	-	P
Sanford Upgrade	5	Volusia County	CC	NG	No	PL	No	-	1st Q 2025	Unknown	1,265,732	9	9	OP
Solar PV [3]		Unknown	PV	Solar	Solar	N/A	N/A	-	1st Q 2025	Unknown	521,500	-	263	P
Martin Upgrade	8	Martin County	CC	NG	FO2	PL	TK	-	2nd Q 2025	Unknown	1,301,382	-	66	P
Okeechobee Energy Center Upgrade	1	Okeechobee County	CC	NG	FO2	PL	TK	Jun-17	2nd Q 2025	Unknown	1,886,150	43	29	OP
Solar Degradation [3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	(8)	OT
											2025 Changes/Additions Total:	**52**	**359**	
2026														
Fort Myers Upgrade	2	Lee County	CC	NG	No	PL	No	-	3rd Q 2025	Unknown	1,836,798	-	4	OP
Fort Myers Upgrade	2	Lee County	CC	NG	No	PL	No	-	1st Q 2026	Unknown	1,836,798	10	-	OP
Solar PV [3]		Unknown	PV	Solar	Solar	N/A	N/A	-	1st Q 2026	Unknown	894,000	-	370	P
Solar Degradation [3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	(9)	OT
											2026 Changes/Additions Total:	**10**	**365**	
2027														
Solar PV [3]		Unknown	PV	Solar	Solar	N/A	N/A		1st Q 2027	Unknown	968,500	-	396	P
Solar Degradation [3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	(10)	OT
											2027 Changes/Additions Total:	**0**	**386**	
2028														
Solar PV [3]		Unknown	PV	Solar	Solar	N/A	N/A		1st Q 2028	Unknown	1,192,000	-	473	P
Solar Degradation [3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	(11)	OT
											2028 Changes/Additions Total:	**0**	**462**	
2029														
Battery Storage	1	Unknown	BS	N/A	N/A	N/A	N/A	-	1st Q 2029	Unknown	300,000	300	300	P
Solar PV [3]	1	Unknown	PV	Solar	Solar	N/A	N/A	-	1st Q 2029	Unknown	1,043,000	-	224	P
Solar Degradation [3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	(12)	OT
											2029 Changes/Additions Total:	**300**	**511**	
2030														
Battery Storage	1	Unknown	BS	N/A	N/A	N/A	N/A	-	1st Q 2030	Unknown	100,000	100	100	P
Solar PV [3]	1	Unknown	PV	Solar	Solar	N/A	N/A	-	1st Q 2030	Unknown	968,500	-	198	P
Solar Degradation [3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	(13)	OT
											2030 Changes/Additions Total:	**100**	**285**	

(1) Schedule 8 shows only planned and prospective changes to generating facilities and does not reflect changes to expisting purchases. Those changes are reflected on Tables ES-1, I.A.3.1, I.A.3.2, I.B.3.1 and I.B.3.
(2) The Winter Total MW value consists of all generation additions and changes achieved by January. The Summer Total MW value consists of all generation additions and changes achieved by June. All MW additions/changes occurring after June each year will be accounted for in reserve margin calculations in the following year. MW Difference in Changes/Additions Total due to rounding.
(3) Solar values reflect firm capacity only values, not nameplate ratings and FPL currently assumes 0.3% degradation annually for PV output.

Schedule 8

Planned And Prospective Generating Facility Additions And Changes (1) : Gulf

	(2)	(3)	(4)	(5)	(5)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
				Fuel		Fuel Transport		Const.	Comm.	Expected	Gen. Max.	Firm Net Capability (2)		
Plant Name	Unit No.	Location	Unit Type	Pri.	Alt.	Pri.	Alt.	Start Mo./Yr.	In-Service Mo./Yr.	Retirement Mo./Yr.	Nameplate KW	Winter MW	Summer MW	Status
ADDITIONS/ CHANGES														
Gulf Changes														
2021														
Solar Degradation (3)	NA	NA	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	0	OT
											2021 Changes/Additions Total:	**0**	**0**	
Integrated FPL and Gulf: Former Gulf Area Changes														
2022														
Gulf Clean Energy Center Unit 8	8	Escambia County	CT	NG	FO2	PL	N/A	-	4th Q 2021	Unknown	983,000	949	938	P
Blue Springs Solar (3)	1	Jackson County	PV	Solar	Solar	N/A	N/A	-	4th Q 2021	Unknown	74,500	-	41	P
Cotton Creek Solar (3)	1	Walton County	PV	Solar	Solar	N/A	N/A	-	4th Q 2021	Unknown	74,500	-	43	P
Solar Degradation (3)	NA	NA	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	(0)	OT
											2022 Changes/Additions Total:	**949**	**1,021**	
2023														
Blackwater River Solar (3)	1	Santa Rosa County	PV	Solar	Solar	N/A	N/A	-	1st Q 2023	Unknown	74,500	-	37	P
Chipola Solar (3)	1	Calhoun County	PV	Solar	Solar	N/A	N/A	-	1st Q 2023	Unknown	74,500	-	37	P
Flowers Creek Solar (3)	1	Calhoun County	PV	Solar	Solar	N/A	N/A	-	1st Q 2023	Unknown	74,500	-	37	P
First City Solar (3)	1	Escambia County	PV	Solar	Solar	N/A	N/A	-	1st Q 2023	Unknown	74,500	-	37	P
Apalachee Solar (3)	1	Jackson County	PV	Solar	Solar	N/A	N/A	-	1st Q 2023	Unknown	74,500	-	37	P
Solar Degradation (3)	NA	NA	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	(1)	OT
											2023 Changes/Additions Total:	**0**	**186**	
2024														
Solar PV (3)		Unknown	PV	Solar	Solar	N/A	N/A	-	1st Q 2024	Unknown	372,500	-	171	P
Daniel Retirement	1	Jackson County, MS	FS	C	No	RR	No	-	Sep-77	1st Q 2024	274,125	(251)	(251)	P
Daniel Retirement	2	Jackson County, MS	FS	C	No	RR	No	-	Jun-81	1st Q 2024	274,125	(251)	(251)	P
Solar Degradation (3)	NA	NA	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	(1)	OT
											2024 Changes/Additions Total:	**(502)**	**(333)**	

(1) Schedule 8 shows only planned and prospective changes to FPL and Gulf generating facilities and does not reflect changes to purchases. Changes to purchases are reflected on Tables ES-1, I.A.3.1, I.A.3.2, I.B.3.1 and I.B.3.2.

(2) The Winter Total MW value consists of all generation additions and changes achieved by January. The Summer Total MW value consists of all generation additions and changes achieved by June. All MW additions/changes occurring after June each year will be acounted for in reserve margin calculations in the following year. MW Difference in Changes/Additions Total due to rounding.

(3) Solar MW values reflect firm capacity only values, not nameplate ratings and Gulf currently assumes 0.3% degradation annually for PV output.

Schedule 8

Planned And Prospective Generating Facility Additions And Changes (1) : Combined FPL and Gulf

Plant Name	(2) Unit No.	(3) Location	(4) Unit Type	(5) Fuel Pri.	(5) Fuel Alt.	(7) Fuel Transport Pri.	(8) Fuel Transport Alt.	(9) Const. Start Mo./Yr.	(10) Comm. In-Service Mo./Yr.	(11) Expected Retirement Mo./Yr.	(12) Gen. Max. Nameplate KW	(13) Firm Net Capability (2) Winter MW	(14) Firm Net Capability (2) Summer MW	(15) Status
ADDITIONS/ CHANGES														
Integrated FPL and Gulf Continued : Former Gulf Area Changes														
2025														
Pea Ridge Retirement	1	Santa Rosa	GT	NG	PL	NA	NA	-	May-98	2nd Q 2024	4,750	-	(4)	P
Pea Ridge Retirement	2	Santa Rosa	GT	NG	PL	NA	NA	-	May-98	2nd Q 2024	4,750	-	(4)	P
Pea Ridge Retirement	3	Santa Rosa	GT	NG	PL	NA	NA	-	May-98	2nd Q 2024	4,750	-	(4)	P
Crist Retirement	4	Escambia County	FS	C	NG	WA	PL	-	Jul-59	4th Q 2024	93,750	(75)	(75)	P
Solar PV(3)		Unknown	PV	Solar	Solar	N/A	N/A		1st Q 2025	Unknown	372,500	-	171	P
Solar Degradation(3)	NA	NA	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	(2)	OT
											2025 Changes/Additions Total:	**(75)**	**82**	
2026														
Pea Ridge Retirement	1	Santa Rosa	GT	NG	PL	NA	NA	-	May-98	Apr-25	4,750	(5)	-	P
Pea Ridge Retirement	2	Santa Rosa	GT	NG	PL	NA	NA	-	May-98	Apr-25	4,750	(5)	-	P
Pea Ridge Retirement	3	Santa Rosa	GT	NG	PL	NA	NA	-	May-98	Apr-25	4,750	(5)	-	P
Solar PV(3)		Unknown	PV	Solar	Solar	N/A	N/A	-	1st Q 2026	Unknown	74,500	-	34	P
Solar Degradation(3)	NA	NA	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	(2)	OT
											2026 Changes/Additions Total:	**(15)**	**32**	
2027														
Crist Retirement	5	Escambia County	FS	C	NG	WA	PL	-	Jul-59	4th Q 2026	93,750	(75)	(75)	P
Solar Degradation(3)	NA	NA	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	(2)	OT
											2027 Changes/Additions Total:	**(75)**	**(77)**	
2028														
Lansing Smith Retirement	A	Bay County	CT	LO	No	TK	No		May-71	4th Q 2027	41,850	(40)	(32)	OP
Solar Degradation(3)	NA	NA	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	(2)	OT
											2028 Changes/Additions Total:	**(40)**	**(34)**	
2029														
Solar PV(3)		Unknown	PV	Solar	Solar	N/A	N/A	-	1st Q 2029	Unknown	149,000	-	60	P
Solar Degradation(3)	NA	NA	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	(2)	OT
											2029 Changes/Additions Total:	**0**	**57**	
2030														
Perdido Retirement	1	Escambia County	IC	LFG	-	PL	-	-	Oct-10	4th Q 2029	1,600	(2)	(2)	P
Perdido Retirement	2	Escambia County	IC	LFG	-	PL	-	-	Oct-10	4th Q 2029	1,600	(2)	(2)	P
Battery Storage	1	Unknown	BS	N/A	N/A	N/A	N/A	-	1st Q 2030	Unknown	300,000	300	300	P
Solar PV(3)	1	Unknown	PV	Solar	Solar	N/A	N/A	-	1st Q 2030	Unknown	223,500	-	90	P
Solar Degradation(3)	NA	NA	N/A	N/A	N/A	N/A	N/A	-	N/A	N/A	N/A	-	(2)	OT
											2030 Changes/Additions Total:	**297**	**385**	

(1) Schedule 8 shows only planned and prospective changes to generating facilities and does not reflect changes to expisting purchases. Those changes are reflected on Tables ES-1, I.A.3.1, I.A.3.2, I.B.3.1 and I.B.3.2

(2) The Winter Total MW value consists of all generation additions and changes achieved by January. The Summer Total MW value consists of all generation additions and changes achieved by June. All MW additions/changes occurring after June each year will be accounted for in reserve margin calculations in the following year. MW Difference in Changes/Additions Total due to rounding.

(3) Solar MW values reflect firm capacity only values, not nameplate ratings and Gulf currently assumes 0.3% degradation annually for PV output.

Schedule 9

Status Report and Specifications of Proposed Generating Facilities

(1)	**Plant Name and Unit Number:**	Discovery Solar Energy Center (Brevard County)	
(2)	**Capacity**		
	a. Nameplate (AC)	74.5	MW
	b. Summer Firm (AC)[1/]	36	MW (Approximately)
	c. Winter Firm (AC)	-	
(3)	**Technology Type:**	Photovoltaic (PV)	
(4)	**Anticipated Construction Timing**		
	a. Field construction start-date:	2020	
	b. Commercial In-service date:	2021	
(5)	**Fuel**		
	a. Primary Fuel		Solar
	b. Alternate Fuel		Not applicable
(6)	**Air Pollution and Control Strategy:**		Not applicable
(7)	**Cooling Method:**	Not applicable	
(8)	**Total Site Area:**	491	Acres
(9)	**Construction Status:**	P	(Planned Unit)
(10)	**Certification Status:**	---	
(11)	**Status with Federal Agencies:**	---	
(12)	**Projected Unit Performance Data:**		
	Planned Outage Factor (POF):		Not applicable
	Forced Outage Factor (FOF):		Not applicable
	Equivalent Availability Factor (EAF):		Not applicable
	Resulting Capacity Factor (%):		21.9% (First Full Year Operation)
	Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%		Not applicable Btu/kWh
	Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%		Not applicable Btu/kWh
(13)	**Projected Unit Financial Data ***		
	Book Life (Years):		30 years
	Total Installed Cost (2021 $/kW):		1,087
	Direct Construction Cost ($/kW):		1,052
	AFUDC Amount (2021 $/kW):		35
	Escalation ($/kW):		Accounted for in Direct Construction Cost
	Fixed O&M ($/kW-Yr.): (2021 $)		6.57 (First Full Year Operation)
	Variable O&M ($/MWH): (2021 $)		0.00
	K Factor:		1.07

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Orange Blossom Solar Energy Center (Indian River County)

(2) **Capacity**
a. Nameplate (AC) 74.5 MW
b. Summer Firm (AC)[1/] 36 MW (Approximately)
c. Winter Firm (AC) -

(3) **Technology Type:** Photovoltaic (PV)

(4) **Anticipated Construction Timing**
a. Field construction start-date: 2020
b. Commercial In-service date: 2021

(5) **Fuel**
a. Primary Fuel Solar
b. Alternate Fuel Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** 607 Acres

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**

Planned Outage Factor (POF):	Not applicable
Forced Outage Factor (FOF):	Not applicable
Equivalent Availability Factor (EAF):	Not applicable
Resulting Capacity Factor (%):	23.8% (First Full Year Operation)
Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable
Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable

(13) **Projected Unit Financial Data ***

Book Life (Years):	30 years
Total Installed Cost (2021 $/kW):	1,217
Direct Construction Cost ($/kW):	1,179
AFUDC Amount (2021 $/kW):	38
Escalation ($/kW):	Accounted for in Direct Construction Cost
Fixed O&M ($/kW-Yr.): (2021 $)	6.74 (First Full Year Operation)
Variable O&M ($/MWH): (2021 $)	0.00
K Factor:	1.09

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1)	**Plant Name and Unit Number:**	Sabal Palm Solar Energy Center (Palm Beach County)	
(2)	**Capacity**		
	a. Nameplate (AC)	74.5	MW
	b. Summer Firm (AC)[1/]	36	MW (Approximately)
	c. Winter Firm (AC)	-	
(3)	**Technology Type:** Photovoltaic (PV)		
(4)	**Anticipated Construction Timing**		
	a. Field construction start-date:	2020	
	b. Commercial In-service date:	2021	
(5)	**Fuel**		
	a. Primary Fuel		Solar
	b. Alternate Fuel		Not applicable
(6)	**Air Pollution and Control Strategy:**		Not applicable
(7)	**Cooling Method:**	Not applicable	
(8)	**Total Site Area:**	646	Acres
(9)	**Construction Status:**	P	(Planned Unit)
(10)	**Certification Status:**	---	
(11)	**Status with Federal Agencies:**	---	
(12)	**Projected Unit Performance Data:**		
	Planned Outage Factor (POF):		Not applicable
	Forced Outage Factor (FOF):		Not applicable
	Equivalent Availability Factor (EAF):		Not applicable
	Resulting Capacity Factor (%):		24.0% (First Full Year Operation)
	Average Net Operating Heat Rate (ANOHR):		Not applicable Btu/kWh
	Base Operation 75F,100%		
	Average Net Incremental Heat Rate (ANIHR):		Not applicable Btu/kWh
	Peak Operation 75F,100%		
(13)	**Projected Unit Financial Data ***		
	Book Life (Years):		30 years
	Total Installed Cost (2021 $/kW):		1,345
	Direct Construction Cost ($/kW):		1,306
	AFUDC Amount (2021 $/kW):		40
	Escalation ($/kW):		Accounted for in Direct Construction Cost
	Fixed O&M ($/kW-Yr.): (2021 $)		6.74 (First Full Year Operation)
	Variable O&M ($/MWH): (2021 $)		0.00
	K Factor:		1.07

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value show n represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased.
FPL w ill continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning w ork.

Schedule 9

Status Report and Specifications of Proposed Generating Facilities

(1)	**Plant Name and Unit Number:**	Fort Drum Solar Energy Center (Okeechobee County)	
(2)	**Capacity**		
	a. Nameplate (AC)	74.5	MW
	b. Summer Firm (AC)[1/]	36	MW (Approximately)
	c. Winter Firm (AC)	-	
(3)	**Technology Type:**	Photovoltaic (PV)	
(4)	**Anticipated Construction Timing**		
	a. Field construction start-date:	2020	
	b. Commercial In-service date:	2021	
(5)	**Fuel**		
	a. Primary Fuel	Solar	
	b. Alternate Fuel	Not applicable	
(6)	**Air Pollution and Control Strategy:**	Not applicable	
(7)	**Cooling Method:**	Not applicable	
(8)	**Total Site Area:**	930	Acres
(9)	**Construction Status:**	P	(Planned Unit)
(10)	**Certification Status:**	---	
(11)	**Status with Federal Agencies:**	---	
(12)	**Projected Unit Performance Data:**		
	Planned Outage Factor (POF):	Not applicable	
	Forced Outage Factor (FOF):	Not applicable	
	Equivalent Availability Factor (EAF):	Not applicable	
	Resulting Capacity Factor (%):	22.0%	(First Full Year Operation)
	Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable	Btu/kWh
	Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable	Btu/kWh
(13)	**Projected Unit Financial Data ***		
	Book Life (Years):	30	years
	Total Installed Cost (2021 $/kW):	1,137	
	Direct Construction Cost ($/kW):	1,102	
	AFUDC Amount (2021 $/kW):	35	
	Escalation ($/kW):	Accounted for in Direct Construction Cost	
	Fixed O&M ($/kW-Yr.): (2021 $)	6.74	(First Full Year Operation)
	Variable O&M ($/MWH) (2021 $)	0.00	
	K Factor:	1.09	

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Willow Solar Energy Center (Manatee County)

(2) **Capacity**

a. Nameplate (AC)	74.5	MW
b. Summer Firm (AC)[1/]	36	MW (Approximately)
c. Winter Firm (AC)	-	

(3) **Technology Type:** Photovoltaic (PV)

(4) **Anticipated Construction Timing**

a. Field construction start-date:	2020
b. Commercial In-service date:	2021

(5) **Fuel**

a. Primary Fuel	Solar
b. Alternate Fuel	Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** 812 Acres

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**

Planned Outage Factor (POF):	Not applicable
Forced Outage Factor (FOF):	Not applicable
Equivalent Availability Factor (EAF):	Not applicable
Resulting Capacity Factor (%):	25.2% (First Full Year Operation)
Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable Btu/kWh
Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable Btu/kWh

(13) **Projected Unit Financial Data ***

Book Life (Years):	30 years
Total Installed Cost (2021 $/kW):	1,186
Direct Construction Cost ($/kW):	1,149
AFUDC Amount (2021 $/kW):	37
Escalation ($/kW):	Accounted for in Direct Construction Cost
Fixed O&M ($/kW-Yr.): (2021 $)	7.10 (First Full Year Operation)
Variable O&M ($/MWH): (2021 $)	0.00
K Factor:	1.10

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.

Schedule 9

Status Report and Specifications of Proposed Generating Facilities

(1)	**Plant Name and Unit Number:**	Manatee Battery Storage Center (Manatee County)	
(2)	**Capacity**		
	a. Summer	409 MW	
	b. Winter	409 MW	
(3)	**Technology Type:**	Battery	
(4)	**Anticipated Construction Timing**		
	a. Field construction start-date:	2020	
	b. Commercial In-service date:	2021	
(5)	**Fuel**		
	a. Primary Fuel	Not applicable	
	b. Alternate Fuel	Not applicable	
(6)	**Air Pollution and Control Strategy:**	Not applicable	
(7)	**Cooling Method:**	Not applicable	
(8)	**Total Site Area:**	40	Acres
(9)	**Construction Status:**	P	(Planned Unit)
(10)	**Certification Status:**	---	
(11)	**Status with Federal Agencies:**	---	
(12)	**Projected Unit Performance Data:**		
	Planned Outage Factor (POF):	Not applicable	
	Forced Outage Factor (FOF):	Not applicable	
	Equivalent Availability Factor (EAF):	Not applicable	
	Resulting Capacity Factor (%):	Not applicable	
	Average Net Operating Heat Rate (ANOHR):	Not applicable	
	Base Operation 75F,100%		
	Average Net Incremental Heat Rate (ANIHR):	Not applicable	
	Peak Operation 75F,100%		
(13)	**Projected Unit Financial Data *,****		
	Book Life (Years):	10 years	
	Total Installed Cost (2021 $/kW):	746	
	Direct Construction Cost (2021 $/kW):	714	
	AFUDC Amount (2021 $/kW):	33	
	Escalation ($/kW):	Accounted for in Direct Construction Cost	
	Fixed O&M ($/kW-Yr.): (2021 $)	9.02	
	Variable O&M ($/MWH): (2021 $)	0.00	
	K Factor:	0.80	

* $/kW values are based on Summer capacity.

** Levelized value for Fixed O&M also includes Capital Replacement and annual capital replenishment

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1)	**Plant Name and Unit Number:**	Sunshine Gateway Battery Storage Center (Columbia County)	
(2)	**Capacity**		
	a. Summer	30 MW	
	b. Winter	30 MW	
(3)	**Technology Type:** Battery		
(4)	**Anticipated Construction Timing**		
	a. Field construction start-date:	2020	
	b. Commercial In-service date:	2021	
(5)	**Fuel**		
	a. Primary Fuel	Not applicable	
	b. Alternate Fuel	Not applicable	
(6)	**Air Pollution and Control Strategy:**	Not applicable	
(7)	**Cooling Method:**	Not applicable	
(8)	**Total Site Area:**	3.24	Acres
(9)	**Construction Status:**	P	(Planned Unit)
(10)	**Certification Status:**	---	
(11)	**Status with Federal Agencies:**	---	
(12)	**Projected Unit Performance Data:**		
	Planned Outage Factor (POF):	Not applicable	
	Forced Outage Factor (FOF):	Not applicable	
	Equivalent Availability Factor (EAF):	Not applicable	
	Resulting Capacity Factor (%):	Not applicable	
	Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable	
	Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable	
(13)	**Projected Unit Financial Data *,****		
	Book Life (Years):	10 years	
	Total Installed Cost (2021 $/kW):	667	
	Direct Construction Cost (2021 $/kW):	667	
	AFUDC Amount (2021 $/kW):	0.00	
	Escalation ($/kW):	Accounted for in Direct Construction Cost	
	Fixed O&M ($/kW-Yr.): (2021 $)	15.66	
	Variable O&M ($/MWH): (2021 $)	0.00	
	K Factor:	0.80	

* $/kW values are based on Summer capacity.
** Levelized value for Fixed O&M also includes Capital Replacement and annual capital replenishment

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1)	**Plant Name and Unit Number:**	Echo River Battery Storage Center (Suwannee County)		
(2)	**Capacity**			
	a. Summer	30 MW		
	b. Winter	30 MW		
(3)	**Technology Type:** Battery			
(4)	**Anticipated Construction Timing**			
	a. Field construction start-date:	2020		
	b. Commercial In-service date:	2021		
(5)	**Fuel**			
	a. Primary Fuel		Not applicable	
	b. Alternate Fuel		Not applicable	
(6)	**Air Pollution and Control Strategy:**		Not applicable	
(7)	**Cooling Method:**	Not applicable		
(8)	**Total Site Area:**	4.31	Acres	
(9)	**Construction Status:**	P	(Planned Unit)	
(10)	**Certification Status:**	---		
(11)	**Status with Federal Agencies:**	---		
(12)	**Projected Unit Performance Data:**			
	Planned Outage Factor (POF):		Not applicable	
	Forced Outage Factor (FOF):		Not applicable	
	Equivalent Availability Factor (EAF):		Not applicable	
	Resulting Capacity Factor (%):		Not applicable	
	Average Net Operating Heat Rate (ANOHR):		Not applicable	
	Base Operation 75F,100%			
	Average Net Incremental Heat Rate (ANIHR):		Not applicable	
	Peak Operation 75F,100%			
(13)	**Projected Unit Financial Data *,****			
	Book Life (Years):		10 years	
	Total Installed Cost (2021 $/kW):		667	
	Direct Construction Cost (2021 $/kW):		667	
	AFUDC Amount (2021 $/kW):		0.00	
	Escalation ($/kW):		Accounted for in Direct Construction Cost	
	Fixed O&M ($/kW-Yr.):	(2021 $)	15.66	
	Variable O&M ($/MWH):	(2021 $)	0.00	
	K Factor:		0.80	

* $/kW values are based on Summer capacity.
** Levelized value for Fixed O&M also includes Capital Replacement and annual capital replenishment

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Gulf Clean Energy Center Unit 8 (Escambia County)

(2) **Capacity**
a. Summer 938 MW
b. Winter 949 MW

(3) **Technology Type:** Combustion Turbine

(4) **Anticipated Construction Timing**
a. Field construction start-date: 2020
b. Commercial In-service date: 2021

(5) **Fuel**
a. Primary Fuel: Natural Gas
b. Alternate Fuel: Ultra-low sulfur distillate

(6) **Air Pollution and Control Strategy:** Dry Low NOx Burners, SCR, Natural Gas, 0.0015% S. Distillate and Water Injection

(7) **Cooling Method:** Fin Fan / Evap Coolers

(8) **Total Site Area:** 58 Acres

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**

Planned Outage Factor (POF):	3.0%	
Forced Outage Factor (FOF):	1%	
Equivalent Availability Factor (EAF):	96.0%	
Resulting Capacity Factor (%):	Approx. 3%	(First Full Year Base Operation)
Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	9,944	
Average Net Incremental Heat Rate (ANIHR): Peak Firing and Wet Compression 75F,100%	8,869	

(13) **Projected Unit Financial Data *,****

Book Life (Years):	40	years
Total Installed Cost (2021 $/kW):	479	
Direct Construction Cost (2021 $/kW):	455	
AFUDC Amount (2021 $/kW):	23	
Escalation ($/kW):	Accounted for in Direct Construction Cost	
Fixed O&M ($/kW-Yr.):	8.00	
Variable O&M (2021 $/MWH):	0.02	
K Factor:	1.13	

* $/kW values are based on Summer capacity.
** Levelized value for Fixed O&M also includes Capital Replacement

Note: Total installed cost includes transmission interconnection and integration, escalation, and AFUDC.

Schedule 9

Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Blue Springs Solar Energy Center (Jackson County)

(2) **Capacity**

a. Nameplate (AC) 74.5 MW

b. Summer Firm (AC)[1/] 41 MW (Approximately)

c. Winter Firm (AC) -

(3) **Technology Type:** Photovoltaic (PV)

(4) **Anticipated Construction Timing**

a. Field construction start-date: 2020

b. Commercial In-service date: 2021

(5) **Fuel**

a. Primary Fuel Solar

b. Alternate Fuel Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** 444 Acres

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**

Planned Outage Factor (POF):	Not applicable
Forced Outage Factor (FOF):	Not applicable
Equivalent Availability Factor (EAF):	Not applicable
Resulting Capacity Factor (%):	23.3% (First Full Year Operation)
Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable Btu/kWh
Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable Btu/kWh

(13) **Projected Unit Financial Data ***

Book Life (Years):	30 years
Total Installed Cost (2021 $/kW):	1,071
Direct Construction Cost ($/kW):	1,039
AFUDC Amount (2021 $/kW):	32
Escalation ($/kW):	Accounted for in Direct Construction Cost
Fixed O&M ($/kW-Yr.): (2021 $)	7.65 (First Full Year Operation)
Variable O&M ($/MWH) (2021 $)	0.00
K Factor:	0.91

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.

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Status Report and Specifications of Proposed Generating Facilities

(1)	**Plant Name and Unit Number:**		Cotton Creek Solar Energy Center (Escambia County)
(2)	**Capacity**		
	a. Nameplate (AC)	74.5	MW
	b. Summer Firm (AC)[1/]	43	MW (Approximately)
	c. Winter Firm (AC)	-	
(3)	**Technology Type:** Photovoltaic (PV)		
(4)	**Anticipated Construction Timing**		
	a. Field construction start-date:	2020	
	b. Commercial In-service date:	2021	
(5)	**Fuel**		
	a. Primary Fuel		Solar
	b. Alternate Fuel		Not applicable
(6)	**Air Pollution and Control Strategy:**		Not applicable
(7)	**Cooling Method:**		Not applicable
(8)	**Total Site Area:**	645	Acres
(9)	**Construction Status:**	P	(Planned Unit)
(10)	**Certification Status:**	---	
(11)	**Status with Federal Agencies:**	---	
(12)	**Projected Unit Performance Data:**		
	Planned Outage Factor (POF):	Not applicable	
	Forced Outage Factor (FOF):	Not applicable	
	Equivalent Availability Factor (EAF):	Not applicable	
	Resulting Capacity Factor (%):	21.7%	(First Full Year Operation)
	Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable	Btu/kWh
	Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable	Btu/kWh
(13)	**Projected Unit Financial Data ***		
	Book Life (Years):	30	years
	Total Installed Cost (2021 $/kW):	1,071	
	Direct Construction Cost ($/kW):	1,039	
	AFUDC Amount (2021 $/kW):	32	
	Escalation ($/kW):		Accounted for in Direct Construction Cost
	Fixed O&M ($/kW-Yr.): (2021 $)	7.65	(First Full Year Operation)
	Variable O&M ($/MWH) (2021 $)	0.00	
	K Factor:	0.91	

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.

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Status Report and Specifications of Proposed Generating Facilities

(1)	**Plant Name and Unit Number:**	Ghost Orchid Solar Energy Center (Hendry County)	
(2)	**Capacity**		
	a. Nameplate (AC)	74.5	MW
	b. Summer Firm (AC)[1/]	39	MW (Approximately)
	c. Winter Firm (AC)	-	
(3)	**Technology Type:**	Photovoltaic (PV)	
(4)	**Anticipated Construction Timing**		
	a. Field construction start-date:	2021	
	b. Commercial In-service date:	2022	
(5)	**Fuel**		
	a. Primary Fuel		Solar
	b. Alternate Fuel		Not applicable
(6)	**Air Pollution and Control Strategy:**		Not applicable
(7)	**Cooling Method:**	Not applicable	
(8)	**Total Site Area:**	535	Acres
(9)	**Construction Status:**	P	(Planned Unit)
(10)	**Certification Status:**	---	
(11)	**Status with Federal Agencies:**	---	
(12)	**Projected Unit Performance Data:**		
	Planned Outage Factor (POF):		Not applicable
	Forced Outage Factor (FOF):		Not applicable
	Equivalent Availability Factor (EAF):		Not applicable
	Resulting Capacity Factor (%):		25.1% (First Full Year Operation)
	Average Net Operating Heat Rate (ANOHR):		Not applicable
	Base Operation 75F,100%		
	Average Net Incremental Heat Rate (ANIHR):		Not applicable
	Peak Operation 75F,100%		
(13)	**Projected Unit Financial Data ***		
	Book Life (Years):		30 years
	Total Installed Cost (2022 $/kW):		1,290
	Direct Construction Cost ($/kW):		1,247
	AFUDC Amount (2022 $/kW):		43
	Escalation ($/kW):		Accounted for in Direct Construction Cost
	Fixed O&M ($/kW-Yr.): (2022 $)		6.91 (First Full Year Operation)
	Variable O&M ($/MWH) (2022 $)		0.00
	K Factor:		0.99

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.

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Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Sawgrass Solar Energy Center (Hendry County)

(2) **Capacity**
a. Nameplate (AC) 74.5 MW
b. Summer Firm (AC)[1/] 39 MW (Approximately)
c. Winter Firm (AC) -

(3) **Technology Type:** Photovoltaic (PV)

(4) **Anticipated Construction Timing**
a. Field construction start-date: 2021
b. Commercial In-service date: 2022

(5) **Fuel**
a. Primary Fuel Solar
b. Alternate Fuel Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** 603 Acres

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**

Planned Outage Factor (POF):	Not applicable	
Forced Outage Factor (FOF):	Not applicable	
Equivalent Availability Factor (EAF):	Not applicable	
Resulting Capacity Factor (%):	25.0%	(First Full Year Operation)
Average Net Operating Heat Rate (ANOHR):	Not applicable	Btu/kWh
Base Operation 75F,100%		
Average Net Incremental Heat Rate (ANIHR):	Not applicable	Btu/kWh
Peak Operation 75F,100%		

(13) **Projected Unit Financial Data ***

Book Life (Years):	30	years
Total Installed Cost (2022 $/kW):	1,315	
Direct Construction Cost ($/kW):	1,273	
AFUDC Amount (2022 $/kW):	43	
Escalation ($/kW):	Accounted for in Direct Construction Cost	
Fixed O&M ($/kW-Yr.): (2022 $)	6.91	(First Full Year Operation)
Variable O&M ($/MWH): (2022 $)	0.00	
K Factor:	0.98	

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value show n represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL w ill continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning w ork.

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Status Report and Specifications of Proposed Generating Facilities

(1)	**Plant Name and Unit Number:**	Sundew Solar Energy Center (St. Lucie County)	
(2)	**Capacity**		
	a. Nameplate (AC)	74.5	MW
	b. Summer Firm (AC)[1/]	39	MW (Approximately)
	c. Winter Firm (AC)	-	
(3)	**Technology Type:**	Photovoltaic (PV)	
(4)	**Anticipated Construction Timing**		
	a. Field construction start-date:	2021	
	b. Commercial In-service date:	2022	
(5)	**Fuel**		
	a. Primary Fuel	Solar	
	b. Alternate Fuel	Not applicable	
(6)	**Air Pollution and Control Strategy:**	Not applicable	
(7)	**Cooling Method:**	Not applicable	
(8)	**Total Site Area:**	473	Acres
(9)	**Construction Status:**	P	(Planned Unit)
(10)	**Certification Status:**	---	
(11)	**Status with Federal Agencies:**	---	
(12)	**Projected Unit Performance Data:**		
	Planned Outage Factor (POF):	Not applicable	
	Forced Outage Factor (FOF):	Not applicable	
	Equivalent Availability Factor (EAF):	Not applicable	
	Resulting Capacity Factor (%):	24.8%	(First Full Year Operation)
	Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable	Btu/kWh
	Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable	Btu/kWh
(13)	**Projected Unit Financial Data ***		
	Book Life (Years):	30	years
	Total Installed Cost (2022 $/kW):	1,174	
	Direct Construction Cost ($/kW):	1,135	
	AFUDC Amount (2022 $/kW):	39	
	Escalation ($/kW):	Accounted for in Direct Construction Cost	
	Fixed O&M ($/kW-Yr.): (2022 $)	6.91	(First Full Year Operation)
	Variable O&M ($/MWH) (2022 $)	0.00	
	K Factor:	1.08	

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.

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Status Report and Specifications of Proposed Generating Facilities

(1)	**Plant Name and Unit Number:**	Immokalee Solar Energy Center (Collier County)	
(2)	**Capacity**		
	a. Nameplate (AC)	74.5	MW
	b. Summer Firm (AC)[1/]	39	MW (Approximately)
	c. Winter Firm (AC)	-	
(3)	**Technology Type:**	Photovoltaic (PV)	
(4)	**Anticipated Construction Timing**		
	a. Field construction start-date:	2021	
	b. Commercial In-service date:	2022	
(5)	**Fuel**		
	a. Primary Fuel	Solar	
	b. Alternate Fuel	Not applicable	
(6)	**Air Pollution and Control Strategy:**	Not applicable	
(7)	**Cooling Method:**	Not applicable	
(8)	**Total Site Area:**	548	Acres
(9)	**Construction Status:**	P	(Planned Unit)
(10)	**Certification Status:**	---	
(11)	**Status with Federal Agencies:**	---	
(12)	**Projected Unit Performance Data:**		
	Planned Outage Factor (POF):	Not applicable	
	Forced Outage Factor (FOF):	Not applicable	
	Equivalent Availability Factor (EAF):	Not applicable	
	Resulting Capacity Factor (%):	25.4%	(First Full Year Operation)
	Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable	Btu/kWh
	Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable	Btu/kWh
(13)	**Projected Unit Financial Data ***		
	Book Life (Years):	30	years
	Total Installed Cost (2022 $/kW):	1,256	
	Direct Construction Cost ($/kW):	1,214	
	AFUDC Amount (2022 $/kW):	42	
	Escalation ($/kW):	Accounted for in Direct Construction Cost	
	Fixed O&M ($/kW-Yr.): (2022 $)	6.91	(First Full Year Operation)
	Variable O&M ($/MWH) (2022 $)	0.00	
	K Factor:	1.09	

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1)	**Plant Name and Unit Number:**	Grove Solar Energy Center (Indian River County)	
(2)	**Capacity**		
	a. Nameplate (AC)	74.5	MW
	b. Summer Firm (AC	39	MW (Approximately)
	c. Winter Firm (AC)	-	
(3)	**Technology Type:**	Photovoltaic (PV)	
(4)	**Anticipated Construction Timing**		
	a. Field construction start-date:	2021	
	b. Commercial In-service date:	2022	
(5)	**Fuel**		
	a. Primary Fuel	Solar	
	b. Alternate Fuel	Not applicable	
(6)	**Air Pollution and Control Strategy:**	Not applicable	
(7)	**Cooling Method:**	Not applicable	
(8)	**Total Site Area:**	574	Acres
(9)	**Construction Status:**	P	(Planned Unit)
(10)	**Certification Status:**	---	
(11)	**Status with Federal Agencies:**	---	
(12)	**Projected Unit Performance Data:**		
	Planned Outage Factor (POF):	Not applicable	
	Forced Outage Factor (FOF):	Not applicable	
	Equivalent Availability Factor (EAF):	Not applicable	
	Resulting Capacity Factor (%):	24.8%	(First Full Year Base Operation)
	Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable	
	Average Net Incremental Heat Rate (ANIHR): Peak Firing and Wet Compression 75F,100%	Not applicable	
(13)	**Projected Unit Financial Data ***		
	Book Life (Years):	30	years
	Total Installed Cost (2022 $/kW):	1,264	
	Direct Construction Cost ($/kW):	1,223	
	AFUDC Amount (2022 $/kW):	41	
	Escalation ($/kW):	Accounted for in Direct Construction Cost	
	Fixed O&M ($/kW-Yr (2022 $)	6.91	(First Full Year Operation)
	Variable O&M ($/MW (2022 $)	0.00	
	K Factor:	1.08	

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value show n represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL w ill continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning w ork.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Elder Branch Solar Energy Center (Manatee County)

(2) **Capacity**
a. Nameplate (AC) 74.5 MW
b. Summer Firm (AC 39 MW (Approximately)
c. Winter Firm (AC) -

(3) **Technology Type:** Photovoltaic (PV)

(4) **Anticipated Construction Timing**
a. Field construction start-date: 2021
b. Commercial In-service date: 2022

(5) **Fuel**
a. Primary Fuel Solar
b. Alternate Fuel Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** 590 Acres

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**

Planned Outage Factor (POF):	Not applicable
Forced Outage Factor (FOF):	Not applicable
Equivalent Availability Factor (EAF):	Not applicable
Resulting Capacity Factor (%):	29.6% (First Full Year Base Operation)
Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable
Average Net Incremental Heat Rate (ANIHR): Peak Firing and Wet Compression 75F,100%	Not applicable

(13) **Projected Unit Financial Data ***

Book Life (Years):	30 years
Total Installed Cost (2022 $/kW):	1,223
Direct Construction Cost ($/kW):	1,183
AFUDC Amount (2022 $/kW):	41
Escalation ($/kW):	Accounted for in Direct Construction Cost
Fixed O&M ($/kW-Yr. (2022 $)	7.27 (First Full Year Operation)
Variable O&M ($/MW (2022 $)	0.00
K Factor:	1.10

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value show n represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased.
FPL w ill continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning w ork.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Dania Beach Clean Energy Center Unit 7 (Broward County)

(2) **Capacity**
a. Summer 1,163 MW
b. Winter 1,176 MW

(3) **Technology Type:** Combined Cycle

(4) **Anticipated Construction Timing**
a. Field construction start-date: 2020
b. Commercial In-service date: 2022

(5) **Fuel**
a. Primary Fuel: Natural Gas
b. Alternate Fuel: Ultra-low sulfur distillate

(6) **Air Pollution and Control Strategy:** Dry Low NOx Burners, SCR, Natural Gas, 0.0015% S. Distillate and Water Injection

(7) **Cooling Method:** Once through cooling water

(8) **Total Site Area:** 134 Acres

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**

Planned Outage Factor (POF):	3.5%
Forced Outage Factor (FOF):	1%
Equivalent Availability Factor (EAF):	95.5%
Resulting Capacity Factor (%):	90.0% (First Full Year Base Operation)
Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	6,119 Btu/kWh on Gas
Average Net Incremental Heat Rate (ANIHR): Peak Firing and Wet Compression 75F,100%	7,592 Btu/kWh on Gas

(13) **Projected Unit Financial Data *,****

Book Life (Years):	40 years
Total Installed Cost (2022 $/kW):	764
Direct Construction Cost (2022 $/kW):	675
AFUDC Amount (2022 $/kW):	89
Escalation ($/kW):	Accounted for in Direct Construction Cost
Fixed O&M ($/kW-Yr.):	19.73
Variable O&M (2022 $/MWH):	0.23
K Factor:	1.55

* $/kW values are based on Summer capacity.
** Levelized value for Fixed O&M also includes Capital Replacement

Note: Total installed cost includes transmission interconnection and integration, escalation, and AFUDC.

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Status Report and Specifications of Proposed Generating Facilities

(1)	**Plant Name and Unit Number:**	Everglades Solar Energy Center (Miami-Dade County)	
(2)	**Capacity**		
	a. Nameplate (AC)	74.5	MW
	b. Summer Firm (AC	30	MW (Approximately)
	c. Winter Firm (AC)	-	
(3)	**Technology Type:**	Photovoltaic (PV)	
(4)	**Anticipated Construction Timing** [2/]		
	a. Field construction start-date:	2022	
	b. Commercial In-service date:	2023	
(5)	**Fuel**		
	a. Primary Fuel	Solar	
	b. Alternate Fuel	Not applicable	
(6)	**Air Pollution and Control Strategy:**	Not applicable	
(7)	**Cooling Method:**	Not applicable	
(8)	**Total Site Area:**	388	Acres
(9)	**Construction Status:**	P	(Planned Unit)
(10)	**Certification Status:**	---	
(11)	**Status with Federal Agencies:**	---	
(12)	**Projected Unit Performance Data:**		
	Planned Outage Factor (POF):	Not applicable	
	Forced Outage Factor (FOF):	Not applicable	
	Equivalent Availability Factor (EAF):	Not applicable	
	Resulting Capacity Factor (%):	25.0%	(First Full Year Operation)
	Average Net Operating Heat Rate (ANOHR):	Not applicable	
	Base Operation 75F,100%		
	Average Net Incremental Heat Rate (ANIHR):	Not applicable	
	Peak Operation 75F,100%		
(13)	**Projected Unit Financial Data ***		
	Book Life (Years):	30	years
	Total Installed Cost (2023 $/kW):	1,469	
	Direct Construction Cost ($/kW):	1,426	
	AFUDC Amount (2023 $/kW):	43	
	Escalation ($/kW):	Accounted for in Direct Construction Cost	
	Fixed O&M ($/kW-Yr. (2023 $)	7.08	(First Full Year Operation)
	Variable O&M ($/MW (2023 $)	0.00	
	K Factor:	1.12	

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value show n represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased.
FPL w ill continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning w ork.

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Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** White Tail Solar Energy Center (Martin County)

(2) **Capacity**
- a. Nameplate (AC) 74.5 MW
- b. Summer Firm (AC)[1/] 30 MW (Approximately)
- c. Winter Firm (AC) -

(3) **Technology Type:** Photovoltaic (PV)

(4) **Anticipated Construction Timing** [2/]
- a. Field construction start-date: 2022
- b. Commercial In-service date: 2023

(5) **Fuel**
- a. Primary Fuel: Solar
- b. Alternate Fuel: Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** 601 Acres

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**

Planned Outage Factor (POF):	Not applicable	
Forced Outage Factor (FOF):	Not applicable	
Equivalent Availability Factor (EAF):	Not applicable	
Resulting Capacity Factor (%):	24.7%	(First Full Year Operation)
Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable	
Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable	

(13) **Projected Unit Financial Data ***

Book Life (Years):	30	years
Total Installed Cost (2023 $/kW):	1,259	
Direct Construction Cost ($/kW):	1,221	
AFUDC Amount (2023 $/kW):	38	
Escalation ($/kW):	Accounted for in Direct Construction Cost	
Fixed O&M ($/kW-Yr.): (2023 $)	7.08	(First Full Year Operation)
Variable O&M ($/MWH): (2023 $)	0.00	
K Factor:	1.15	

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.

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Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Bluefield Preserve Solar Energy Center (St. Lucie County)

(2) **Capacity**
a. Nameplate (AC) 74.5 MW
b. Summer Firm (AC)[1/] 30 MW (Approximately)
c. Winter Firm (AC) -

(3) **Technology Type:** Photovoltaic (PV)

(4) **Anticipated Construction Timing**
a. Field construction start-date: 2022
b. Commercial In-service date: 2023

(5) **Fuel**
a. Primary Fuel Solar
b. Alternate Fuel Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** TBD: 592 (est) Acres

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**

Planned Outage Factor (POF):	Not applicable	
Forced Outage Factor (FOF):	Not applicable	
Equivalent Availability Factor (EAF):	Not applicable	
Resulting Capacity Factor (%):	24.9%	(First Full Year Operation)
Average Net Operating Heat Rate (ANOHR):	Not applicable	
Base Operation 75F,100%		
Average Net Incremental Heat Rate (ANIHR):	Not applicable	
Peak Operation 75F,100%		

(13) **Projected Unit Financial Data ***

Book Life (Years):	30	years
Total Installed Cost (2023 $/kW):	1,113	
Direct Construction Cost ($/kW):	1,079	
AFUDC Amount (2023 $/kW):	35	
Escalation ($/kW):	Accounted for in Direct Construction Cost	
Fixed O&M ($/kW-Yr.): (2023 $)	7.08	(First Full Year Operation)
Variable O&M ($/MWH) (2023 $)	0.00	
K Factor:	1.17	

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.

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Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Cavendish Solar Energy Center (Okeechobee County)

(2) **Capacity**
a. Nameplate (AC) 74.5 MW
b. Summer Firm (AC)[1/] 30 MW (Approximately)
c. Winter Firm (AC) -

(3) **Technology Type:** Photovoltaic (PV)

(4) **Anticipated Construction Timing**
a. Field construction start-date: 2022
b. Commercial In-service date: 2023

(5) **Fuel**
a. Primary Fuel Solar
b. Alternate Fuel Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** 930 Acres

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**

Planned Outage Factor (POF):	Not applicable	
Forced Outage Factor (FOF):	Not applicable	
Equivalent Availability Factor (EAF):	Not applicable	
Resulting Capacity Factor (%):	28.8%	(First Full Year Operation)
Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable	
Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable	

(13) **Projected Unit Financial Data ***

Book Life (Years):	30	years
Total Installed Cost (2023 $/kW):	1,144	
Direct Construction Cost ($/kW):	1,107	
AFUDC Amount (2023 $/kW):	36	
Escalation ($/kW):	Accounted for in Direct Construction Cost	
Fixed O&M ($/kW-Yr.): (2023 $)	7.46	(First Full Year Operation)
Variable O&M ($/MWH): (2023 $)	0.00	
K Factor:	1.21	

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.

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Status Report and Specifications of Proposed Generating Facilities

(1)	**Plant Name and Unit Number:**	Anhinga Solar Energy Center (Clay County)	
(2)	**Capacity**		
	a. Nameplate (AC)	74.5	MW
	b. Summer Firm (AC)[1/]	30	MW (Approximately)
	c. Winter Firm (AC)	-	
(3)	**Technology Type:**	Photovoltaic (PV)	
(4)	**Anticipated Construction Timing**		
	a. Field construction start-date:	2022	
	b. Commercial In-service date:	2023	
(5)	**Fuel**		
	a. Primary Fuel	Solar	
	b. Alternate Fuel	Not applicable	
(6)	**Air Pollution and Control Strategy:**	Not applicable	
(7)	**Cooling Method:**	Not applicable	
(8)	**Total Site Area:**	494	Acres
(9)	**Construction Status:**	P	(Planned Unit)
(10)	**Certification Status:**	---	
(11)	**Status with Federal Agencies:**	---	
(12)	**Projected Unit Performance Data:**		
	Planned Outage Factor (POF):	Not applicable	
	Forced Outage Factor (FOF):	Not applicable	
	Equivalent Availability Factor (EAF):	Not applicable	
	Resulting Capacity Factor (%):	28.2%	(First Full Year Operation)
	Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable	
	Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable	
(13)	**Projected Unit Financial Data ***		
	Book Life (Years):	30	years
	Total Installed Cost (2023 $/kW):	1,207	
	Direct Construction Cost ($/kW):	1,169	
	AFUDC Amount (2023 $/kW):	38	
	Escalation ($/kW):	Accounted for in Direct Construction Cost	
	Fixed O&M ($/kW-Yr.): (2023 $)	7.46	(First Full Year Operation)
	Variable O&M ($/MWH): (2023 $)	0.00	
	K Factor:	1.19	

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.

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Status Report and Specifications of Proposed Generating Facilities

(1)	**Plant Name and Unit Number:**		Blackwater River Solar Energy Center (Santa Rosa County)
(2)	**Capacity**		
	a. Nameplate (AC)	74.5	MW
	b. Summer Firm (AC)[1/]	37	MW (Approximately)
	c. Winter Firm (AC)	-	
(3)	**Technology Type:** Photovoltaic (PV)		
(4)	**Anticipated Construction Timing**		
	a. Field construction start-date:	2022	
	b. Commercial In-service date:	2023	
(5)	**Fuel**		
	a. Primary Fuel		Solar
	b. Alternate Fuel		Not applicable
(6)	**Air Pollution and Control Strategy:**		Not applicable
(7)	**Cooling Method:**		Not applicable
(8)	**Total Site Area:**	366	Acres
(9)	**Construction Status:**	P	(Planned Unit)
(10)	**Certification Status:**	---	
(11)	**Status with Federal Agencies:**	---	
(12)	**Projected Unit Performance Data:**		
	Planned Outage Factor (POF):	Not applicable	
	Forced Outage Factor (FOF):	Not applicable	
	Equivalent Availability Factor (EAF):	Not applicable	
	Resulting Capacity Factor (%):	24.7%	(First Full Year Operation)
	Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable	
	Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable	
(13)	**Projected Unit Financial Data ***		
	Book Life (Years):	30	years
	Total Installed Cost (2023 $/kW):	1,173	
	Direct Construction Cost ($/kW):	1,135	
	AFUDC Amount (2023 $/kW):	38	
	Escalation ($/kW):		Accounted for in Direct Construction Cost
	Fixed O&M ($/kW-Yr.): (2023 $)	7.08	(First Full Year Operation)
	Variable O&M ($/MWH): (2023 $)	0.00	
	K Factor:	1.20	

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value show n represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased.
FPL w ill continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning w ork.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1)	**Plant Name and Unit Number:**		Chipola River Solar Energy Center (Calhoun County)
(2)	**Capacity**		
	a. Nameplate (AC)	74.5	MW
	b. Summer Firm (AC)[1/]	37	MW (Approximately)
	c. Winter Firm (AC)	-	
(3)	**Technology Type:** Photovoltaic (PV)		
(4)	**Anticipated Construction Timing**		
	a. Field construction start-date:	2022	
	b. Commercial In-service date:	2023	
(5)	**Fuel**		
	a. Primary Fuel		Solar
	b. Alternate Fuel		Not applicable
(6)	**Air Pollution and Control Strategy:**		Not applicable
(7)	**Cooling Method:**		Not applicable
(8)	**Total Site Area:**	575	Acres
(9)	**Construction Status:**	P	(Planned Unit)
(10)	**Certification Status:**	---	
(11)	**Status with Federal Agencies:**	---	
(12)	**Projected Unit Performance Data:**		
	Planned Outage Factor (POF):	Not applicable	
	Forced Outage Factor (FOF):	Not applicable	
	Equivalent Availability Factor (EAF):	Not applicable	
	Resulting Capacity Factor (%):	28.4%	(First Full Year Operation)
	Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable	
	Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable	
(13)	**Projected Unit Financial Data ***		
	Book Life (Years):	30	years
	Total Installed Cost (2023 $/kW):	1,265	
	Direct Construction Cost ($/kW):	1,226	
	AFUDC Amount (2023 $/kW):	39	
	Escalation ($/kW):		Accounted for in Direct Construction Cost
	Fixed O&M ($/kW-Yr.): (2023 $)	7.46	(First Full Year Operation)
	Variable O&M ($/MWH) (2023 $)	0.00	
	K Factor:	1.17	

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased.
FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.

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Status Report and Specifications of Proposed Generating Facilities

(1)	**Plant Name and Unit Number:**		Flowers Creek Solar Energy Center (Calhoun County)
(2)	**Capacity**		
	a. Nameplate (AC)	74.5	MW
	b. Summer Firm (AC)[1]	37	MW (Approximately)
	c. Winter Firm (AC)	-	
(3)	**Technology Type:**		Photovoltaic (PV)
(4)	**Anticipated Construction Timing**		
	a. Field construction start-date:	2022	
	b. Commercial In-service date:	2023	
(5)	**Fuel**		
	a. Primary Fuel		Solar
	b. Alternate Fuel		Not applicable
(6)	**Air Pollution and Control Strategy:**		Not applicable
(7)	**Cooling Method:**		Not applicable
(8)	**Total Site Area:**	689	Acres
(9)	**Construction Status:**	P	(Planned Unit)
(10)	**Certification Status:**	---	
(11)	**Status with Federal Agencies:**	---	
(12)	**Projected Unit Performance Data:**		
	Planned Outage Factor (POF):	Not applicable	
	Forced Outage Factor (FOF):	Not applicable	
	Equivalent Availability Factor (EAF):	Not applicable	
	Resulting Capacity Factor (%):	25.2%	(First Full Year Operation)
	Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable	
	Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable	
(13)	**Projected Unit Financial Data ***		
	Book Life (Years):	30	years
	Total Installed Cost (2023 $/kW):	1,253	
	Direct Construction Cost ($/kW):	1,218	
	AFUDC Amount (2023 $/kW):	35	
	Escalation ($/kW):		Accounted for in Direct Construction Cost
	Fixed O&M ($/kW-Yr.): (2023 $)	7.46	(First Full Year Operation)
	Variable O&M ($/MWH (2023 $)	0.00	
	K Factor:	1.17	

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value show n represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL w ill continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning w ork.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** First City Solar Energy Center (Escambia County)

(2) **Capacity**

a. Summer	74.5	MW
b. Winter	37	MW

(3) **Technology Type:** Photovoltaic (PV)

(4) **Anticipated Construction Timing**

a. Field construction start-date: 2022
b. Commercial In-service date: 2023

(5) **Fuel**

a. Primary Fuel: Solar
b. Alternate Fuel: Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** 458 Acres

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**

Planned Outage Factor (POF):	Not applicable	
Forced Outage Factor (FOF):	Not applicable	
Equivalent Availability Factor (EAF):	Not applicable	
Resulting Capacity Factor (%):	24.2%	(First Full Year Operation)
Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable	
Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable	

(13) **Projected Unit Financial Data ***

Book Life (Years):	30	years
Total Installed Cost (2023 $/kW):	1,183	
Direct Construction Cost ($/kW):	1,145	
AFUDC Amount (2023 $/kW):	38	
Escalation ($/kW):	Accounted for in Direct Construction Cost	
Fixed O&M ($/kW-Yr (2023 $)	7.08	(First Full Year Operation)
Variable O&M ($/MW (2023 $)	0.00	
K Factor:	1.19	

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1)	**Plant Name and Unit Number:**		Apalachee Solar Energy Center (Jackson County)
(2)	**Capacity**		
	a. Nameplate (AC)	74.5	MW
	b. Summer Firm (AC)[1]	37	MW (Approximately)
	c. Winter Firm (AC)	-	
(3)	**Technology Type:** Photovoltaic (PV)		
(4)	**Anticipated Construction Timing**		
	a. Field construction start-date:	2022	
	b. Commercial In-service date:	2023	
(5)	**Fuel**		
	a. Primary Fuel		Solar
	b. Alternate Fuel		Not applicable
(6)	**Air Pollution and Control Strategy:**		Not applicable
(7)	**Cooling Method:**		Not applicable
(8)	**Total Site Area:**	596	Acres
(9)	**Construction Status:**	P	(Planned Unit)
(10)	**Certification Status:**	---	
(11)	**Status with Federal Agencies:**	---	
(12)	**Projected Unit Performance Data:**		
	Planned Outage Factor (POF):	Not applicable	
	Forced Outage Factor (FOF):	Not applicable	
	Equivalent Availability Factor (EAF):	Not applicable	
	Resulting Capacity Factor (%):	28.8%	(First Full Year Operation)
	Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable	
	Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable	
(13)	**Projected Unit Financial Data ***		
	Book Life (Years):	30	years
	Total Installed Cost (2023 $/kW):	1,225	
	Direct Construction Cost ($/kW):	1,187	
	AFUDC Amount (2023 $/kW):	39	
	Escalation ($/kW):	Accounted for in Direct Construction Cost	
	Fixed O&M ($/kW-Yr.): (2023 $)	7.46	(First Full Year Operation)
	Variable O&M ($/MWH (2023 $)	0.00	
	K Factor:	1.19	

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Unsited Solar PV

(2) **Capacity**
a. Nameplate (AC) 894 MW
b. Summer Firm (AC)[1/] 434 MW (Approximately)
c. Winter Firm (AC) -

(3) **Technology Type:** Photovoltaic (PV)

(4) **Anticipated Construction Timing**
a. Field construction start-date: 2023
b. Commercial In-service date: 2024

(5) **Fuel**
a. Primary Fuel Solar
b. Alternate Fuel Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** Not applicable

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**

Planned Outage Factor (POF):	Not applicable
Forced Outage Factor (FOF):	Not applicable
Equivalent Availability Factor (EAF):	Not applicable
Resulting Capacity Factor (%):	TBD
Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable
Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable

(13) **Projected Unit Financial Data ***

Book Life (Years):	30 years
Total Installed Cost (2024 $/kW):	TBD
Direct Construction Cost ($/kW):	TBD
AFUDC Amount (2024 $/kW):	TBD
Escalation ($/kW):	TBD
Fixed O&M ($/kW-Yr.): (2024 $)	TBD
Variable O&M ($/MWH): (2024 $)	TBD
K Factor:	TBD

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1)	**Plant Name and Unit Number:**	Unsited Solar PV	
(2)	**Capacity**		
	a. Nameplate (AC)	894	MW
	b. Summer Firm (AC)[1/]	434	MW (Approximately)
	c. Winter Firm (AC)	-	
(3)	**Technology Type:**	Photovoltaic (PV)	
(4)	**Anticipated Construction Timing**		
	a. Field construction start-date:	2024	
	b. Commercial In-service date:	2025	
(5)	**Fuel**		
	a. Primary Fuel	Solar	
	b. Alternate Fuel	Not applicable	
(6)	**Air Pollution and Control Strategy:**	Not applicable	
(7)	**Cooling Method:**	Not applicable	
(8)	**Total Site Area:**	Not applicable	
(9)	**Construction Status:**	P	(Planned Unit)
(10)	**Certification Status:**	---	
(11)	**Status with Federal Agencies:**	---	
(12)	**Projected Unit Performance Data:**		
	Planned Outage Factor (POF):	Not applicable	
	Forced Outage Factor (FOF):	Not applicable	
	Equivalent Availability Factor (EAF):	Not applicable	
	Resulting Capacity Factor (%):	TBD	
	Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable	
	Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable	
(13)	**Projected Unit Financial Data ***		
	Book Life (Years):	30 years	
	Total Installed Cost (2025 $/kW):	TBD	
	Direct Construction Cost ($/kW):	TBD	
	AFUDC Amount (2025 $/kW):	TBD	
	Escalation ($/kW):	TBD	
	Fixed O&M ($/kW-Yr.): (2025 $)	TBD	
	Variable O&M ($/MWH) (2025 $)	TBD	
	K Factor:	TBD	

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value show n represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL w ill continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning w ork.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Unsited Solar PV

(2) **Capacity**
a. Nameplate (AC) 968.5 MW
b. Summer Firm (AC)[1/] 404 MW (Approximately)
c. Winter Firm (AC) -

(3) **Technology Type:** Photovoltaic (PV)

(4) **Anticipated Construction Timing**
a. Field construction start-date: 2025
b. Commercial In-service date: 2026

(5) **Fuel**
a. Primary Fuel: Solar
b. Alternate Fuel: Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** Not applicable

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**

Planned Outage Factor (POF):	Not applicable
Forced Outage Factor (FOF):	Not applicable
Equivalent Availability Factor (EAF):	Not applicable
Resulting Capacity Factor (%):	TBD
Average Net Operating Heat Rate (ANOHR):	Not applicable
Base Operation 75F,100%	
Average Net Incremental Heat Rate (ANIHR):	Not applicable
Peak Operation 75F,100%	

(13) **Projected Unit Financial Data ***

Book Life (Years):	30 years
Total Installed Cost (2026 $/kW):	TBD
Direct Construction Cost ($/kW):	TBD
AFUDC Amount (2026 $/kW):	TBD
Escalation ($/kW):	TBD
Fixed O&M ($/kW-Yr.): (2026 $)	TBD
Variable O&M ($/MWH): (2026 $)	TBD
K Factor:	TBD

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Unsited Solar PV

(2) **Capacity**
a. Nameplate (AC) 968.5 MW
b. Summer Firm (AC 395 MW (Approximately)
c. Winter Firm (AC) -

(3) **Technology Type:** Photovoltaic (PV)

(4) **Anticipated Construction Timing**
a. Field construction start-date: 2026
b. Commercial In-service date: 2027

(5) **Fuel**
a. Primary Fuel Solar
b. Alternate Fuel Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** Not applicable

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**

Planned Outage Factor (POF):	Not applicable
Forced Outage Factor (FOF):	Not applicable
Equivalent Availability Factor (EAF):	Not applicable
Resulting Capacity Factor (%):	TBD
Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable
Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable

(13) **Projected Unit Financial Data ***

Book Life (Years):	30 years
Total Installed Cost (2027 $/kW):	TBD
Direct Construction Cost ($/kW):	TBD
AFUDC Amount (2027 $/kW):	TBD
Escalation ($/kW):	TBD
Fixed O&M ($/kW-Yr. (2027 $)	TBD
Variable O&M ($/MW (2027 $)	TBD
K Factor:	TBD

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value show n represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL w ill continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning w ork.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Unsited Solar PV

(2) **Capacity**

a. Nameplate (AC)	1,192	MW
b. Summer Firm (AC	473	MW (Approximately)
c. Winter Firm (AC)	-	

(3) **Technology Type:** Photovoltaic (PV)

(4) **Anticipated Construction Timing**

a. Field construction start-date:	2027
b. Commercial In-service date:	2028

(5) **Fuel**

a. Primary Fuel	Solar
b. Alternate Fuel	Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** Not applicable

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**

Planned Outage Factor (POF):	Not applicable
Forced Outage Factor (FOF):	Not applicable
Equivalent Availability Factor (EAF):	Not applicable
Resulting Capacity Factor (%):	TBD
Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable
Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable

(13) **Projected Unit Financial Data ***

Book Life (Years):	30 years
Total Installed Cost (2028 $/kW):	TBD
Direct Construction Cost ($/kW):	TBD
AFUDC Amount (2028 $/kW):	TBD
Escalation ($/kW):	TBD
Fixed O&M ($/kW-Yr. (2028 $)	TBD
Variable O&M ($/MW (2028 $)	TBD
K Factor:	TBD

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value show n represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased.
FPL w ill continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning w ork.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Unsited Solar PV

(2) **Capacity**
a. Nameplate (AC) 1,192 MW
b. Summer Firm (AC 284 MW (Approximately)
c. Winter Firm (AC) -

(3) **Technology Type:** Photovoltaic (PV)

(4) **Anticipated Construction Timing**
a. Field construction start-date: 2028
b. Commercial In-service date: 2029

(5) **Fuel**
a. Primary Fuel Solar
b. Alternate Fuel Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** Not applicable

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**

Planned Outage Factor (POF):	Not applicable
Forced Outage Factor (FOF):	Not applicable
Equivalent Availability Factor (EAF):	Not applicable
Resulting Capacity Factor (%):	TBD
Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable
Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable

(13) **Projected Unit Financial Data ***

Book Life (Years):	30 years
Total Installed Cost (2029 $/kW):	TBD
Direct Construction Cost (2029 $/kW):	TBD
AFUDC Amount (2029 $/kW):	TBD
Escalation ($/kW):	TBD
Fixed O&M ($/kW-Yr.):	TBD
Variable O&M (2029 $/MWH):	TBD
K Factor:	TBD

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Unsited Battery Storage

(2) **Capacity**
a. Summer 300 MW
b. Winter 300 MW

(3) **Technology Type:** Battery

(4) **Anticipated Construction Timing**
a. Field construction start-date: 2028
b. Commercial In-service date: 2029

(5) **Fuel**
a. Primary Fuel Not applicable
b. Alternate Fuel Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** TBD

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**

Planned Outage Factor (POF):	Not applicable
Forced Outage Factor (FOF):	Not applicable
Equivalent Availability Factor (EAF):	Not applicable
Resulting Capacity Factor (%):	Not applicable
Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable
Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable

(13) **Projected Unit Financial Data *,****

Book Life (Years):	10 years
Total Installed Cost (2029 $/kW):	TBD
Direct Construction Cost (2029 $/kW):	TBD
AFUDC Amount (2029 $/kW):	TBD
Escalation ($/kW):	TBD
Fixed O&M ($/kW-Yr.):	TBD
Long Term Capital Replenishment ($/kW)	TBD
Variable O&M (2029 $/MWH):	TBD
K Factor:	TBD

* $/kW values are based on Summer capacity.
** Levelized value for Fixed O&M also includes Capital Replacement and annual capital replenishment

Note: Total installed cost includes transmission interconnection and integration, escalation, and AFUDC.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1)	**Plant Name and Unit Number:**	Unsited Solar PV	
(2)	**Capacity**		
	a. Nameplate (AC)	1,192	MW
	b. Summer Firm (AC)	287	MW (Approximately)
	c. Winter Firm (AC)	-	
(3)	**Technology Type:**	Photovoltaic (PV)	
(4)	**Anticipated Construction Timing**		
	a. Field construction start-date:	2029	
	b. Commercial In-service date:	2030	
(5)	**Fuel**		
	a. Primary Fuel	Solar	
	b. Alternate Fuel	Not applicable	
(6)	**Air Pollution and Control Strategy:**	Not applicable	
(7)	**Cooling Method:**	Not applicable	
(8)	**Total Site Area:**	Not applicable	
(9)	**Construction Status:**	P	(Planned Unit)
(10)	**Certification Status:**	---	
(11)	**Status with Federal Agencies:**	---	
(12)	**Projected Unit Performance Data:**		
	Planned Outage Factor (POF):	Not applicable	
	Forced Outage Factor (FOF):	Not applicable	
	Equivalent Availability Factor (EAF):	Not applicable	
	Resulting Capacity Factor (%):	TBD	
	Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable	
	Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable	
(13)	**Projected Unit Financial Data ***		
	Book Life (Years):	30 years	
	Total Installed Cost (2030 $/kW):	TBD	
	Direct Construction Cost (2030 $/kW):	TBD	
	AFUDC Amount (2030 $/kW):	TBD	
	Escalation ($/kW):	TBD	
	Fixed O&M ($/kW-Yr.):	TBD	
	Variable O&M (2030 $/MWH):	TBD	
	K Factor:	TBD	

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

1/ The value shown represents FPL's current projection of the firm capacity of this amount of incremental PV assuming the planned PV additions in prior years. As the amount of PV on FPL's system increases, the remaining Summer load not served by solar is altered so that the remaining Summer peak load moves to later in the day. Because the amount of solar energy diminishes in these later hours, the firm capacity value of the incremental solar is decreased. FPL will continue to analyze the projected impacts of increasing amounts of PV in its on-going resource planning work.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Unsited Battery Storage

(2) **Capacity**
a. Summer 400 MW
b. Winter 400 MW

(3) **Technology Type:** Battery

(4) **Anticipated Construction Timing**
a. Field construction start-date: 2029
b. Commercial In-service date: 2030

(5) **Fuel**
a. Primary Fuel Not applicable
b. Alternate Fuel Not applicable

(6) **Air Pollution and Control Strategy:** Not applicable

(7) **Cooling Method:** Not applicable

(8) **Total Site Area:** TBD

(9) **Construction Status:** P (Planned Unit)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**

Planned Outage Factor (POF):	Not applicable
Forced Outage Factor (FOF):	Not applicable
Equivalent Availability Factor (EAF):	Not applicable
Resulting Capacity Factor (%):	Not applicable
Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	Not applicable
Average Net Incremental Heat Rate (ANIHR): Peak Operation 75F,100%	Not applicable

(13) **Projected Unit Financial Data *,****

Book Life (Years):	10 years
Total Installed Cost (2029 $/kW):	TBD
Direct Construction Cost (2029 $/kW):	TBD
AFUDC Amount (2029 $/kW):	TBD
Escalation ($/kW):	TBD
Fixed O&M ($/kW-Yr.):	TBD
Long Term Capital Replenishment ($/kW)	TBD
Variable O&M (2029 $/MWH):	TBD
K Factor:	TBD

* $/kW values are based on Summer capacity.
** Levelized value for Fixed O&M also includes Capital Replacement and annual capital replenishment

Note: Total installed cost includes transmission interconnection and integration, escalation, and AFUDC.

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Discovery Solar Energy Center (Brevard County)

The Discovery Solar Energy Center will require bifurcating the existing FPL C5-Barna 115 kV transmission line and looping the new Rocket Substation and connect the solar PV inverter array.

(1) Point of Origin and Termination:	C5-Barna kV line to Rocket Substation
(2) Number of Lines:	1
(3) Right-of-way	FPL – Owned
(4) Line Length:	300 feet
(5) Voltage:	115 kV
(6) Anticipated Construction Timing:	Start date: 2020 End date: 2021
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Rocket Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Orange Blossom Solar Energy Center (Indian River County)

The Orange Blossom Solar Energy Center will connect to the existing FPL Eldora-Heritage 230 kV transmission line via a line switch to connect the new Finca Substation and the solar PV inverter array.

(1) Point of Origin and Termination:	None
(2) Number of Lines:	0
(3) Right-of-way	N/A
(4) Line Length:	0
(5) Voltage:	230 kV
(6) Anticipated Construction Timing:	Start date: 2020 End date: 2021
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Finca Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Sabal Palm Solar Energy Center (Palm Beach County)

The Sabal Palm Solar Energy Center will require extending a transmission line from the Minto Substation approximately 1.5 miles to connect the new Costa Substation and connect the solar PV inverter array.

(1) Point of Origin and Termination:	Minto Substation to Costa Substation
(2) Number of Lines:	1
(3) Right-of-way	FPL – Owned
(4) Line Length:	1.5 miles
(5) Voltage:	230 kV
(6) Anticipated Construction Timing:	Start date: 2020 End date: 2021
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Costa Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Fort Drum Solar Energy Center (Okeechobee County)

The Fort Drum Solar Energy Center will connect to the Okeechobee Next Generation Clean Energy Center project and does not require any new transmission lines.

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Willow Solar Energy Center (Manatee County)

The Willow Solar Energy Center will require bifurcating the existing FPL Keentown-Sunshine 230 kV transmission line to connect a new Coachwhip substation and the solar PV inverter array.

(1) Point of Origin and Termination:	Keentown-Sunshine 230 kV line to new Coachwhip Substation
(2) Number of Lines:	1
(3) Right-of-way	FPL – Owned
(4) Line Length:	0
(5) Voltage:	230 kV
(6) Anticipated Construction Timing:	Start date: 2021 End date: Late 2021
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Coachwhip Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Battery Storage in Manatee County

The 409 MW Battery Storage project in Manatee County does not require any new transmission lines.

Schedule 10

Status Report and Specifications of Proposed Transmission Lines

Sunshine Gateway Battery Storage addition in Columbia County

The Sunshine Gateway Battery Storage addition project in Columbia County does not require any new transmission lines.

Schedule 10

Status Report and Specifications of Proposed Transmission Lines

Echo River Battery Storage addition in Suwannee County

The Echo River Battery Storage addition project in Suwannee County does not require any new transmission lines.

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Gulf Clean Energy Center Unit 8 (Escambia County)

The Crist Unit 8 Combustion Turbine Project will require bifurcating the existing Crist-Alligator Swamp #2-230kV and Crist-Bellview 230kV lines near Crist to connect into a new Conecuh substation switchyard, and relocating the existing line terminal at Crist for the Crist-Barry 230 kV line to Conecuh substation.

(1) Point of Origin and Termination:	Crist substation to new Conecuh substation
(2) Number of Lines:	3
(3) Right-of-way	Gulf – Owned
(4) Line Length:	Approximately 0.25 miles
(5) Voltage:	230 kV
(6) Anticipated Construction Timing:	Start date: 2020 End date: Late 2021
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Conecuh Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Blue Springs Solar Energy Center (Jackson County)

The Blue Springs Solar Energy Center will require bifurcating the existing Gulf Cypress-Chipola section of the Gulf Marianna-West Grandridge 115 kV transmission line to connect a new Americus substation and the solar PV inverter array.

(1) Point of Origin and Termination:	Gulf Marianna-West Grandridge 115 kV line to new Americus Substation
(2) Number of Lines:	1
(3) Right-of-way	Gulf – Owned
(4) Line Length:	2 miles
(5) Voltage:	230 kV
(6) Anticipated Construction Timing:	Start date: 2021 End date: 2022
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Americus Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Cotton Creek Solar Energy Center (Escambia County)

The Cotton Creek Solar Energy Center will require bifurcating the existing Champion – Flomaton section of the Flomaton – Brentwood 115 kV line to connect a new Bogia substation and the solar PV inverter array.

(1) Point of Origin and Termination:	Champion – Flomaton section of the Flomaton – Brentwood 115 kV line to new Bogia Substation
(2) Number of Lines:	1
(3) Right-of-way	Gulf – Owned
(4) Line Length:	Approx. 0.5 miles
(5) Voltage:	115 kV
(6) Anticipated Construction Timing:	Start date: 2021 End date: 2022
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Bogia Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Ghost Orchid Solar Energy Center (Hendry County)

The Ghost Orchid Solar Energy Center will require bifurcating the existing FPL Andytown-Orange River 500 kV transmission line to connect a new Ghost substation and the solar PV inverter array.

(1) Point of Origin and Termination:	Andytown-Orange River 500 kV line to new Ghost Substation
(2) Number of Lines:	1
(3) Right-of-way	FPL – Owned
(4) Line Length:	0.25 miles
(5) Voltage:	500 kV
(6) Anticipated Construction Timing:	Start date: 2021 End date: 2022
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Ghost Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Sawgrass Solar Energy Center (Hendry County)

The Sawgrass Solar Energy Center will connect to the Ghost substation at the new Ghost Orchhid Solar Energy Center and does not require any new transmission lines.

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Sundew Solar Energy Center (St. Lucie County)

The Sundew Solar Energy Center will require bifurcating the existing FPL Sherman-Heru 230 kV transmission line to connect a new Athena substation and the solar PV inverter array.

(1) Point of Origin and Termination:	Sherman-Heru 230 kV line to Athena Substation
(2) Number of Lines:	1
(3) Right-of-way	FPL – Owned
(4) Line Length:	0.6 miles
(5) Voltage:	230 kV
(6) Anticipated Construction Timing:	Start date: 2021 End date: 2022
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Athena Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Immokalee Solar Energy Center (Collier County)

The Immokalee Solar Energy Center will require bifurcating the existing FPL Buckingham-Bobcat 230 kV transmission line to connect a new Felda substation and the solar PV inverter array.

(1) Point of Origin and Termination:	Buckingham-Bobcat 230 kV line to Felda Substation
(2) Number of Lines:	1
(3) Right-of-way	FPL – Owned
(4) Line Length:	0 miles
(5) Voltage:	230 kV
(6) Anticipated Construction Timing:	Start date: 2021 End date: 2022
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Felda Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Grove Solar Energy Center (Indian River County)

The Grove Solar Energy Center will require extending a transmission line from the Eldora Substation approximately 5 miles to connect the new Kiran Substation and connect the solar PV inverter array.

(1) Point of Origin and Termination:	Eldora 230 kV substation to Kiran Substation
(2) Number of Lines:	1
(3) Right-of-way	FPL – Owned
(4) Line Length:	Approximately 5.0 miles
(5) Voltage:	230 kV
(6) Anticipated Construction Timing:	Start date: 2021 End date: 2022
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Kiran Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Elder Branch Solar Energy Center (Manatee County)

The Elder Branch Solar Energy Center will require bifurcating the existing FPL Manatee-Duette 230 kV transmission line to connect a new Saffold substation and the solar PV inverter array.

(1) Point of Origin and Termination:	Manatee-Duette 230 kV line to new Saffold Substation
(2) Number of Lines:	1
(3) Right-of-way	FPL – Owned
(4) Line Length:	0
(5) Voltage:	230 kV
(6) Anticipated Construction Timing:	Start date: 2021 End date: 2022
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Saffold Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Dania Beach Clean Energy Center Unit 7

Dania Beach Clean Energy Center Unit 7 does not require any new transmission lines.

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Everglades Solar Energy Center (Miami-Dade County)

The Everglades Solar Energy Center will require bifurcating the Avocado-Mango section of the FPL Krome-Farmlife 138 kV line to connect a new Maco substation and the solar PV inverter array.

(1) Point of Origin and Termination:	Avocado-Mango section of the FPL Krome-Farmlife 138 kV line to the new Maco Substation
(2) Number of Lines:	1
(3) Right-of-way	FPL – Owned
(4) Line Length:	Approximately 1.3 miles, double circuit
(5) Voltage:	230 kV
(6) Anticipated Construction Timing:	Start date: 2022 End date: 2023
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Maco Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

White Tail Solar Energy Center (Martin County)

The White Tail Solar Energy Center will require bifurcating the Hummingbird-Bridge section of the FPL Bridge-Indiantown #1 230 kV line to connect a new Kiwi substation and the solar PV inverter array.

(1) Point of Origin and Termination:	Hummingbird-Bridge section of the FPL Bridge-Indiantown #1 230 kV line to the new Kiwi Substation
(2) Number of Lines:	1
(3) Right-of-way	FPL – Owned
(4) Line Length:	Approximately 2.0 miles, double circuit
(5) Voltage:	230 kV
(6) Anticipated Construction Timing:	Start date: 2022 End date: 2023
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Kiwi Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Bluefield Preserve Solar Energy Center (St. Lucie County)

The Bluefield Preserve Solar Energy Center will require bifurcating the existing FPL Sherman-Heru 230 kV transmission line to connect a new TBD substation and the solar PV inverter array.

(1) Point of Origin and Termination:	Sherman-Heru 230 kV line to the new TBD Substation
(2) Number of Lines:	1
(3) Right-of-way	FPL – Owned
(4) Line Length:	0 miles
(5) Voltage:	230 kV
(6) Anticipated Construction Timing:	Start date: 2022 End date: 2023
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	New Substation, Name TBD
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Cavendish Solar Energy Center (Okeechobee County)

The Cavendish Solar Energy Center will connect to the Okeechobee Next Generation Clean Energy Center project and does not require any new transmission lines.

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Anhinga Solar Energy Center (Clay County)

The Anhinga Solar Energy Center will connect to the Leno substation at the new Magnolia Springs Solar Energy Center and does not require any new transmission lines.

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Blackwater River Solar Energy Center (Santa Rosa County)

The Blackwater River Solar Energy Center will require bifurcating the existing Gulf Shoal River-Alligator Swamp 230 kV line to connect a new Rooster substation and the solar PV inverter array.

(1) Point of Origin and Termination:	Gulf Shoal River-Alligator Swamp 230 kV line to new Rooster Substation
(2) Number of Lines:	1
(3) Right-of-way	Gulf – Owned
(4) Line Length:	Approximately 1.2 miles double circuit
(5) Voltage:	230 kV
(6) Anticipated Construction Timing:	Start date: 2022 End date: 2023
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Rooster Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Chipola River Solar Energy Center (Calhoun County)

The Chipola River Solar Energy Center will require bifurcating the existing Gulf Smith-Sinai 230 kV line to connect a new Melvin substation and the solar PV inverter array.

(1) Point of Origin and Termination:	Gulf Smith-Sinai 230 kV line to new Melvin Substation
(2) Number of Lines:	1
(3) Right-of-way	Gulf – Owned
(4) Line Length:	0 miles
(5) Voltage:	230 kV
(6) Anticipated Construction Timing:	Start date: 2022 End date: 2023
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Melvin Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Flowers Creek Solar Energy Center (Calhoun County)

The Flowers Creek Solar Energy Center will require bifurcating the existing Gulf Callaway-Sinai 115 kV line to connect a new Grady substation and the solar PV inverter array.

(1) Point of Origin and Termination:	Gulf Callaway-Sinai 115 kV line to new Grady Substation
(2) Number of Lines:	1
(3) Right-of-way	Gulf – Owned
(4) Line Length:	0 miles
(5) Voltage:	115 kV
(6) Anticipated Construction Timing:	Start date: 2022 End date: 2023
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Grady Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

First City Solar Energy Center (Escambia County)

The First City Solar Energy Center will require bifurcating the existing Gulf North Brewton-Alligator Swamp 230 kV line to connect a new TBD substation and the solar PV inverter array.

(1) Point of Origin and Termination:	Gulf North Brewton-Alligator Swamp 230 kV line to new Substation (name TBD)
(2) Number of Lines:	1
(3) Right-of-way	Gulf – Owned
(4) Line Length:	Approximately 0.3 miles
(5) Voltage:	230 kV
(6) Anticipated Construction Timing:	Start date: 2022 End date: 2023
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	New Substation, Name TBD
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Apalachee Solar Energy Center (Jackson County)

The Apalachee Solar Energy Center will require bifurcating the existing Gulf Marianna – West Grand Ridge 115 kV line to connect a new Dellwood substation and the solar PV inverter array.

(1) Point of Origin and Termination:	Gulf Marianna – West Grand Ridge 115 kV line to new Dellwood Substation
(2) Number of Lines:	1
(3) Right-of-way	Gulf – Owned
(4) Line Length:	0 miles
(5) Voltage:	115 kV
(6) Anticipated Construction Timing:	Start date: 2022 End date: 2023
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Dellwood Substation
(9) Participation with Other Utilities:	None

Schedule 11.1: FPL

Existing Firm and Non-Firm Capacity and Energy by Primary Fuel Type
Actuals for the Year 2020

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
		Net (MW) Capability				NEL	Fuel Mix
	Generation by Primary Fuel	**Summer (MW)**	**Summer (%)**	**Winter (MW)**	**Winter (%)**	**GWh (2)**	**%**
(1)	Coal	634	2.2%	635	2.2%	1,636	1.3%
(2)	Nuclear	3,499	12.3%	3,590	12.2%	28,221	22.1%
(3)	Residual	0	0.0%	0	0.0%	53	0.0%
(4)	Distillate	108	0.4%	123	0.4%	66	0.1%
(5)	Natural Gas	21,907	76.8%	22,645	77.1%	95,278	74.7%
(6)	Solar (Firm & Non-Firm)	2,270	8.0%	2,270	7.7%	3,785	3.0%
(7)	***FPL Existing Units Total (1):***	***28,418***	***99.6%***	***29,263***	***99.6%***	***129,038***	***101.2%***
(8)	Renewables (Purchases)- Firm	114	0.4%	114	0.4%	1,001	0.8%
(9)	Renewables (Purchases)- Non-Firm	Not Applicable	---	Not Applicable	---	355	0.3%
(10)	***Renewable Total:***	**114**	**0.0**	**114**	**0.0**	**1,356**	**1.1%**
(11)	***Purchases Other / (Sales) :***	**0.0**	**0.0%**	**0.0**	**0.0%**	**(2,875)**	**-2.3%**
(12)	***Total:***	***28,532***	***100.0%***	***29,377***	***100.0%***	***127,519***	***100.0%***

Note:

(1) FPL Existing Units Total values on row (7), columns (2) and (4), match the Total Nameplate System Generating Capacity values found on Schedule 1 for Summer and Winter.

(2) Net Energy for Load GWh values on row (12), column (6), matches Schedule 6.1 value for 2020.

Schedule 11.1: Gulf

Existing Firm and Non-Firm Capacity and Energy by Primary Fuel Type
Actuals for the Year 2020

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
		Net (MW) Capability				NEL	Fuel Mix
	Generation by Primary Fuel	**Summer (MW)**	**Summer (%)**	**Winter (MW)**	**Winter (%)**	**GWh (2)**	**%**
(1)	Coal	717	20.9%	717	20.7%	2,067	17.7%
(2)	Nuclear	0	0.0%	0	0.0%	0	0.0%
(3)	Residual	0	0.0%	0	0.0%	0	0.0%
(4)	Distillate	32	0.9%	40	1.2%	0	0.0%
(5)	Natural Gas	1,639	47.8%	1,628	47.1%	5,421	46.5%
(6)	Landfill Gas	3	0.1%	3	0.1%	22	0.2%
(7)	Solar (Firm & Non-Firm)	75	2.2%	75	2.2%	158	1.4%
(8)	***Gulf Existing Units Total (1):***	***2,466***	***71.8%***	***2,463***	***71.2%***	***7,667***	***65.7%***
(9)	Renewables (Purchases)- Firm	81	2.4%	109	3.2%	1,031	8.8%
(10)	Renewables (Purchases)- Non-Firm	Not Applicable	---	Not Applicable	---	336	2.9%
(11)	***Renewable Total:***	**81.0**	**2.4%**	**109.0**	**3.2%**	**1,367.0**	**11.7%**
(12)	***Purchases Other / (Sales) :***	**885**	**25.8%**	**885**	**25.6%**	**2,630**	**22.6%**
(13)	***Total:***	***3,432***	***100.0%***	***3,457***	***100.0%***	***11,664***	***100.0%***

Note:

(1) Gulf Existing Units Total values on row (7), columns (2) and (4), match the Total Nameplate System Generating Capacity values found Schedule 1 for Summer and Winter.

(2) Net Energy for Load GWh values on row (12), column (6), matches Schedule 6.1 value for 2020.

Schedule 11.2: FPL

Existing Non-Firm Self-Service Renewable Generation Facilities
Actuals for the Year 2020 [1/]

(1)	(2)	(3)	(4)	(5)	(6) = (3)+(4)-(5)
Type of Facility	Installed Capacity DC (MW)	Renewable Projected Annual Output (MWh) [2/]	Annual Energy Purchased from FPL (MWh) [3/]	Annual Energy Sold to FPL - Total (MWh) [4/]	Projected Annual Energy Used by Customers [5/]
Customer-Owned Renewable Generation (0 kW to 10 kW)	95.56	138,071	254,421	43,371	349,122
Customer-Owned Renewable Generation (> 10 kW to 100 kW)	130.39	189,181	499,397	54,202	634,376
Customer-Owned Renewable Generation (> 100 kW - 2 MW)	34.62	91,356	276,087	7,920	359,523
Totals	260.57	418,608	1,029,905	105,492	1,343,021

1/ There were approximately 23,806 customers with renewable generation facilities interconnected with FPL on December 31, 2020.
2/ The Projected Annual Output value is based on NREL's PV Watts 1 program and uses the Installed Capacity value in column (2), adjusted for the date when each facility was installed and assuming each facility operated as planned.
3/ The Annual Energy Purchased from FPL is an actual value from FPL's metered data for 2020.
4/ The Annual Energy Sold to FPL - Total is an actual value from FPL's metered data for 2020. These are the total MWh that were "overproduced" by the customer each month throughout 2020.
5/ The Projected Annual Energy Used by Customers is a projected value that equals:
(Renewable Projected Annual output + Annual Energy Purchased) minus the Annual Energy Sold to FPL - Total).

Schedule 11.2: Gulf

Existing Non-Firm Self-Service Renewable Generation Facilities
Actuals for the Year 2020 [1/]

(1)	(2)	(3)	(4)	(5)	(6) = (3)+(4)-(5)
Type of Facility	Installed Capacity DC (MW)	Renewable Projected Annual Output (MWh) [2/]	Annual Energy Purchased from Gulf (MWh) [3/]	Annual Energy Sold to Gulf - Total (MWh) [4/]	Projected Annual Energy Used by Customers [5/]
Residential	52.42	76,954	46,783	21,461	102,276
Commercial/Industrial	2.05	3,010	4,976	813	7,174
Totals	54.47	79,965	51,759	22,274	109,450

1/ There were approximately 5,673 customers with renewable generation facilities interconnected with Gulf on December 31, 2020.
2/ The Projected Annual Output value is based on NREL's PV Watts 1 program and uses the Installed Capacity value in column (2), adjusted for the date when each facility was installed and assuming each facility operated as planned.
3/ The Annual Energy Purchased from Gulf is an actual value from Gulf's metered data for 2020.
4/ The Annual Energy Sold to Gulf - Total is an actual value from Gulf's metered data for 2020. These are the total MWh that were "overproduced" by the customer each month throughout 2020.
5/ The Projected Annual Energy Used by Customers is a projected value that equals:
(Renewable Projected Annual output + Annual Energy Purchased) minus the Annual Energy Sold to Gulf - Total).

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CHAPTER IV

Environmental and Land Use Information

IV. Environmental and Land Use Information

IV.A. Protection of the Environment

Clean, affordable energy is the lifeblood of Florida's growing population, expanding economy, and environmental resource restoration and management. Through its commitment to environmental excellence, FPL and Gulf are helping to solve Florida's energy challenges sustainably and responsibly. With one of the cleanest, most efficient power-generation fleets in the nation, FPL has reduced its use of heavy oil, including foreign oil, by approximately 99 percent – from approximately 41 million barrels annually in 2001 to 0.1 million barrels in 2020. FPL also has one of the lowest emissions profiles among U.S. utilities, and its carbon dioxide (CO_2) emission rate in 2020 was approximately 24% lower than the industry national average. Gulf has reduced its sulfur dioxide (SO_2) emissions by 99%, its nitrogen oxide (NOx) emissions by 88%, and its carbon dioxide emissions by 60%, from 2001 to 2020. FPL and Gulf together are also the largest producers of solar energy-generated electricity in Florida. At the end of 2020, FPL had approximately 2,345 MW of solar generation capability on its system which consists of approximately 2,270 MW of universal solar PV and 75 MW of solar thermal. At the end of 2020, Gulf has 74.5 MW of solar PV on its system, as well as renewable energy purchase agreements for approximately 120 MW of universal solar PV generation and approximately 80 MW of wind.

This 2021 Site Plan for FPL and Gulf presents a resource plan which shows a significant amount of additional solar. The merged system is projected to have approximately 11,733 MW of solar (including solar thermal) by the end of the 10-year reporting period (2030) for this Site Plan.

FPL and Gulf maintain their commitment to environmental stewardship through proactive collaboration with communities and organizations working to preserve Florida's unique habitat and natural resources. The many projects and programs in which FPL and Gulf actively participate include the creation and management of the Manatee Lagoon – An FPL Eco-Discovery Center, Everglades Mitigation Bank, Turkey Point Crocodile Management Program, and Longleaf pine restoration. In 2017, FPL launched its Solar Stewardship program in partnership with Audubon Florida. The majority of FPL's current and future solar sites will have stewardship plans designed and implemented to provide site-specific environmental enhancements, like the planting of native trees, shrubs, and grasses, to make sites bird- and pollinator-friendly.

FPL, Gulf, and their parent company, NextEra Energy, Inc., have continuously been recognized as leaders among electric utilities for their commitment to the environment – a commitment that is ingrained in the corporate culture.

In 2020, Fortune ranked NextEra Energy, Inc. as No. 1 in the electric and gas utilities industry in their “2020 World’s Most Admired Companies”. The annual list recognizes companies that have had a positive social impact through activities that are part of their core business strategy. NextEra Energy was also named one of the “2020 World’s Most Ethical Companies™” by Ethisphere Institute which recognizes companies’ critical roles in influencing and driving positive change in both the business community and societies around the world. NextEra Energy is one of only nine companies worldwide in the energy and utilities sector to receive Ethisphere Institute’s prestigious recognition in 2020.

NextEra Energy’s Juno Beach, Florida, campus, which includes FPL’s headquarters, has achieved the prestigious Leadership in Energy and Environmental Design (LEED) Gold certification for existing buildings and two Gulf facilities are also LEED certified. LEED is the U.S. Green Building Council’s leading rating system for designating the world’s greenest, most energy-efficient, and high-performing buildings. Key achievements that led to the certification include heating, ventilation, and air conditioning improvements, lighting upgrades, water management and recycling programs, and changes to specifications for paper, carpet, and other materials.

FPL and Gulf are committed to environmentally sustainable water use. Pursuing alternate water sources, such as the use of approximately 13.0 million gallons per day of treated wastewater for cooling the FPL West County Energy Center and 2.1 million gallons per day at Gulf’s Plant Crist (which has recently been renamed as the “Gulf Clean Energy Center”), reduces the need to access ground or surface water resources.

IV.B Environmental Organization Contributions

In 2020, FPL supported a broad base of environmental organizations with sponsorships and NextEra Energy Foundation donations focused on education conservation and research. Those organizations include, but were not limited to: Everglades Foundation, The Nature Conservancy, Loggerhead Marinelife Center, Inc., Florida Wildflower Foundation, Florida State Parks Foundation, Florida Wildlife Federation, Inwater Research Group, Defenders of Wildlife, Florida Oceanographic Society, Zoo Miami Foundation, and Audubon state & local chapters. FPL employees serve in board and leadership positions for many organizations that focus on environmental restoration, preservation, and stewardship. A partial list of these organizations includes: Florida Fish and Wildlife Conservation Commission, The Nature Conservancy in Florida, Grassy Waters Conservancy, Loggerhead Marinelife Center, Everglades Foundation, Marine Resources Council, and Audubon Florida. Gulf supports environmental organizations through financial contributions and volunteer hours. In a typical year, Gulf employees invest volunteer hours supporting conservation partners in maintaining, restoring and protecting waters, wetlands, forests, beaches, parks, historic sites, and wildlife. The Gulf Power Foundation Amplify! awards grants to organization across the region that promote Preservation and Conservation. Other environmental organizations receiving financial contributions or volunteer hours in 2020 include, but are not limited to: The Nature Conservancy, E.O. Wilson Biophilia Center, FWC Scallop Restoration, Gulf Islands National Seashore, Eglin Air Force Base – Gopher Tortoise, Choctawhatchee Basin Alliance, Audubon Florida, and Walton County Dune Lake Restoration.

IV.C Environmental Communication and Facilitation

FPL is involved in many efforts to enhance environmental protection through the facilitation of energy efficiency, environmental awareness, and through public education. Some of FPL's 2020 environmental outreach activities are summarized in Table IV.C.1.

Table IV.C.1: 2020 FPL Environmental Outreach Activities

Activity	Count (#)
Visitors to Manatee Lagoon - An FPL Eco-Discovery Center	78,814
Number of website visits to Manatee Lagoon website, visitmanateelagoon.com	471,280
Number of website visits to FPL's Environmental & Corporate Sustainability Websites	>48,000
Visitors to FPL Living Lab	118
Visitors to Manatee Park, Ft. Myers	260,071
Environmental Brochures Distributed	~6,200
Home Energy Surveys	Field Visits: 9,642 Phone: 13,413 Online: 87,294 **Total: 110,349**

Note that many of the visitor numbers above were reduced in 2020 due to COVID restrictions. These visitor numbers were significantly higher in prior years.

IV.D Environmental Policy

FPL, Gulf, and their parent company, NextEra Energy, Inc., are committed to remaining an industry leader in environmental protection and stewardship, not only because it makes business sense, but because it is the right thing to do. This commitment to compliance, conservation, communication, and continuous improvement fosters a culture of environmental excellence and drives the sustainable management of its business planning, operations, and daily work.

In accordance with commitments to environmental protection and stewardship, FPL, Gulf, and NextEra Energy, Inc. endeavor to:

<u>Comply:</u>

- Comply with all applicable environmental laws, regulations, and permits
- Proactively identify environmental risks and take action to mitigate those risks
- Pursue opportunities to exceed environmental standards
- Participate in the legislative and regulatory process to develop environmental laws, regulations, and policies that are technically sound and economically feasible
- Design, construct, operate, and maintain facilities in an environmentally sound and responsible manner

<u>Conserve:</u>

- Prevent pollution, minimize waste, and conserve natural resources
- Avoid, minimize, and/or mitigate impacts to habitat and wildlife
- Promote the efficient use of energy, both within our company and in our communities
- Seek innovative solutions

<u>Communicate:</u>

- Invest in environmental training and awareness to achieve a corporate culture of environmental excellence
- Maintain an open dialogue with stakeholders on environmental matters and performance
- Communicate this policy to all employees and publish it on the corporate website

<u>Continuously Improve:</u>

- Establish, monitor, and report progress toward environmental targets
- Review and update this policy on a regular basis
- Drive continuous improvement through ongoing evaluations of our environmental management system to incorporate lessons learned and best practices

FPL and Gulf's parent company, NextEra Energy, Inc., updated this policy in 2020 to reflect changing expectations and ensure that employees are doing the utmost to protect the environment. FPL and Gulf comply with all environmental laws, regulations, and permit requirements, and they design, construct, and operate their facilities in an environmentally sound and responsible manner. FPL and Gulf also respond immediately and effectively to any known environmental hazards or non-compliance situations. The commitment to the environment does not end there. FPL and Gulf proactively pursue opportunities to perform better than current environmental standards require, including reducing waste and emission of pollutants, recycling materials, and conserving natural resources throughout their operations and day-to-day work activities. FPL and Gulf encourage cost-effective, efficient uses of energy, both within the Company and by their customers. These actions are just a few examples of how FPL and Gulf are committed to the environment.

To ensure FPL and Gulf are adhering to their environmental commitment, they have developed rigorous environmental governance procedures and programs. These include its Environmental Assurance Program. Through this program, FPL and Gulf conduct periodic environmental self-evaluations to verify that its operations comply with environmental laws, regulations, and permit requirements. Regular evaluations also help identify best practices and opportunities for improvement.

IV.E Environmental Management

In order to successfully implement this Environmental Policy, FPL and Gulf have developed a robust Environmental Management System to direct and control the fulfillment of the organization's environmental responsibilities. A key component of the system is an Environmental Assurance Program, which is described in section IV.F below. Other system components include: executive management support and commitment, dedicated environmental corporate governance program, written environmental policies and procedures, delineation of organizational responsibilities and individual accountabilities, allocation of appropriate resources for environmental compliance management (which includes reporting and corrective action when non-compliance occurs), environmental incident and/or emergency response, environmental risk assessment/management, environmental regulatory development and tracking, and environmental management information systems.

IV.F Environmental Assurance Program

FPL and Gulf's Environmental Assurance Program consists of activities that are designed to evaluate environmental performance, verify compliance with corporate policy as well as legal and regulatory requirements, and communicate results to corporate management. The principal mechanism for pursuing environmental assurance is an environmental audit. An environmental audit is defined as a management tool comprised of a systematic, documented, periodic, and objective evaluation of the performance of the organization and its specific management systems and equipment designed to protect the environment. An environmental audit’s primary objective is to facilitate management control of environmental practices and assess compliance with existing environmental regulatory requirements and corporate policies. In addition to FPL and Gulf facility audits, through the Environmental Assurance Program, audits of third-party vendors used for recycling and/or disposal of waste generated by FPL and Gulf operations are performed. Vendor audits provide information used for selecting candidate or incumbent vendors for disposal and recycling needs.

In addition to periodic environmental audits, NextEra Energy Inc.’s Environmental Construction Compliance Assurance Program provides routine onsite inspections during construction and site-specific environmental training to everyone anticipated to be onsite during construction. Similar to an environmental audit, these inspections are performed to ensure compliance with the requirements of environmental permits, licenses, and corporate policies during the construction phase. Additionally, in 2020, the Construction Compliance Assurance Program has integrated remote satellite monitoring technology to broaden its inspection capabilities and increase the frequency of onsite observations.

FPL and Gulf have also implemented a Corporate Environmental Governance System in which quarterly reviews are performed of each business unit deemed to have potential for significant environmental exposure. Quarterly reviews evaluate operations for potential environmental risks and consistency with the Environmental Policy. Items tracked during the quarterly reviews include processes for the identification and management of environmental risks, metrics, and indicators and progress / changes since the most recent review.

IV.G Preferred and Potential Sites

Based upon projection of future resource needs and analyses of viable resource options, 29 Preferred Sites and 10 Potential Sites have been identified for adding future generation. Some of these sites currently have existing generation. Preferred Sites are those locations where significant reviews have taken place and action has either been taken, action is committed, or it is likely that action will be taken to site new generation. Potential Sites are those with attributes that would support the siting of generation and are under consideration as a location for future generation. The identification of a Potential Site does not necessarily indicate that a definitive decision to pursue new generation (or generation expansion or modernization in the case of an existing generation site) at that location has been made, nor does this designation necessarily indicate that the size or technology of a generating resource has been determined. The Preferred Sites and Potential Sites are discussed in separate sections below.

IV.G.1 Preferred Sites

For the 2021 Ten Year Site Plan, 29 Preferred Sites have been identified. These include a combination of existing and new sites in both the FPL and Gulf areas for the development of solar generation facilities, natural gas-fueled combined cycle and combustion turbine units, battery storage, and/or nuclear generation. Sites for a number of solar additions in 2021 through 2023 have been selected, and these sites are described in this section. Potential sites for possible 2024-on solar additions, plus other types of generation, are discussed later in the Potential Site section.

These 29 Preferred Sites are listed in Table IV.G.1 below, and information regarding each site is then presented on the following pages. The sites are presented in general chronological order of when resources are projected to be added to the FPL and Gulf areas. The topographical features of each site, land use, and facility layout figures are provided in maps that appear at the end of this chapter.

Table IV.G.1: List of FPL & Gulf Preferred Sites

Site Name	Area	County	Technology
Discovery Solar Energy Center	FPL	Brevard	Solar
Orange Blossom Solar Energy Center	FPL	Indian River	Solar
Sabal Palm Solar Energy Center	FPL	Palm Beach	Solar
Fort Drum Solar Energy Center	FPL	Okeechobee	Solar
Willow Solar Energy Center	FPL	Manatee	Solar
Manatee Battery Storage Center	FPL	Manatee	Battery
Sunshine Gateway Battery Storage Center	FPL	Columbia	Battery
Echo River Battery Storage Center	FPL	Suwannee	Battery
Gulf Clean Energy Center Unit 8 (formerly Plant Crist)	Gulf	Escambia	CT
Blue Springs Solar Energy Center	Gulf	Jackson	Solar
Cotton Creek Solar Energy Center	Gulf	Escambia	Solar
Ghost Orchid Solar Energy Center	FPL	Hendry	Solar
Sawgrass Solar Energy Center	FPL	Hendry	Solar
Sundew Solar Energy Center	FPL	St. Lucie	Solar
Immokalee Solar Energy Center	FPL	Collier	Solar
Grove Solar Energy Center	FPL	Indian River	Solar
Elder Branch Solar Energy Center	FPL	Manatee	Solar
Dania Beach Clean Energy Center Unit 7	FPL	Broward	CC
Everglades Solar Energy Center	FPL	Miami-Dade	Solar
White Tail Solar Energy Center	FPL	Martin	Solar
Bluefield Preserve Solar Energy Center	FPL	St. Lucie	Solar
Cavendish Solar Energy Center	FPL	Okeechobee	Solar
Anhinga Solar Energy Center	FPL	Jackson	Solar
Blackwater River Solar Energy Center	Gulf	Santa Rosa	Solar
Chipola River Solar Energy Center	Gulf	Calhoun	Solar
Flowers Creek Solar Energy Center	Gulf	Calhoun	Solar
First City Solar Energy Center	Gulf	Escambia	Solar
Apalachee Solar Energy Center	Gulf	Jackson	Solar
Turkey Point Units 6&7	FPL	Miami-Dade	Nuclear

Preferred Site #1 Discovery Solar Energy Center, Brevard County

	Preferred Site	**Discovery Solar Energy Center**
	County	**Brevard**
	Facility Acreage	**491**
	COD	**Q2 2021**
	For PV facilities: tracking or fixed	**Fixed**
		Reference Maps
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.		**Existing Land Uses**
	Site	Undeveloped former citrus grove
	Adjacent Areas	Undeveloped and industrial
f.		**General Environment Features On and In the Site Vicinity**
1.	Natural Environment	Site is predominately abandoned citrus groves, ditches and scattered freshwater forested and herbaceous wetlands which are now dominated by invasive, exotic vegetation.
2.	Listed Species	Due to the existing disturbed nature of the site and lack of suitable onsite habitat, no impacts will occur to listed species.
3.	Natural Resources of Regional Significance Status	The site is adjacent to the Merritt Island National Refuge and adjacent to the Indian River Lagoon.
4.	Other Significant Features	FPL is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 74.5 MW solar fixed panel PV facility, on-site transmission substation, and site stormwater system. Compensatory mitigation for unavoidable wetland impacts will be accomplished through purchase of credits from NeoVerde Mitigation Bank.
h.	**Local Government Future Land Use Designations**	Site is federal land and therefore exempt from local zoning.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Existing onsite water resources will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter site is located in the Central Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not applicable for PV Process: Not applicable for PV Potable: Minimal, existing permitted supply Panel Cleaning: Minimal and only in absence of sufficient rainfall
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.
n.	**Water Conservation Strategies Under Consideration**	Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
q.	**Air Emissions and Control Systems**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE Section 404 Permit received: April 14, 2020 Florida Environmental Resources Permit (ERP) received: October 24, 2019

Preferred Site #2 Orange Blossom Solar Energy Center, Indian River County

	Preferred Site	Orange Blossom Solar Energy Center
	County	Indian River
	Facility Acreage	**607**
	COD	**Q2 2021**
	For PV facilities: tracking or fixed	**Fixed**
		Reference Maps
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.		**Existing Land Uses**
	Site	Citrus grove
	Adjacent Areas	Citrus groves, fallow cropland
f.		**General Environment Features On and In the Site Vicinity**
1.	Natural Environment	The site is predominantly a citrus grove with canals/ditches. The site likely contains no jurisdictional wetlands.
2.	Listed Species	Due to the existing disturbed nature of the site and lack of suitable onsite habitat, minimal, if any, impacts will occur to listed species.
3.	Natural Resources of Regional Significance Status	No natural resources of regional significance status at or adjacent to the site.
4.	Other Significant Features	FPL is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 74.5 MW solar fixed panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation
h.	**Local Government Future Land Use Designations**	Local government future land use for this site is citrus, plant crops, and grazing.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Existing onsite water resources will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter. The site is located in the Central Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable: Minimal, existing permitted supply Panel Cleaning: Minimal and only in absence of sufficient rainfall.
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.
n.	**Water Conservation Strategies Under Consideration**	Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
q.	**Air Emissions and Control Systems**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE Section 404 Permit received: N/A Florida Environmental Resources Permit (ERP) received: 4/26/2019 Indian River County Approval: 8/13/2019

Preferred Site #3 Sabal Palm Solar Energy Center, Palm Beach County

	Preferred Site	**Sabal Palm Solar Energy Center**
	County	**Palm Beach**
	Facility Acreage	**646**
	COD	**Q2 2021**
	For PV facilities: tracking or fixed	**Fixed**
		Reference Maps
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.		**Existing Land Uses**
	Site	Fallow Agricultural Production
	Adjacent Areas	Agriculture, single-family residential, vacant land
f.		**General Environment Features On and In the Site Vicinity**
1.	Natural Environment	The site is predominantly comprised of fallow agricultural land with freshwater herbaceous wetlands and drainage ditches.
2.	Listed Species	Due to the existing disturbed nature of the site and lack of suitable onsite habitat, no impacts will occur to listed species.
3.	Natural Resources of Regional Significance Status	No natural resources of regional significance status at or adjacent to the site.
4.	Other Significant Features	FPL is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 74.5 MW solar fixed panel PV facility, on-site transmission substation, and site stormwater system. Compensatory mitigation for unavoidable wetland impacts will be accomplished through purchase of credits from Bluefield Ranch Mitigation Bank.
h.	**Local Government Future Land Use Designations**	Local government future land use for this site is Rural Residential.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Existing onsite water resources will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter. The site is located in the South Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable: Minimal, existing permitted supply Panel Cleaning: Minimal and only in absence of sufficient rainfall.
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.
n.	**Water Conservation Strategies Under Consideration**	Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
q.	**Air Emissions and Control Systems**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE Section 404 Permit received: May 1, 2020 Florida Environmental Resources Permit (ERP) received: February 28, 2020 Palm Beach County Development Approval: October 25, 2019

Preferred Site #4 Fort Drum Solar Energy Center, Okeechobee County

	Preferred Site	**Fort Drum Solar Energy Center**
	County	**Okeechobee**
	Facility Acreage	**930**
	COD	**Q2 2021**
	For PV facilities: tracking or fixed	**Fixed**
		Reference Maps
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.		**Existing Land Uses**
	Site	Pastureland and fallow crop land
	Adjacent Areas	Pastureland, conservation, and existing electrical transmission
f.		**General Environment Features On and In the Site Vicinity**
1.	Natural Environment	The site is comprised of pastureland, fallow citrus, pine Flatwoods, mixed forested wetlands, saw palmetto prairie, and freshwater marsh.
2.	Listed Species	Due to the existing disturbed nature of the site and lack of suitable onsite habitat, minimal, if any, impacts will occur to listed species.
3.	Natural Resources of Regional Significance Status	The Fort Drum Solar site is near the Ft. Drum Marsh Conservation Area.
4.	Other Significant Features	FPL is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 74.5 MW solar fixed panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.
h.	**Local Government Future Land Use Designations**	Local government future land use designation includes agricultural production and power generation.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Existing onsite water resources will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter site is located in the South Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable: Minimal, existing permitted supply Panel Cleaning: Minimal and only in absence of sufficient rainfall.
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.
n.	**Water Conservation Strategies Under Consideration**	Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
q.	**Air Emissions and Control Systems**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE NW51 Verification: March 4, 2020 Florida Environmental Resources Permit (ERP) received: January 31, 2020 Okeechobee County Development Approval: January 21, 2020

Preferred Site #5 Willow Solar Energy Center, Manatee County

	Preferred Site	**Willow Solar Energy Center**
	County	**Manatee**
	Facility Acreage	**812**
	COD	**Q2 2021**
	For PV facilities: tracking or fixed	**Tracking**
	Reference Maps	
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.	**Existing Land Uses**	
	Site	Abandoned agricultural
	Adjacent Areas	Cropland and pastureland
f.	**General Environment Features On and In the Site Vicinity**	
1.	Natural Environment	Site is predominately fallow cropland with drainage ditches/canals. Forested, herbaceous, and shrub marsh wetland areas are also present.
2.	Listed Species	Due to the existing disturbed nature of the site and lack of suitable onsite habitat, minimal, if any, impacts will occur to listed species.
3.	Natural Resources of Regional Significance Status	No natural resources of regional significance status at or adjacent to the site.
4.	Other Significant Features	FPL is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 74.5 MW solar tracking panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation
h.	**Local Government Future Land Use Designations**	Local government future land use for this site is Agriculture.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Existing onsite water resources will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter. The site is located in the Central Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable: Minimal, existing permitted supply Panel Cleaning: Minimal and only in absence of sufficient rainfall.
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.
n.	**Water Conservation Strategies Under Consideration**	Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
q.	**Air Emissions and Control Systems**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE Section 404 Permit received: June 4, 2020 Florida Environmental Resources Permit (ERP) received: March 6, 2020

Preferred Site #6 Manatee Battery Storage Center, Manatee County

	Preferred Site	Manatee Battery Storage Center
	County	Manatee
	Facility Acreage	**40**
	COD	**Q4 2021**
	For PV facilities: tracking or fixed	**N/A**
		Reference Maps
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.		**Existing Land Uses**
	Site	Utility power generation
	Adjacent Areas	Utility power generation and agricultural production
f.		**General Environment Features On and In the Site Vicinity**
1.	Natural Environment	Site is predominantly pine plantation with few forested and herbaceous wetland areas.
2.	Listed Species	No adverse impacts are expected due to previous development and lack of suitable onsite habitat for listed species.
3.	Natural Resources of Regional Significance Status	No natural resources of regional significance status at or adjacent to the site.
4.	Other Significant Features	FPL is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 400MW, 2.2 hour Battery Storage facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.
h.	**Local Government Future Land Use Designations**	Local government future land use designation is Utilities, requiring modification to include Battery Storage.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Groundwater will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter site is located in the Central Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Battery Storage Process: Not Applicable for Battery Storage Potable: Minimal, existing permitted supply Panel Cleaning: Not applicable for Battery Storage
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Battery Storage Process: Not Applicable for Battery Storage Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.
n.	**Water Conservation Strategies Under Consideration**	Battery Storage does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Battery Storage does not require fuel and no waste products will be generated at the site.
q.	**Air Emissions and Control Systems**	Fuel - Battery Storage energy does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	Battery Storage energy does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE Section 404 Permit received: August 3, 2020 Florida Environmental Resources Permit (ERP) received: June 8, 2020 Manatee County Site Plan Approval: August 28, 2020

Preferred Site #7 Sunshine Gateway Battery Storage Center, Columbia County

	Preferred Site	**Sunshine Gateway Battery Storage Center**
	County	**Columbia**
	Facility Acreage	**3**
	COD	**Q4 2021**
	For PV facilities: tracking or fixed	**N/A**
		Reference Maps
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.		**Existing Land Uses**
	Site	Agricultural lands
	Adjacent Areas	Utility power generation and agricultural production
f.		**General Environment Features On and In the Site Vicinity**
1.	Natural Environment	Site is open field adjacent to some forested uplands and facilities related to power generation.
2.	Listed Species	No adverse impacts to listed species are anticipated.
3.	Natural Resources of Regional Significance Status	No natural resources of regional significance status at or adjacent to the site.
4.	Other Significant Features	FPL is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 30MW, 2.5 hour Battery Storage facility, and site stormwater system.
h.	**Local Government Future Land Use Designations**	Local government land use designation is Utilities, no modification required to include Battery Storage.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Groundwater will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter site is located in the North Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Battery Storage Process: Not Applicable for Battery Storage Potable: Not Applicable for Battery Storage Panel Cleaning: Not applicable for Battery Storage
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Battery Storage Process: Not Applicable for Battery Storage Potable and Panel Cleaning: Not Applicable for Battery Storage
n.	**Water Conservation Strategies Under Consideration**	Battery Storage does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Battery Storage does not require fuel and no waste products will be generated at the site.
q.	**Air Emissions and Control Systems**	Fuel - Battery Storage energy does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	Battery Storage energy does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE Section 404 Permit received: N/A Florida Environmental Resources Permit (ERP) received: October 5, 2020

Preferred Site #8 Echo River Battery Storage Center, Suwannee County

	Preferred Site	**Echo River Battery Storage Center**
	County	**Suwannee**
	Facility Acreage	**4**
	COD	**Q4 2021**
	For PV facilities: tracking or fixed	**N/A**
	Reference Maps	
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.	**Existing Land Uses**	
	Site	Agricultural lands
	Adjacent Areas	Utility power generation and agricultural production
f.	**General Environment Features On and In the Site Vicinity**	
1.	Natural Environment	Site is comprised of facilities related to power generation.
2.	Listed Species	No adverse impacts to listed species are anticipated.
3.	Natural Resources of Regional Significance Status	No natural resources of regional significance status at or adjacent to the site.
4.	Other Significant Features	FPL is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 30MW, 2.5 hour Battery Storage facility, and site stormwater system.
h.	**Local Government Future Land Use Designations**	Local government land use designation is Utilities, no modification required to include Battery Storage.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Groundwater will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter site is located in the North Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Battery Storage Process: Not Applicable for Battery Storage Potable: Not Applicable for Battery Storage Panel Cleaning: Not applicable for Battery Storage
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Battery Storage Process: Not Applicable for Battery Storage Potable and Panel Cleaning: Not Applicable for Battery Storage
n.	**Water Conservation Strategies Under Consideration**	Battery Storage does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Battery Storage does not require fuel and no waste products will be generated at the site.
q.	**Air Emissions and Control Systems**	Fuel - Battery Storage energy does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	Battery Storage energy does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE Section 404 Permit received: N/A Florida Environmental Resources Permit (ERP) received: September 28, 2020

Preferred Site #9 Gulf Clean Energy Center Unit 8 (formerly Plant Crist), Escambia County

	Preferred Site	**Gulf Clean Energy Center Unit 8**
	County	**Escambia**
	Facility Acreage	**58**
	COD	**Q4 2021**
	For PV facilities: tracking or fixed	**N/A**
		Reference Maps
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.		**Existing Land Uses**
	Site	Industrial (Electrical Generating Facility)
	Adjacent Areas	Public, Low & Medium Density Residential
f.		**General Environment Features On and In the Site Vicinity**
1.	Natural Environment	The site is located in uplands within existing fenced plant property and consists of primarily of a pine and hardwood mix. The site has historically had silviculture operations.
2.	Listed Species	No adverse impacts to listed species are anticipated. However, Gopher Tortoise do occur in local area.
3.	Natural Resources of Regional Significance Status	Drainage from the site ultimately discharges into the Escambia river.
4.	Other Significant Features	Gulf is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes construction of four 235 MW combustion turbines, a switchyard, and associated wastewater and stormwater management systems. The site location has been selected in uplands with a significant buffer to any sensitive habitats. Final grading has been designed to match natural grades.
h.	**Local Government Future Land Use Designations**	The site is zoned General Industrial.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Groundwater will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter site is located in the Panhandle Florida region.
l.	**Project Water Quantities for Various Uses**	NOx control: 1.95 MGD during fuel oil operations Process: 1.9 MGD Potable:0.01 MGD
m.	**Water Supply Sources by Type**	Process: Exiting permitted groundwater usage; Potable: Emerald Coast Utilities Authority
n.	**Water Conservation Strategies Under Consideration**	No additional water resources are required beyond currently permitted usage.
o.	**Water Discharges and Pollution Control**	The existing Plant Crist industrial wastewater treatment system will be utilized for the project. A new stormwater management system will be constructed to ensure the post development discharge rate is not greater than the predevelopment conditions. Best management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Natural gas will be transported via a new pipeline. Ultra Low Sulfur Distillate (ULSD) will be trucked to the facility and stored in a new ULSD tank.
q.	**Air Emissions and Control Systems**	Fuel - Use of cleaner natural gas and Ultra-Low Sulfur Distillate • Natural Gas - Dry-low NOx combustion technology will control NOx emissions, Greenhouse gas emissions will be substantially lower than the Environmental Protection Agency's proposed new source performance standard. • ULSD - Water injection will be used to reduce NOx emissions Combustion Control - will minimize formation of sulfur dioxide, particulate matter, nitrogen oxides (NOx), and other fuel-bound contaminate Combustor Design - will limit formation of carbon monoxide and volatile organic compounds
r.	**Noise Emissions and Control Systems**	Noise from the operation of the new unit will be within allowable levels.
s	**Status of Applications**	USACE Jurisdictional Determination received: September 20, 2019 ERP Permit received: October 14, 2019 UIC Permit received: October 25, 2019 PSD Permit received: February 5, 2020 IWW Permit Revision: In Progress

Preferred Site #10 Blue Springs Solar Energy Center, Jackson County

	Preferred Site	**Blue Springs Solar Energy Center**
	County	**Jackson**
	Facility Acreage	**444**
	COD	**Q4 2021**
	For PV facilities: tracking or fixed	**Tracking**
	Reference Maps	
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.	**Existing Land Uses**	
	Site	Agricultural crops
	Adjacent Areas	Agricultural and low density residential
f.	**General Environment Features On and In the Site Vicinity**	
1.	Natural Environment	The site is predominately cropland with few forested uplands and wetlands
2.	Listed Species	Due to the existing disturbed nature of the site and lack of suitable onsite habitat, minimal, if any, impacts will occur to listed species.
3.	Natural Resources of Regional Significance Status	No natural resources of regional significance status at or adjacent to the site.
4.	Other Significant Features	FPL is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 74.5 MW solar tracking panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.
h.	**Local Government Future Land Use Designations**	Solar power generation is allowed within existing Agricultural land use designation.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Existing onsite water resources will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter. The site is located in the South Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable: Minimal, existing permitted supply Panel Cleaning: Minimal and only in absence of sufficient rainfall.
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.
n.	**Water Conservation Strategies Under Consideration**	Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
q.	**Air Emissions and Control Systems**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE Section 404 Permit received: N/A Florida Environmental Resources Permit (ERP) received: February 26, 2019

Preferred Site #11 Cotton Creek Solar Energy Center, Escambia County

	Preferred Site	**Cotton Creek Solar Energy Center**
	County	**Escambia**
	Facility Acreage	**645**
	COD	**Q4 2021**
	For PV facilities: tracking or fixed	**Fixed**
		Reference Maps
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.		**Existing Land Uses**
	Site	Pine plantation
	Adjacent Areas	Pine plantation and low density residential
f.		**General Environment Features On and In the Site Vicinity**
1.	Natural Environment	Site is predominately pine plantation and pasture with forested wetland areas.
2.	Listed Species	Due to the existing disturbed nature of the site and lack of suitable onsite habitat, minimal, if any, impacts will occur to listed species.
3.	Natural Resources of Regional Significance Status	No natural resources of regional significance status at or adjacent to the site.
4.	Other Significant Features	Gulf and FPL are not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 74.5 solar fixed panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.
h.	**Local Government Future Land Use Designations**	Solar power generation is allowed within existing Agricultural land use designation.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Existing onsite water resources will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter site is located in the Panhandle Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable: Minimal, existing permitted supply Panel Cleaning: Minimal and only in absence of sufficient rainfall.
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.
n.	**Water Conservation Strategies Under Consideration**	Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
q.	**Air Emissions and Control Systems**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE Section 404 Permit received: April 3, 2019 Florida Environmental Resources Permit (ERP) Received: July 16, 2019

Preferred Site #12 Ghost Orchid Solar Energy Center, Hendry County

	Preferred Site	**Ghost Orchid Solar Energy Center**
	County	**Hendry**
	Facility Acreage	**535**
	COD	**Q1 2022**
	For PV facilities: tracking or fixed	**Fixed**
	Reference Maps	
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.	**Existing Land Uses**	
	Site	Agricultural and forested wetlands
	Adjacent Areas	Predominately agricultural and low density residential
f.	**General Environment Features On and In the Site Vicinity**	
1.	Natural Environment	The site includes active agricultural fields located in the central and eastern part of the site with forested and herbaceous wetlands.
2.	Listed Species	No adverse impacts to listed species are anticipated.
3.	Natural Resources of Regional Significance Status	No natural resources of regional significance status at or adjacent to the site.
4.	Other Significant Features	FPL is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 74.5 MW solar fixed panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.
h.	**Local Government Future Land Use Designations**	Local government future land use for this site is Agriculture.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Existing onsite water resources will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter site is located in the Central Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable: Minimal, existing permitted supply Panel Cleaning: Minimal and only in absence of sufficient rainfall.
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.
n.	**Water Conservation Strategies Under Consideration**	Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
q.	**Air Emissions and Control Systems**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE Section 404 Permit received: Pending FDEP Environmental Resources Permit (ERP) received: May 31, 2018

Preferred Site #13 Sawgrass Solar Energy Center, Hendry County

	Preferred Site	**Sawgrass Solar Energy Center**
	County	**Hendry**
	Facility Acreage	**603**
	COD	**Q1 2022**
	For PV facilities: tracking or fixed	**Fixed**
	Reference Maps	
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.	**Existing Land Uses**	
	Site	Pastureland and some forested wetlands
	Adjacent Areas	Agricultural and forested wetlands
f.	**General Environment Features On and In the Site Vicinity**	
1.	Natural Environment	Site is mostly pastureland with a mosaic of forested wetlands throughout the site. Subject property is located almost entirely within the primary panther zone.
2.	Listed Species	No adverse impacts to listed species are anticipated.
3.	Natural Resources of Regional Significance Status	No natural resources of regional significance status at or adjacent to the site.
4.	Other Significant Features	Seminole historic trail traverses the north portion of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 74.5 MW solar fixed panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.
h.	**Local Government Future Land Use Designations**	Local government future land use for this site is Agriculture.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Existing onsite water resources will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter site is located in the South Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable: Minimal, existing permitted supply Panel Cleaning: Minimal and only in absence of sufficient rainfall.
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.
n.	**Water Conservation Strategies Under Consideration**	Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
q.	**Air Emissions and Control Systems**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE 404 Permit received: N/A FDEP Environmental Resources Permit (ERP) received: Pending

Preferred Site #14 Sundew Solar Energy Center, St. Lucie County

	Preferred Site	**Sundew Solar Energy Center**
	County	**St. Lucie**
	Facility Acreage	**473**
	COD	**Q1 2022**
	For PV facilities: tracking or fixed	**Fixed**
		Reference Maps
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.		**Existing Land Uses**
	Site	Improved pasture and fallow citrus grove
	Adjacent Areas	Agricultural land
f.		**General Environment Features On and In the Site Vicinity**
1.	Natural Environment	Site is improved pasture and fallow citrus with no significant environmental features on or nearby this site.
2.	Listed Species	No adverse impacts to listed species are anticipated.
3.	Natural Resources of Regional Significance Status	No natural resources of regional significance status at or adjacent to the site.
4.	Other Significant Features	FPL is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 74.5 MW solar fixed panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.
h.	**Local Government Future Land Use Designations**	Local government future land use for this site is Agriculture.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Existing onsite water resources will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter site is located in the Central Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable: Minimal, existing permitted supply Panel Cleaning: Minimal and only in absence of sufficient rainfall.
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.
n.	**Water Conservation Strategies Under Consideration**	Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
q.	**Air Emissions and Control Systems**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE 404 Permit received: N/A FDEP Environmental Resources Permit (ERP) received: Pending

Preferred Site #15 Immokalee Solar Energy Center, Collier County

	Preferred Site	**Immokalee Solar Energy Center**
	County	**Collier**
	Facility Acreage	**548**
	COD	**Q1 2022**
	For PV facilities: tracking or fixed	**Fixed**
		Reference Maps
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.		**Existing Land Uses**
	Site	Citrus grove
	Adjacent Areas	Citrus groves, Agricultural
f.		**General Environment Features On and In the Site Vicinity**
1.	Natural Environment	The site is mostly a citrus grove with canals/ditches. The site is located entirely within secondary panther zone.
2.	Listed Species	No adverse impacts to listed species are anticipated.
3.	Natural Resources of Regional Significance Status	No natural resources of regional significance status at or adjacent to the site.
4.	Other Significant Features	FPL is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 74.5 MW solar fixed panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.
h.	**Local Government Future Land Use Designations**	Local government future land use for this site is Agriculture.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Existing onsite water resources will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter site is located in the South Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable: Minimal, existing permitted supply Panel Cleaning: Minimal and only in absence of sufficient rainfall.
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.
n.	**Water Conservation Strategies Under Consideration**	Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
q.	**Air Emissions and Control Systems**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE 404 Permit received: N/A Florida Environmental Resources Permit (ERP) received: Pending

Preferred Site #16 Grove Solar Energy Center, Indian River County

	Preferred Site	**Grove Solar Energy Center**
	County	**Indian River**
	Facility Acreage	**574**
	COD	**Q1 2022**
	For PV facilities: tracking or fixed	**Fixed**
	Reference Maps	
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.	**Existing Land Uses**	
	Site	Fallow Citrus with no wetlands,
	Adjacent Areas	Agricultural crops and conservation areas
f.	**General Environment Features On and In the Site Vicinity**	
1.	Natural Environment	Site is mostly fallow citrus crop with agricultural ditches.
2.	Listed Species	Gopher Tortoise & Caracara
3.	Natural Resources of Regional Significance Status	FPL is not aware of any Natural Resources of Regional Significance Status.
4.	Other Significant Features	FPL is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 74.5 MW solar fixed panel PV facility, on-site transmission substation, potential battery storage and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.
h.	**Local Government Future Land Use Designations**	Local government future land use for this site is citrus, plant crops, and grazing.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Existing onsite water resources will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter site is located in the South Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable: Minimal, existing permitted supply Panel Cleaning: Minimal and only in absence of sufficient rainfall.
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.
n.	**Water Conservation Strategies Under Consideration**	Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
q.	**Air Emissions and Control Systems**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE 404 Permit received: N/A Florida Environmental Resources Permit (ERP) received: Pending

Preferred Site #17 Elder Branch Solar Energy Center, Manatee County

	Preferred Site	**Elder Branch Solar Energy Center**
	County	**Manatee**
	Facility Acreage	**590**
	COD	**Q1 2022**
	For PV facilities: tracking or fixed	**Tracking**
	Reference Maps	
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.	**Existing Land Uses**	
	Site	Fallow cropland and some forested wetlands
	Adjacent Areas	Agricultural, low density residential, and conservation lands
f.	**General Environment Features On and In the Site Vicinity**	
1.	Natural Environment	Site is mostly fallow cropland with interspersed forested wetland. Site is located adjacent to publicly owned conservation lands.
2.	Listed Species	No adverse impacts to listed species are anticipated.
3.	Natural Resources of Regional Significance Status	No natural resources of regional significance status at or adjacent to the site.
4.	Other Significant Features	FPL is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 74.5 MW solar tracking panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.
h.	**Local Government Future Land Use Designations**	Local government future land use for this site is Agriculture.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Existing onsite water resources will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter site is located in the Central Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable: Minimal, existing permitted supply Panel Cleaning: Minimal and only in absence of sufficient rainfall.
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.
n.	**Water Conservation Strategies Under Consideration**	Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Best Management Practices (BMPs) will be employed to prevent and control inadvertent release of pollutants.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
q.	**Air Emissions and Control Systems**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE Section 404 Permit received: N/A FDEP Environmental Resources Permit (ERP) received: March 23, 2020

Preferred Site #18 Dania Beach Clean Energy Center Unit 7, Broward County

	Preferred Site	Dania Beach Clean Energy Center Unit 7
	County	Broward
	Facility Acreage	134
	COD	Q2 2022
	For PV facilities: tracking or fixed	N/A
	Reference Maps	
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.	**Existing Land Uses**	
	Site	Electrical generating facilities
	Adjacent Areas	Low to high density urban, transportation, communication, utilities, commercial, water, and conservation
f.	**General Environment Features On and In the Site Vicinity**	
1.	Natural Environment	Site is comprised of facilities related to power generation.
2.	Listed Species	Listed species known to occur within the cooling pond at the site include the West Indian manatee. No adverse impacts are anticipated to listed species due to previous development.
3.	Natural Resources of Regional Significance Status	No natural resources of regional significance status at or adjacent to the site.
4.	Other Significant Features	FPL is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The project includes dismantlement of existing Units 4 & 5 (completed) and replacement with one new approximately 1,163 MW combined cycle unit consisting of two combustion turbines (CTs), two heat recovery steam generators (HRSGs), and a steam turbine. The CTs will operate using natural gas and Ultra-Low Sulfur Distillate.
h.	**Local Government Future Land Use Designations**	The site is zoned General Industrial.
i.	**Site Selection Criteria Factors**	The Lauderdale Plant has been selected as a preferred site for a site modernization due to consideration of various factors including system load and economics. Environmental issues were not a deciding factor since this site does not exhibit significant environmental sensitivity or other environmental issues. However, there are environmental benefits of replacing the existing, outdated combined cycle units with a new highly efficient combined cycle unit, including a significant reduction in system air emissions. In addition, the modernization project at this existing site will not require a new gas pipeline and will make use of the existing transmission facilities and water supply.
j.	**Water Resources**	Condenser cooling for the steam cycle portion of the new combined cycle unit and auxiliary cooling will come from the existing cooling water intake system. Process and potable water for the new unit will come from the existing water supply sources (Broward County and City of Hollywood).
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter. The site is located in the South Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: No additional water required. Process: No additional water required. Potable: No additional water required. Panel Cleaning: Not Applicable
m.	**Water Supply Sources by Type**	Cooling: As existing, Dania Cut-Off Canal Process: As existing, Broward County Utilities Potable: As existing, City of Hollywood
n.	**Water Conservation Strategies Under Consideration**	No additional water resources are required beyond current usage.
o.	**Water Discharges and Pollution Control**	Continued discharge to the existing cooling pond is anticipated. No increase in water discharge is expected. Best Management Practices will be employed to prevent and control inadvertent release of pollutants.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Natural gas will be transported via an existing pipeline. ULSD will be trucked to the facility and stored in existing ULSD tanks.
q.	**Air Emissions and Control Systems**	Fuel - Use of cleaner natural gas and Ultra-Low Sulfur Distillate • Natural Gas - Dry-low NOx combustion technology and Selective Catalytic Reduction will control NOx emissions, Greenhouse gas emissions will be substantially lower than the Environmental Protection Agency's proposed new source performance standard. • ULSD - Water injection and selective catalytic reduction will be used to reduce NOx emissions Combustion Control - will minimize formation of sulfur dioxide, particulate matter, nitrogen oxides (NOx), and other fuel-bound contaminate Combustor Design - will limit formation of carbon monoxide and volatile organic compounds
r.	**Noise Emissions and Control Systems**	Noise from the operation of the new unit will be within allowable levels.
s	**Status of Applications**	Need Determination Issued: March 19, 2018 FL Site Certification received: December 13, 2018 PSD Permit received: December 4, 2017 USACE Section 404 Permit received: January 7, 2019 IWW received: December 3, 2018

Preferred Site #19 Everglades Solar Energy Center, Miami-Dade County

	Preferred Site	Everglades Solar Energy Center
	County	Miami-Dade
	Facility Acreage	**388**
	COD	**Q1 2023**
	For PV facilities: tracking or fixed	**Fixed**
		Reference Maps
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.		**Existing Land Uses**
	Site	Agricultural land
	Adjacent Areas	Agricultural land
f.		**General Environment Features On and In the Site Vicinity**
1.	Natural Environment	Site is agricultural land with no significant environmental features on or nearby this site.
2.	Listed Species	No adverse impacts to listed species are anticipated.
3.	Natural Resources of Regional Significance Status	No natural resources of regional significance on or adjacent to site
4.	Other Significant Features	FPL is not aware of other significant features on site
g.	**Design Features and Mitigation Options**	The design includes an approximately 74.5 MW solar fixed panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.
h.	**Local Government Future Land Use Designations**	Solar power generation is allowed within existing Agricultural land use designation.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Existing onsite water resources will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter site is located in the South Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable: Minimal, existing permitted supply Panel Cleaning: Minimal and only in absence of sufficient rainfall.
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.
n.	**Water Conservation Strategies Under Consideration**	Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
q.	**Air Emissions and Control Systems**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE 404 Permit received: TBD FDEP Environmental Resources Permit (ERP) received: TBD

Preferred Site #20 White Tail Solar Energy Center, Martin County

	Preferred Site	**White Tail Solar Energy Center**
	County	**Martin**
	Facility Acreage	**601**
	COD	**Q1 2023**
	For PV facilities: tracking or fixed	**Fixed**
	Reference Maps	
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.	**Existing Land Uses**	
	Site	Agricultural lands
	Adjacent Areas	Agricultural lands, C-44 Stormwater Treatment Area (STA)
f.	**General Environment Features On and In the Site Vicinity**	
1.	Natural Environment	The site is predominantly comprised of agricultural land.
2.	Listed Species	Due to the existing disturbed nature of the site and lack of suitable onsite habitat, minimal, if any, impacts will occur to listed species.
3.	Natural Resources of Regional Significance Status	No natural resources of regional significance status at or adjacent to the site.
4.	Other Significant Features	FPL is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 74.5 MW solar fixed panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.
h.	**Local Government Future Land Use Designations**	Solar power generation is allowed within existing Agricultural land use designation.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Existing onsite water resources will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter site is located in the South Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable: Minimal, existing permitted supply Panel Cleaning: Minimal and only in absence of sufficient rainfall.
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.
n.	**Water Conservation Strategies Under Consideration**	Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
q.	**Air Emissions and Control Systems**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE 404 Permit received: TBD FDEP Environmental Resources Permit (ERP) received: TBD

Preferred Site #21 Bluefield Preserve Solar Energy Center, St. Lucie County

	Preferred Site	**Bluefield Preserve Solar Energy Center**
	County	**St. Lucie**
	Facility Acreage	**592**
	COD	**Q1 2023**
	For PV facilities: tracking or fixed	**Fixed**
	Reference Maps	
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.	**Existing Land Uses**	
	Site	Agricultural lands
	Adjacent Areas	Agricultural lands, mitigation bank
f.	**General Environment Features On and In the Site Vicinity**	
1.	Natural Environment	The site is predominantly comprised of improved pasture, wetland hardwood forests and drainage ditches.
2.	Listed Species	Minimal, if any, impacts will occur to listed species. Project design will strive to avoid an existing caracara nest with a primary buffer; if panel encroachment into the buffer is necessary, FPL will coordinate with USFWS to determine appropriate mitigation.
3.	Natural Resources of Regional Significance Status	Bluefield Ranch Mitigation Bank is located adjacent to the site to the east.
4.	Other Significant Features	FPL is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 74.5 MW solar fixed panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.
h.	**Local Government Future Land Use Designations**	Solar power generation is allowed within existing Agricultural land use designation.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Existing onsite water resources will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter site is located in the South Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable: Minimal, existing permitted supply Panel Cleaning: Minimal and only in absence of sufficient rainfall.
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.
n.	**Water Conservation Strategies Under Consideration**	Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
q.	**Air Emissions and Control Systems**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE 404 Permit received: TBD FDEP Environmental Resources Permit (ERP) received: TBD

Preferred Site #22 Cavendish Solar Energy Center, Okeechobee County

	Preferred Site	**Cavendish Solar Energy Center**
	County	**Okeechobee**
	Facility Acreage	**930**
	COD	**Q1 2023**
	For PV facilities: tracking or fixed	**Tracking**
	Reference Maps	
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.	**Existing Land Uses**	
	Site	Pastureland and fallow crop land
	Adjacent Areas	Pastureland, conservation, and existing electrical utility
f.	**General Environment Features On and In the Site Vicinity**	
1.	Natural Environment	The site is comprised of pastureland with some pine Flatwoods, mixed forested wetlands, saw palmetto prairie, and freshwater marsh.
2.	Listed Species	Due to the existing disturbed nature of the site and lack of suitable onsite habitat, minimal, if any, impacts will occur to listed species.
3.	Natural Resources of Regional Significance Status	The Cavendish Solar site is near the Ft. Drum Marsh Conservation Area.
4.	Other Significant Features	FPL is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 74.5 MW solar tracking panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.
h.	**Local Government Future Land Use Designations**	Local government future land use designation includes agricultural production and power generation.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Existing onsite water resources will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter site is located in the South Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable: Minimal, existing permitted supply Panel Cleaning: Minimal and only in absence of sufficient rainfall.
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.
n.	**Water Conservation Strategies Under Consideration**	Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
q.	**Air Emissions and Control Systems**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE 404 Permit received: N/A FDEP Environmental Resources Permit (ERP) received: Pending

Preferred Site #23 Anhinga Solar Energy Center, Clay County

	Preferred Site	**Anhinga Solar Energy Center**
	County	**Clay**
	Facility Acreage	**494**
	COD	**Q1 2023**
	For PV facilities: tracking or fixed	**Tracking**
		Reference Maps
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.		**Existing Land Uses**
	Site	Pine Plantation
	Adjacent Areas	Solar Energy Center, Pine Plantation, and Small residential.
f.		**General Environment Features On and In the Site Vicinity**
1.	Natural Environment	This site is mostly comprised of coniferous pine plantation with mixed hardwood wetlands and a burrow pit onsite.
2.	Listed Species	No adverse impacts to listed species are anticipated.
3.	Natural Resources of Regional Significance Status	No natural resources of regional significance status at or adjacent to the site.
4.	Other Significant Features	FPL is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 74.5 MW solar tracking panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.
h.	**Local Government Future Land Use Designations**	Local government future land use for this site is Agriculture.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Existing onsite water resources will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter site is located in the Panhandle Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable: Minimal, existing permitted supply Panel Cleaning: Minimal and only in absence of sufficient rainfall.
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.
n.	**Water Conservation Strategies Under Consideration**	Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
q.	**Air Emissions and Control Systems**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE 404 Permit received: TBD FDEP Environmental Resources Permit (ERP) received: TBD

Preferred Site #24 Blackwater River Solar Energy Center, Santa Rosa County

	Preferred Site	**Blackwater River Solar Energy Center**
	County	**Santa Rosa**
	Facility Acreage	**366**
	COD	**Q1 2023**
	For PV facilities: tracking or fixed	**Fixed**
	Reference Maps	
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.	**Existing Land Uses**	
	Site	Pine plantation
	Adjacent Areas	State forest, institutional/commercial land
f.	**General Environment Features On and In the Site Vicinity**	
1.	Natural Environment	The site is predominantly comprised of coniferous pine plantation.
2.	Listed Species	Due to the existing disturbed nature of the site and lack of suitable onsite habitat, minimal, if any, impacts will occur to listed species. Prior to project commencement a 100% gopher tortoise survey will be conducted and a FWC permit will be obtained to relocate existing tortoises to an approved offsite recipient area, if burrows cannot be avoided.
3.	Natural Resources of Regional Significance Status	The Blackwater River State Forest is located adjacent to the site to the east.
4.	Other Significant Features	FPL is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 74.5 MW solar fixed panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.
h.	**Local Government Future Land Use Designations**	Solar power generation is allowed within existing Agricultural land use designation.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Existing onsite water resources will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter site is located in the Panhandle Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable: Minimal, existing permitted supply Panel Cleaning: Minimal and only in absence of sufficient rainfall.
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.
n.	**Water Conservation Strategies Under Consideration**	Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
q.	**Air Emissions and Control Systems**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE 404 Permit received: N/A FDEP Environmental Resources Permit (ERP) received: Pending

Preferred Site #25 Chipola River Solar Energy Center, Calhoun County

	Preferred Site	**Chipola River Solar Energy Center**
	County	**Calhoun**
	Facility Acreage	**701**
	COD	**Q1 2023**
	For PV facilities: tracking or fixed	**Tracking**
	Reference Maps	
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.	**Existing Land Uses**	
	Site	Silviculture
	Adjacent Areas	Pasture, timber, cropland
f.	**General Environment Features On and In the Site Vicinity**	
1.	Natural Environment	Primarily silviculture, some mesic flatwoods and xeric oak. Wetlands and waterbodies comprise 11% of site.
2.	Listed Species	Gray bat, black bear, Gopher Tortoise, Eastern Indigo Snake, Pine Snake, Red cockaded woodpecker and Reticulated Flatwoods salamander are possible. No adverse impacts to listed species is anticipated.
3.	Natural Resources of Regional Significance Status	No natural resources of regional significance on or adjacent to site
4.	Other Significant Features	FPL is not aware of other significant features on site
g.	**Design Features and Mitigation Options**	Design of 74.5 MW tracking panels, inverters, access paths, collector lines, and a switchyard. No impacts to waters of state are proposed.
h.	**Local Government Future Land Use Designations**	Solar facilities are not permitted in the Agricultural Zone at this time. Permitting requires amendment to county comprehensive plan and Conditional Use Permit issuance.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Site has well water system. No consumptive use permit has been issued to FPL for this property yet
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter site is located in the Panhandle Florida region.
l.	**Project Water Quantities for Various Uses**	Industrial Use: Construction water for dust suppression and other activities. During operations would be minimal for any panel washing.
m.	**Water Supply Sources by Type**	Site has well water system. No consumptive use permit has been issued to FPL for this property yet
n.	**Water Conservation Strategies Under Consideration**	Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems.
q.	**Air Emissions and Control Systems**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE Permit: N/A Florida Environmental Resources Permit (ERP) received: Pending

Preferred Site #26 Flowers Creek Solar Energy Center, Calhoun County

	Preferred Site	**Flowers Creek Solar Energy Center**
	County	**Calhoun**
	Facility Acreage	**868**
	COD	**Q1 2023**
	For PV facilities: tracking or fixed	**Tracking**
	Reference Maps	
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.	**Existing Land Uses**	
	Site	Silviculture and pastureland
	Adjacent Areas	Agricultural and low density residential
f.	**General Environment Features On and In the Site Vicinity**	
1.	Natural Environment	Site is mostly silviculture and pastureland with some forested and herbaceous wetlands.
2.	Listed Species	No adverse impacts to listed species are anticipated.
3.	Natural Resources of Regional Significance Status	No natural resources of regional significance status at or adjacent to the site.
4.	Other Significant Features	FPL is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 74.5 solar tracking panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.
h.	**Local Government Future Land Use Designations**	Solar facilities are not permitted in the Agricultural Zone at this time. Permitting requires amendment to county comprehensive plan and Conditional Use Permit issuance.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Existing onsite water resources will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter site is located in the Panhandle Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable: Minimal, existing permitted supply Panel Cleaning: Minimal and only in absence of sufficient rainfall.
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.
n.	**Water Conservation Strategies Under Consideration**	Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
q.	**Air Emissions and Control Systems**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE 404 Permit received: Pending Florida Environmental Resources Permit (ERP) received: Pending

Preferred Site #27 First City Solar Energy Center, Escambia County

	Preferred Site	**First City Solar Energy Center**
	County	**Escambia**
	Facility Acreage	**458**
	COD	**Q1 2023**
	For PV facilities: tracking or fixed	**Fixed**
	Reference Maps	
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.	**Existing Land Uses**	
	Site	Agricultural (silviculture) lands
	Adjacent Areas	Agricultural and low density residential
f.	**General Environment Features On and In the Site Vicinity**	
1.	Natural Environment	Site is agricultural land with no significant environmental features on or nearby this site.
2.	Listed Species	No adverse impacts to listed species are anticipated.
3.	Natural Resources of Regional Significance Status	No natural resources of regional significance status at or adjacent to the site.
4.	Other Significant Features	Gulf and FPL are not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 74.5 MW solar fixed panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.
h.	**Local Government Future Land Use Designations**	Solar power generation is allowed within existing Agricultural land use designation.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Existing onsite water resources will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter site is located in the Panhandle Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable: Minimal, existing permitted supply Panel Cleaning: Minimal and only in absence of sufficient rainfall.
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.
n.	**Water Conservation Strategies Under Consideration**	Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
q.	**Air Emissions and Control Systems**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE Permit: N/A Florida Environmental Resources Permit (ERP) received: Pending

Preferred Site #28 Apalachee Solar Energy Center, Jackson County

	Preferred Site	**Apalachee Solar Energy Center**
	County	**Jackson**
	Facility Acreage	**596**
	COD	**Q1 2023**
	For PV facilities: tracking or fixed	**Tracking**
	Reference Maps	
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.	**Existing Land Uses**	
	Site	Pine plantation
	Adjacent Areas	Agricultural lands
f.	**General Environment Features On and In the Site Vicinity**	
1.	Natural Environment	The site is predominantly comprised of coniferous pine plantation with freshwater herbaceous wetlands and a borrow pit
2.	Listed Species	Due to the existing disturbed nature of the site and lack of suitable onsite habitat, minimal, if any, impacts will occur to listed species. Prior to project commencement a 100% gopher tortoise survey will be conducted and a FWC permit will be obtained to relocate existing tortoises to an approved offsite recipient area, if burrows cannot be avoided.
3.	Natural Resources of Regional Significance Status	No natural resources of regional significance status at or adjacent to the site.
4.	Other Significant Features	FPL is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The design includes an approximately 74.5 MW solar tracking panel PV facility, on-site transmission substation, and site stormwater system. Mitigation for unavoidable impacts, if required, may occur through a combination of on- and off-site mitigation.
h.	**Local Government Future Land Use Designations**	Solar power generation is allowed within existing Agricultural land use designation.
i.	**Site Selection Criteria Factors**	The site selection criteria included system load, transmission interconnection, economics, and environmental compatibility (e.g., wetlands, wildlife, threatened and endangered species, etc.).
j.	**Water Resources**	Existing onsite water resources will be used to meet water requirements.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter site is located in the Panhandle Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable: Minimal, existing permitted supply Panel Cleaning: Minimal and only in absence of sufficient rainfall.
m.	**Water Supply Sources by Type**	Cooling: Not Applicable for Solar Process: Not Applicable for Solar Potable and Panel Cleaning: Delivered to Site by Truck or via existing permitted supply.
n.	**Water Conservation Strategies Under Consideration**	Solar (PV) does not require a permanent water source. Additional water conservation strategies include selection and planting of low-to-no irrigation grass or groundcover.
o.	**Water Discharges and Pollution Control**	Solar does not require fuel and no waste products will be generated at the site.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
q.	**Air Emissions and Control Systems**	Fuel - PV Solar energy generation does not use any type of combustion fuel, therefore there will be no air emissions or need for Control Systems. Combustion Control - Not Applicable Combustor Design - Not Applicable
r.	**Noise Emissions and Control Systems**	PV Solar energy generation does not emit noise therefore there will be no need for noise control systems.
s	**Status of Applications**	USACE 404 Permit received: N/A FDEP Environmental Resources Permit (ERP) received: Pending

Preferred Site #29 Turkey Point Units 6 & 7, Miami-Dade County

	Preferred Site	Turkey Point Units 6&7
	County	Miami-Dade
	Facility Acreage	**N/A**
	COD	**TBD**
	For PV facilities: tracking or fixed	**N/A**
		Reference Maps
a.	**USGS Map**	See Figures at the end of this chapter
b.	**Proposed Facilities Layout**	
c.	**Map of Site and Adjacent Areas**	
d.	**Land Use Map of site and Adjacent Areas**	
e.		**Existing Land Uses**
	Site	Electrical generating facilities
	Adjacent Areas	Undeveloped, the Everglades Mitigation Bank, South Florida Water Management District Canal L-31E, Biscayne Bay, and state-owned land on Card Sound
f.		**General Environment Features On and In the Site Vicinity**
1.	Natural Environment	The site includes hypersaline mud flats, man-made cooling canals and remnant canals, previously filled areas/roadways, mangrove heads associated with historical tidal channels, dwarf mangroves, open water/discharge canal associated with the cooling canals on the western portion of the site, spoil berms associated with remnant canals, and upland spoil areas.
2.	Listed Species	Listed species known to occur include the peregrine falcon, wood stork, American crocodile, roseate spoonbill, little blue heron, snowy egret, American oystercatcher, least tern, white ibis, Florida manatee, eastern indigo snake, snail kite, and white-crowned pigeon. Some listed flora species likely to occur include pine pink, Florida brickell-bush, Florida lantana, mullein nightshade, and Lamarck's trema. The construction and operation of Turkey Point Units 6 & 7 are not expected to adversely affect listed species.
3.	Natural Resources of Regional Significance Status	Significant features in the vicinity of the site include Biscayne Bay, Biscayne National Park, Biscayne Bay Aquatic Preserve, Miami-Dade County Homestead Bayfront Park, and Everglades National Park.
4.	Other Significant Features	FPL is not aware of any other significant features of the site.
g.	**Design Features and Mitigation Options**	The technology proposed is the Westinghouse AP1000 pressurized water reactor. This design is certified by the Nuclear Regulatory Commission under 10 CFR 52. The Westinghouse AP1000 consists of the reactor, steam generators, pressurizer, and steam turbine/electric generator. The projected generating capacity from each unit is 1,100 MW. Condenser cooling will use six circulating water cooling towers. The structures to be constructed include the containment building, shield building, auxiliary building, turbine building, annex building, diesel generator building, and radwaste building. The plant area will also contain the Clear Sky substation (switchyard) that will connect to FPL's transmission system.
h.	**Local Government Future Land Use Designations**	Current future land use designations include Industrial, Utilities, Communications, and Unlimited Manufacturing with a dual designation of Mangrove Protection Area. There are also areas of the site designated Interim District.
i.	**Site Selection Criteria Factors**	Site selection included the following criteria: existing transmission and transportation infrastructure to support new generation, the size and seclusion of the site while being relatively close to the load center, economics, and the long-standing record of safe and secure operation of nuclear generation at the site since the early 1970s.
j.	**Water Resources**	Water requirements will be met by reclaimed water from Miami-Dade County and a back-up supply of saline groundwater from below the marine environment of Biscayne Bay.
k.	**Geological Features of Site and Adjacent Areas**	See Figure at the end of this Chapter. The site is located in the South Florida region.
l.	**Project Water Quantities for Various Uses**	Cooling: 55.3 million gallons per day (mgd) Process: 1.3 mgd Potable: .05 mgd Panel Cleaning: Not Applicable
m.	**Water Supply Sources by Type**	Cooling: Miami-Dade reclaimed water and saline groundwater from Biscayne Bay via radial collector wells Process: Miami-Dade Water and Sewer Department Potable: Miami-Dade Water and Sewer Department
n.	**Water Conservation Strategies Under Consideration**	Turkey Point Units 6 & 7 will use reclaimed water 24 hours per day, 365 days per year when operating and when the reclaimed water is available in sufficient quantity and quality.
o.	**Water Discharges and Pollution Control**	Blowdown water or discharge from the cooling towers, along with other waste streams, will be injected into the boulder zone of the Floridan Aquifer. Non-point source discharges are not an issue since there will be none at this facility. Storm water runoff will be released to the closed-loop cooling canal system.
p.	**Fuel Delivery, Storage, Waste Disposal, and Pollution Control**	The Turkey Point Units 6 & 7 reactors will contain enriched uranium fuel assemblies. Fuel assemblies will be transported to Turkey Point for use in Units 6 & 7 by truck from a fuel fabrication facility in accordance with U.S. Department of Transportation and NRC regulations. Spent fuel being discharged will remain in the permitted spent fuel pool while short half-life isotopes decay. After a sufficient decay period, the fuel would be transferred to an on-site independent spent fuel storage installation facility or a permitted off-site disposal facility. Packaging of the fuel for off-site shipment will comply with the applicable DOT and NRC regulations for transportation of radioactive material. The U.S. Department of Energy is responsible for spent fuel transportation from reactor sites to a repository under the Nuclear Waste Policy Act of 1982, as amended. FPL has executed a standard spent nuclear fuel disposal contract with DOE for fuel used in Units 6 & 7.
q.	**Air Emissions and Control Systems**	Fuel - The units will minimize FPL system air pollutant emissions by using nuclear fuel to generate electric power. Combustion Control / Combustor Design - Not Applicable Note: The diesel engines necessary to support Turkey Point Units 6 & 7 and fire pump engines will be purchased from manufacturers whose engines meet the EPA's New Source Performance Standards Subpart IIII emission limits.
r.	**Noise Emissions and Control Systems**	Predicted noise levels associated with these projects are not expected to result in adverse noise impacts in the vicinity of the site.
s	**Status of Applications**	Need Determination Issued: April 2008 FL Site Certification Received: May 14, 2014 USACE Section 404 Permit: December 18, 2019 COL received: April 5, 2018 Miami-Dade County Unusual Use approvals: issued in 2007 and 2013 Land Use Consistency Determination: issued in 2013 Prevention of Significant Deterioration: issued in 2009

IV.G.2 Potential Sites

There are 10 Potential Sites that have currently been identified for future generation and storage additions to meet projected capacity and energy needs. [14] Each of these Potential Sites offers a range of considerations relative to engineering and/or costs associated with the construction and operation of feasible technologies. In addition, each Potential Site has different characteristics that would require further definition and attention. Unless otherwise noted, the water quantities discussed below are in reference to universal solar PV generation rather than for gas-fueled generation.

Permits are presently considered to be obtainable for each of these sites. No significant environmental constraints are currently known for any of these sites. At this time, FPL and Gulf consider each site to be equally viable. These Potential Sites are briefly discussed below.

Table IV.G.2: List of FPL & Gulf Potential Sites

Site Name	County	Technology
FPL Area		
Etonia Creek Solar Energy Center	Putnam	Solar
Little Pine Solar Energy Center	Baker	Solar
Terrill Creek Solar Energy Center	Clay	Solar
Timber Trail Solar Energy Center	Putnam	Solar
Pink Trail Solar Energy Center	St. Lucie	Solar
Gulf Area		
Chautauqua Solar Energy Center	Walton	Solar
Wild Azalea Solar Energy Center	Gadsden	Solar
Shirer Branch Solar Energy Center	Calhoun	Solar
Wild Quail Solar Energy Center	Walton	Solar
Cypress Pond Solar Energy Center	Washington	Solar

[1] As has been described in previous FPL Site Plans, a number of other locations are also possible sites for future generation additions. These include the remainder of FPL's and Gulf's existing generation sites and other greenfield sites. Specific greenfield sites may not be specifically identified as Potential Sites in order to protect the economic interests of the utility and its customers.

FPL Area Potential Site # 1: Etonia Creek Solar Energy Center

This potential site in Putnam County is under evaluation for future PV.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

Site is silviculture surrounded by agricultural land and low density residential.

c. Environmental Features

Site is predominately silviculture with some forested wetland. No adverse impacts to listed species are anticipated.

d. Water Quantities Required

Cooling: Not Applicable for PV.

Process: Not Applicable for PV.

Potable: Minimal for PV.

Panel Cleaning: Minimal for PV and only needed in the absence of sufficient rainfall.

e. Supply Sources

Cooling: Not Applicable for PV.

Process: Not Applicable for PV.

Potable: Not Applicable for PV.

Panel Cleaning: Trucked in if and when needed for PV.

FPL Area Potential Site # 2: Little Pine Solar Energy Center

This potential site in Baker County is under evaluation for future PV.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

Site is primarily fallow pine plantation surrounded by agricultural land, low density residential, and conservation lands.

c. Environmental Features

Site is predominately fallow cropland with some forested wetland. Site is located adjacent to publicly owned conservation lands. No adverse impacts to listed species are anticipated.

d. Water Quantities Required

Cooling: Not Applicable for PV.

Process: Not Applicable for PV.

Potable: Minimal for PV.

Panel Cleaning: Minimal for PV and only needed in the absence of sufficient rainfall.

e. Supply Sources

Cooling: Not Applicable for PV.

Process: Not Applicable for PV.

Potable: Not Applicable for PV.

Panel Cleaning: Trucked in if and when needed for PV.

FPL Area Potential Site # 3: Terrill Creek Solar Energy Center

This potential site in Clay County is under evaluation for future PV.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

Site is primarily fallow pine plantation surrounded by agricultural land, low density residential, and conservation lands.

c. Environmental Features

Site is predominately fallow cropland with some forested wetland. Site is located adjacent to publicly owned conservation lands. No adverse impacts to listed species are anticipated.

d. Water Quantities Required

Cooling: Not Applicable for PV.

Process: Not Applicable for PV.

Potable: Minimal for PV.

Panel Cleaning: Minimal for PV and only needed in the absence of sufficient rainfall.

e. Supply Sources

Cooling: Not Applicable for PV.

Process: Not Applicable for PV.

Potable: Not Applicable for PV.

Panel Cleaning: Trucked in if and when needed for PV.

FPL Area Potential Site # 4: Timber Trail Solar Energy Center

This potential site in Putnam County is under evaluation for future PV.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

Site is primarily silviculture surrounded by agricultural land, low density residential, and forested wetland.

c. Environmental Features

Site is predominately silviculture with some forested wetland. No adverse impacts to listed species are anticipated.

d. Water Quantities Required

Cooling: Not Applicable for PV.

Process: Not Applicable for PV.

Potable: Minimal for PV.

Panel Cleaning: Minimal for PV and only needed in the absence of sufficient rainfall.

e. Supply Sources

Cooling: Not Applicable for PV.

Process: Not Applicable for PV.

Potable: Not Applicable for PV.

Panel Cleaning: Trucked in if and when needed for PV.

FPL Area Potential Site # 5: Pink Trail Solar Energy Center

This potential site in St. Lucie County is under evaluation for future PV.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

Site is primarily fallow crop land surrounded by agricultural land.

c. Environmental Features

Site is predominately fallow cropland with some herbaceous wetland. No adverse impacts to listed species are anticipated.

d. Water Quantities Required

Cooling: Not Applicable for PV.

Process: Not Applicable for PV.

Potable: Minimal for PV.

Panel Cleaning: Minimal for PV and only needed in the absence of sufficient rainfall.

e. Supply Sources

Cooling: Not Applicable for PV.

Process: Not Applicable for PV.

Potable: Not Applicable for PV.

Panel Cleaning: Trucked in if and when needed for PV.

Gulf Area Potential Site # 1: Chautauqua Solar Energy Center

This potential site in Walton County is under evaluation for future PV.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

Site is primarily crop land surrounded by agricultural land and low density residential.

c. Environmental Features

Site is predominately cropland with some forested wetland. No adverse impacts to listed species are anticipated.

d. Water Quantities Required

Cooling: Not Applicable for PV.

Process: Not Applicable for PV.

Potable: Minimal for PV.

Panel Cleaning: Minimal for PV and only needed in the absence of sufficient rainfall.

e. Supply Sources

Cooling: Not Applicable for PV.

Process: Not Applicable for PV.

Potable: Not Applicable for PV.

Panel Cleaning: Trucked in if and when needed for PV.

Gulf Area Potential Site # 2: Wild Azalea Solar Energy Center

This potential site in Gadsden County is under evaluation for future PV.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

Site is primarily silviculture surrounded by agricultural land and low density residential.

c. Environmental Features

Site is predominately silviculture with some forested wetland. No adverse impacts to listed species are anticipated.

d. Water Quantities Required

Cooling: Not Applicable for PV.

Process: Not Applicable for PV.

Potable: Minimal for PV.

Panel Cleaning: Minimal for PV and only needed in the absence of sufficient rainfall.

e. Supply Sources

Cooling: Not Applicable for PV.

Process: Not Applicable for PV.

Potable: Not Applicable for PV.

Panel Cleaning: Trucked in if and when needed for PV.

Gulf Area Potential Site # 3: Shirer Branch Solar Energy Center

This potential site in Calhoun County is under evaluation for future PV.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

Site is primarily silviculture with forested wetlands surrounded by agricultural, low density residential, and conservation lands.

c. Environmental Features

Site is predominately silviculture with some forested wetland. Site is located adjacent to conservation lands. No adverse impacts to listed species are anticipated.

d. Water Quantities Required

Cooling: Not Applicable for PV.

Process: Not Applicable for PV.

Potable: Minimal for PV.

Panel Cleaning: Minimal for PV and only needed in the absence of sufficient rainfall.

e. Supply Sources

Cooling: Not Applicable for PV.

Process: Not Applicable for PV.

Potable: Not Applicable for PV.

Panel Cleaning: Trucked in if and when needed for PV.

Gulf Area Potential Site # 4: Wild Quail Solar Energy Center

This potential site in Walton County is under evaluation for future PV.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

Site is primarily silviculture surrounded by agricultural land, silviculture, and conservation lands.

c. Environmental Features

Site is predominately silviculture with some forested wetland. No adverse impacts to listed species are anticipated.

d. Water Quantities Required

Cooling: Not Applicable for PV.

Process: Not Applicable for PV.

Potable: Minimal for PV.

Panel Cleaning: Minimal for PV and only needed in the absence of sufficient rainfall.

e. Supply Sources

Cooling: Not Applicable for PV.

Process: Not Applicable for PV.

Potable: Not Applicable for PV.

Panel Cleaning: Trucked in if and when needed for PV.

Gulf Area Potential Site # 5: Cypress Pond Solar Energy Center

This potential site in Washington County is under evaluation for future PV.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

The site is active silviculture operation surrounded by silviculture, low density residential, and conservation lands.

c. Environmental Features

Site is predominately silviculture operation with forested and herbaceous wetland systems. Site is located adjacent to conservation lands. No impacts to listed species are anticipated

d. Water Quantities Required

Cooling: Not Applicable for PV.

Process: Not Applicable for PV.

Potable: Minimal for PV.

Panel Cleaning: Minimal for PV and only needed in the absence of sufficient rainfall.

e. Supply Sources

Cooling: Not Applicable for PV.

Process: Not Applicable for PV.

Potable: Not Applicable for PV.

Panel Cleaning: Trucked in if and when needed for PV.

Environmental and Land Use Information:
Supplemental Information

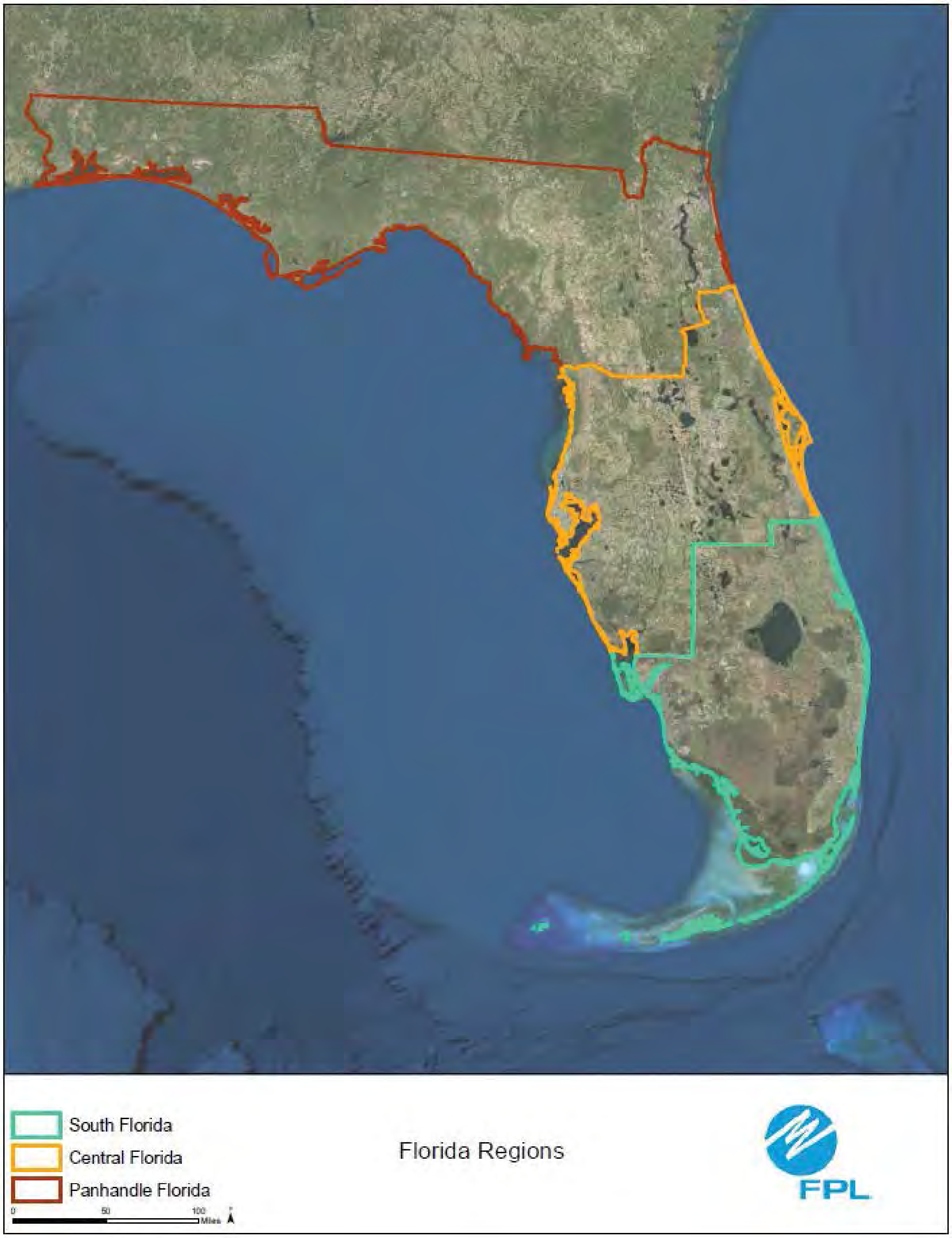
Relationship of Regional Hydrogeologic Units to Major Stratigraphic Units and Florida Regions

Relationship of Regional Hydrogeologic Units to Major Stratigraphic Units

		Panhandle Florida		North Florida		South Florida	
System	**Series**	**Stratigraphic Unit**	**Hydrogeologic Unit**	**Stratigraphic Unit**	**Hydrogeologic Unit**	**Stratigraphic Unit**	**Hydrogeologic Unit**
Quaternary	Holocene	Undifferentiated terrace marine and fluvial deposits	Surficial aquifer system (Sand and Gravel aquifer)	Undifferentiated terrace marine and fluvial deposits	Surficial aquifer system	Terrace Deposits Miami Limestone Key Largo Limestone Anastasia Formation Fort Thompson Formation Caloosahatchee Marl	Surficial aquifer system (Biscayne aquifer)
	Pleistocene						
Tertiary	Pilocene	Citronelle Formation Undifferentiated coarse sand and gravel		Miccosukee Formation Alachua Formation		Tamiami Formation	
	Miocene	Alum Bluff Group Pensacola Clay Intracoastal Formation Hawthorn Group Chipola Formation Bruce Creek Limestone St. Marks Formation Chattahoochee Formation	Intermediate confining unit	Hawthorn Group St. Marks Formation	Intermediate aquifer system or intermediate confining unit	Hawthorn Group	Intermediate aquifer system or intermediate confining unit
	Oligocene	Chickasawhay Limestone Suwannee Limestone Marianna Limestone Bucatunna Clay	Floridan aquifer system	Suwannee Limestone	Floridan aquifer system	Suwannee Limestone	Floridan aquifer system
	Eocene	Ocala Limestone Lisbon Formation Tallahatta Formation Undifferentiated older Rocks		Ocala Limestone Avon Park Formation Oldsmar Formation		Ocala Limestone Avon Park Formation Oldsmar Formation	
	Paleocene	Undifferentiated	Sub-Floridan confining unit	Cedar Keys Formation		Cedar Keys Formation	Sub-Floridan confining unit
Cretaceous and older		Undifferentiated		Undifferentiated	Sub-Floridan confining unit		

Note: This information is referred to in subsection k, Geological Features of Site and Adjacent Areas, for each of the Preferred Sites.

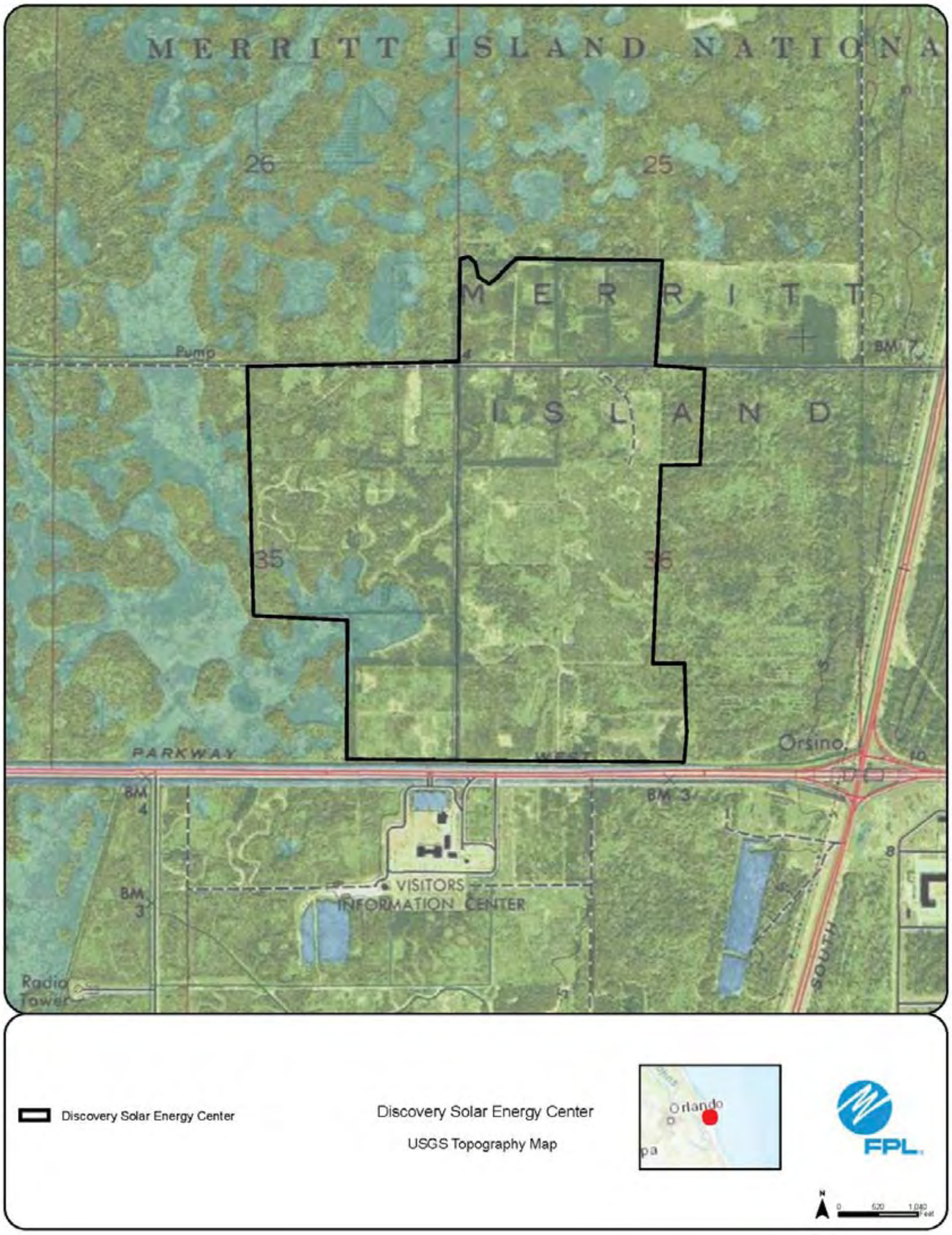
Florida Regions Map

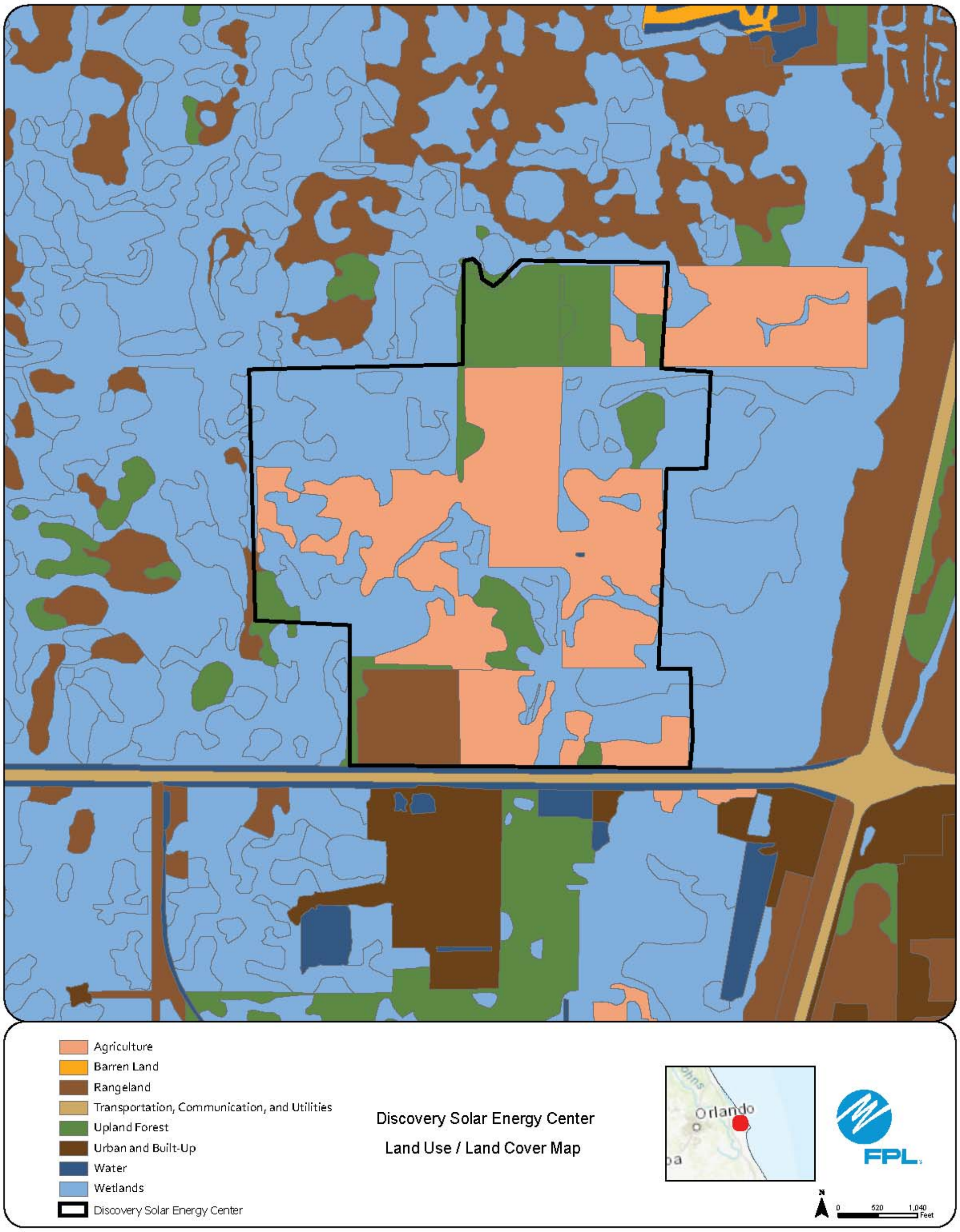


Note: This information is referred to in subsection k, Geological Features of Site and Adjacent Areas, for each of the Preferred Sites.

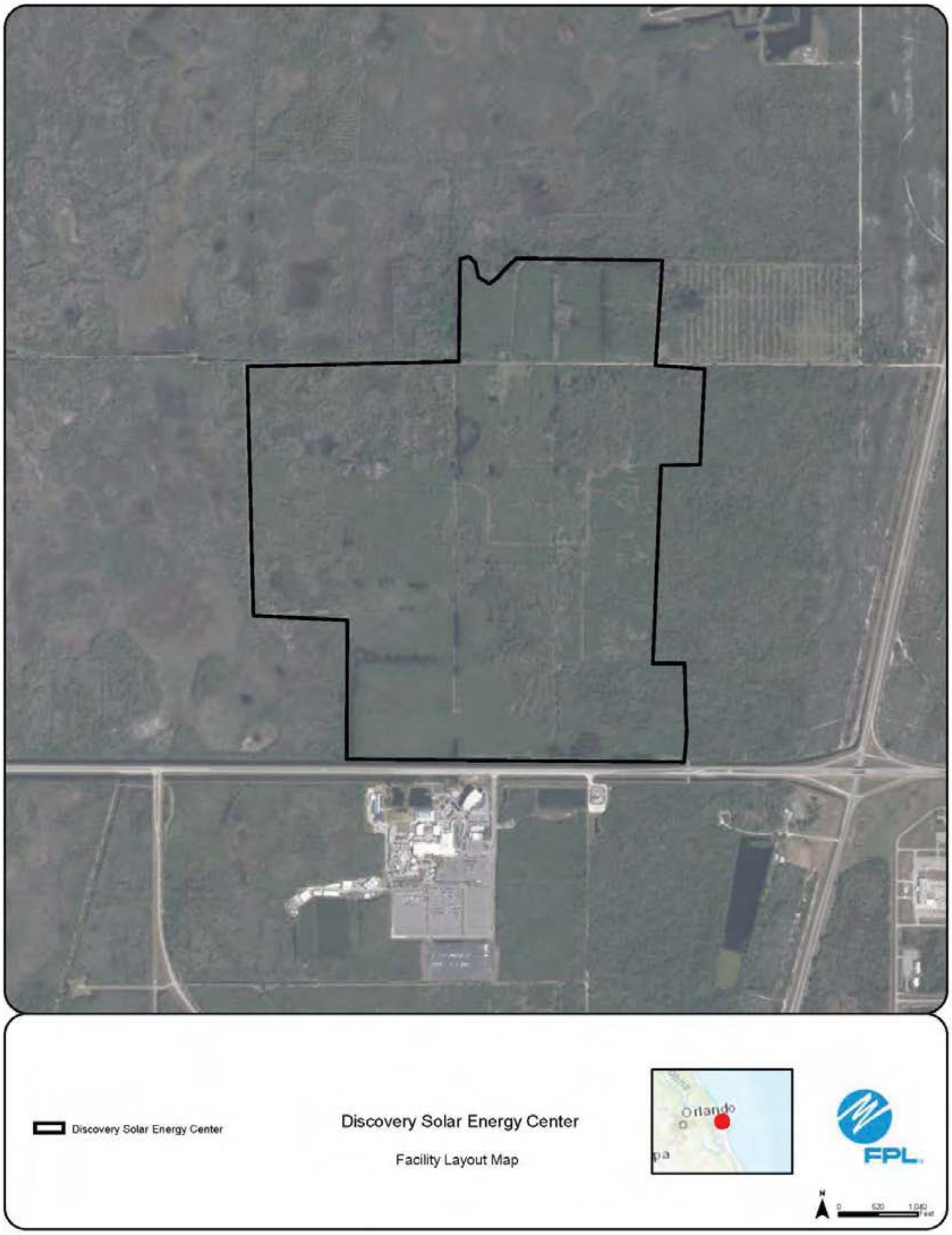
Environmental and Land Use Information: Supplemental Information

Preferred Site # 1: Discovery Solar Energy Center, Brevard County


MERRITT ISLAND NATIONA
26
25
MERRITT
ISLAND
Pump
BM 7
35
36
PARKWAY
WEST
Orsino
BM 4
BM 3
VISITORS
INFORMATION CENTER
BM 3
Radio Tower
SOUTH
Discovery Solar Energy Center
Discovery Solar Energy Center
USGS Topography Map
Orlando
FPL
N
0 520 1,040 Feet

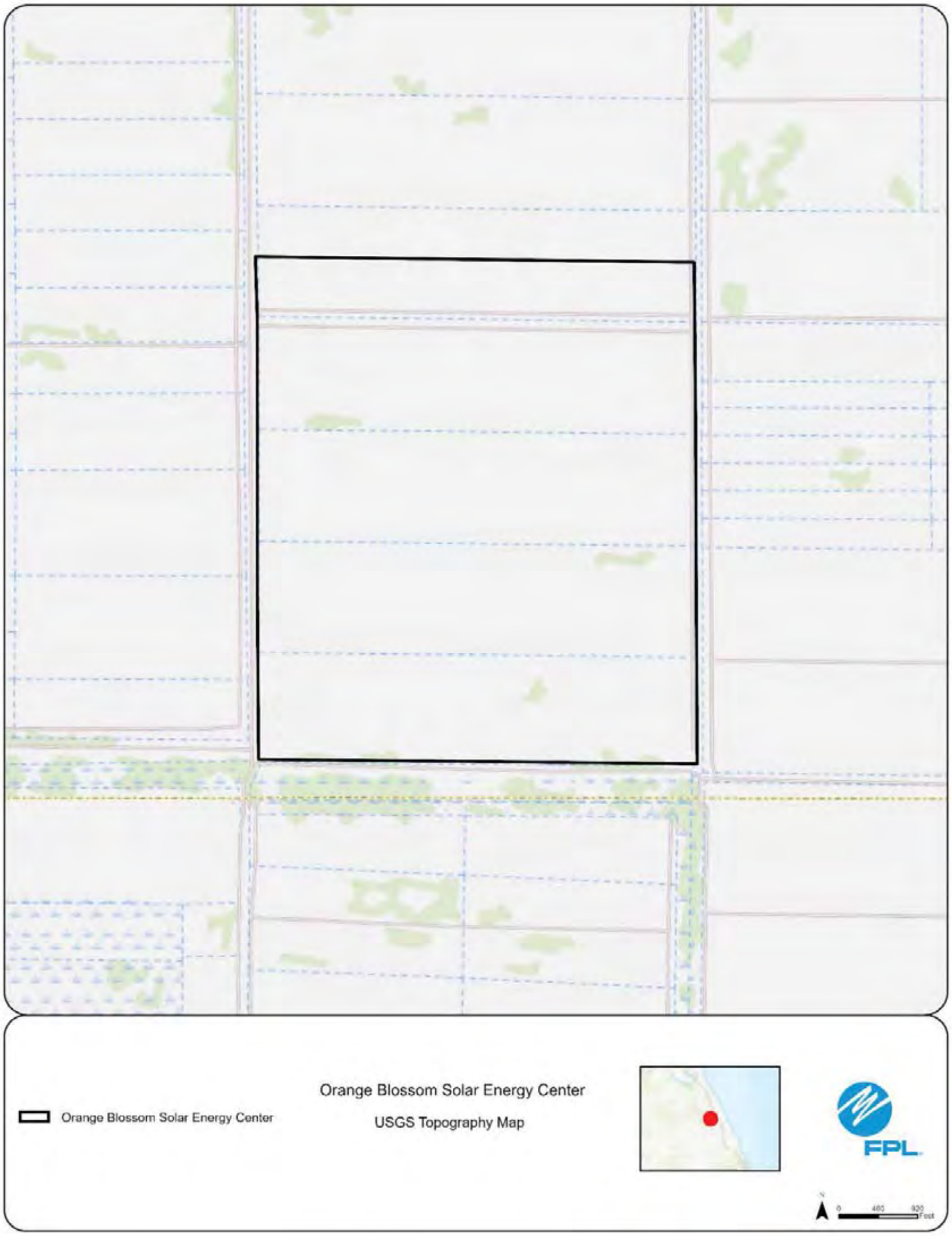


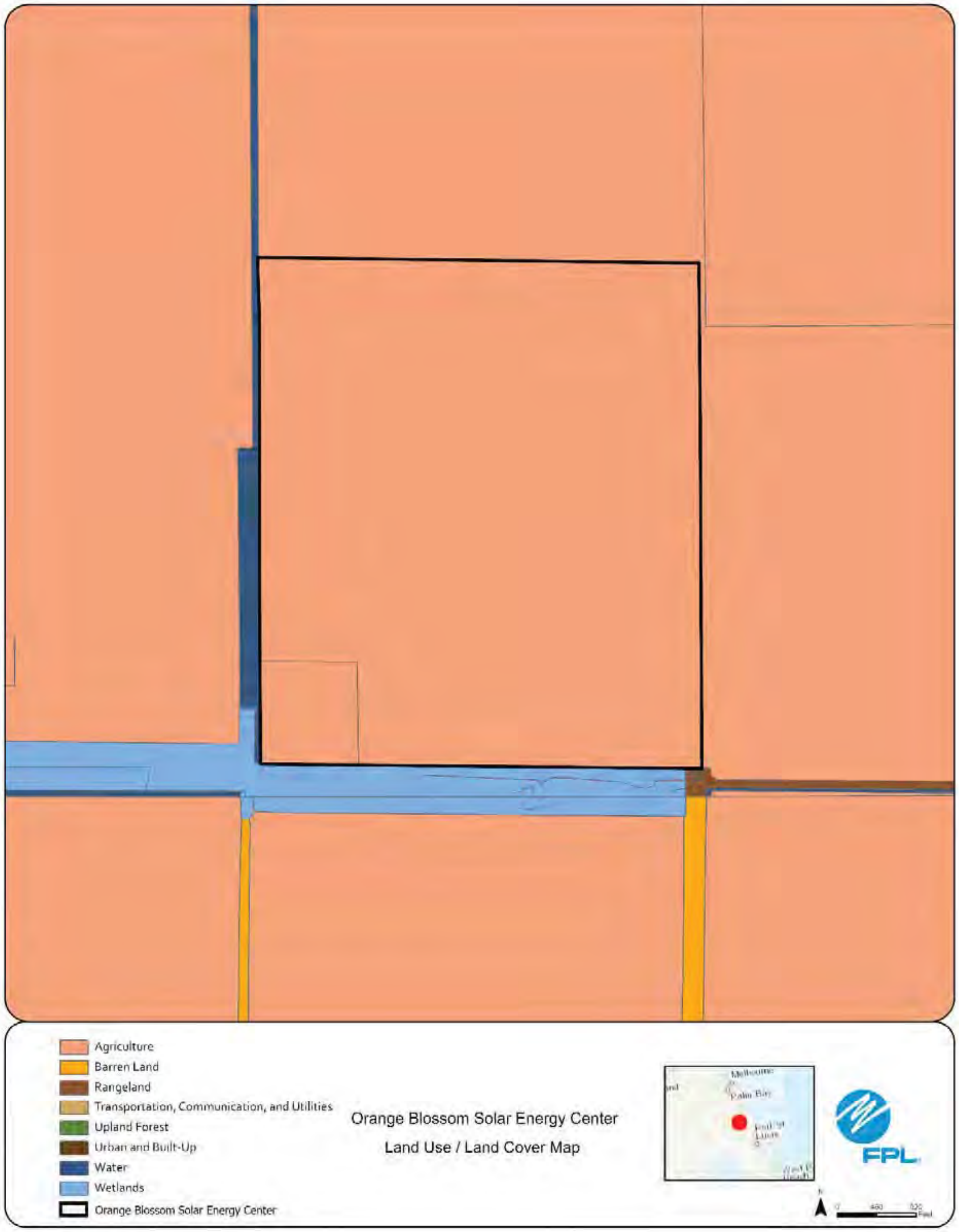
Discovery Solar Energy Center
Land Use / Land Cover Map

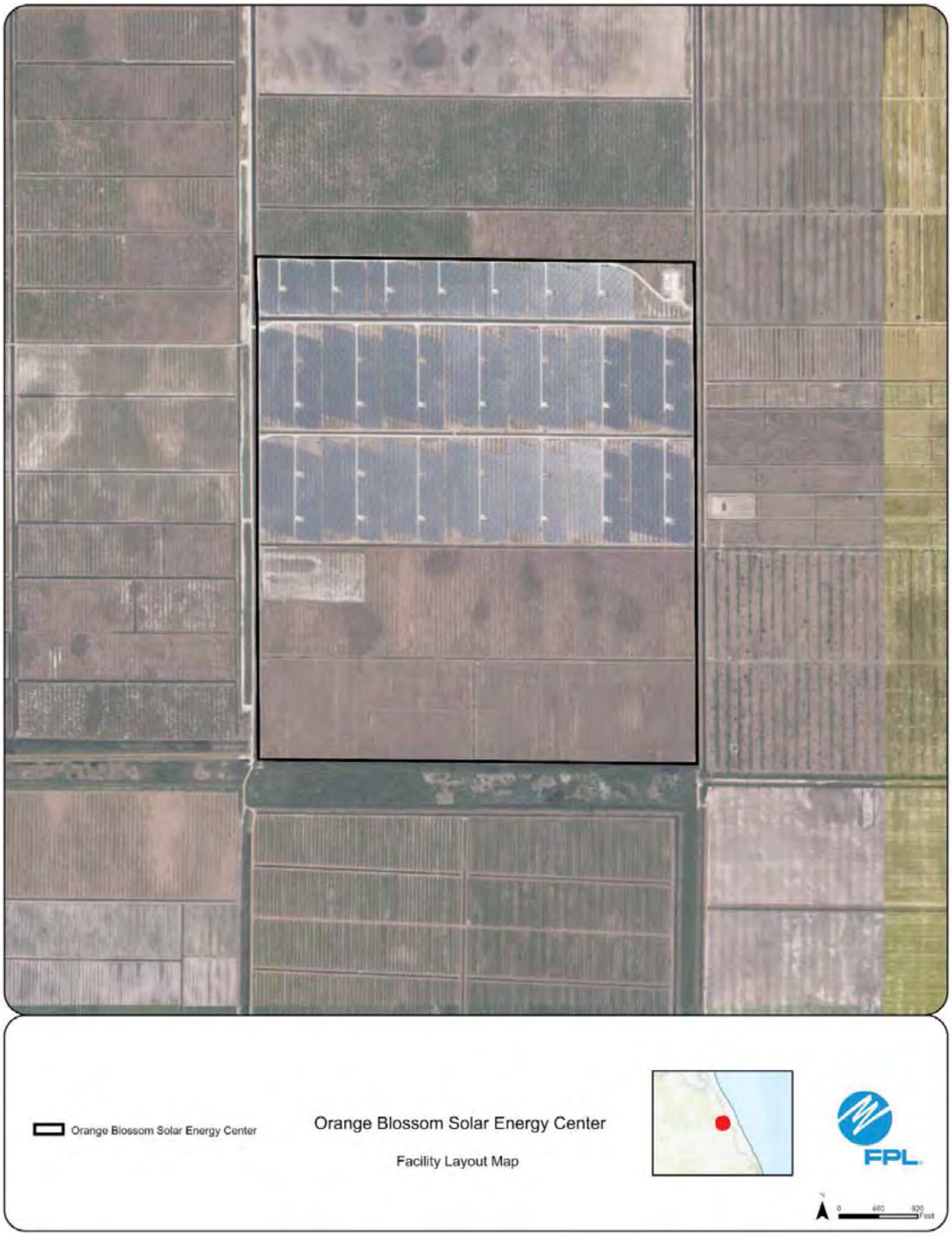

Discovery Solar Energy Center
Discovery Solar Energy Center
Facility Layout Map
Orlando
FPL
N
0
520
1,040
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 2: Orange Blossom Solar Energy Center, Indian River County

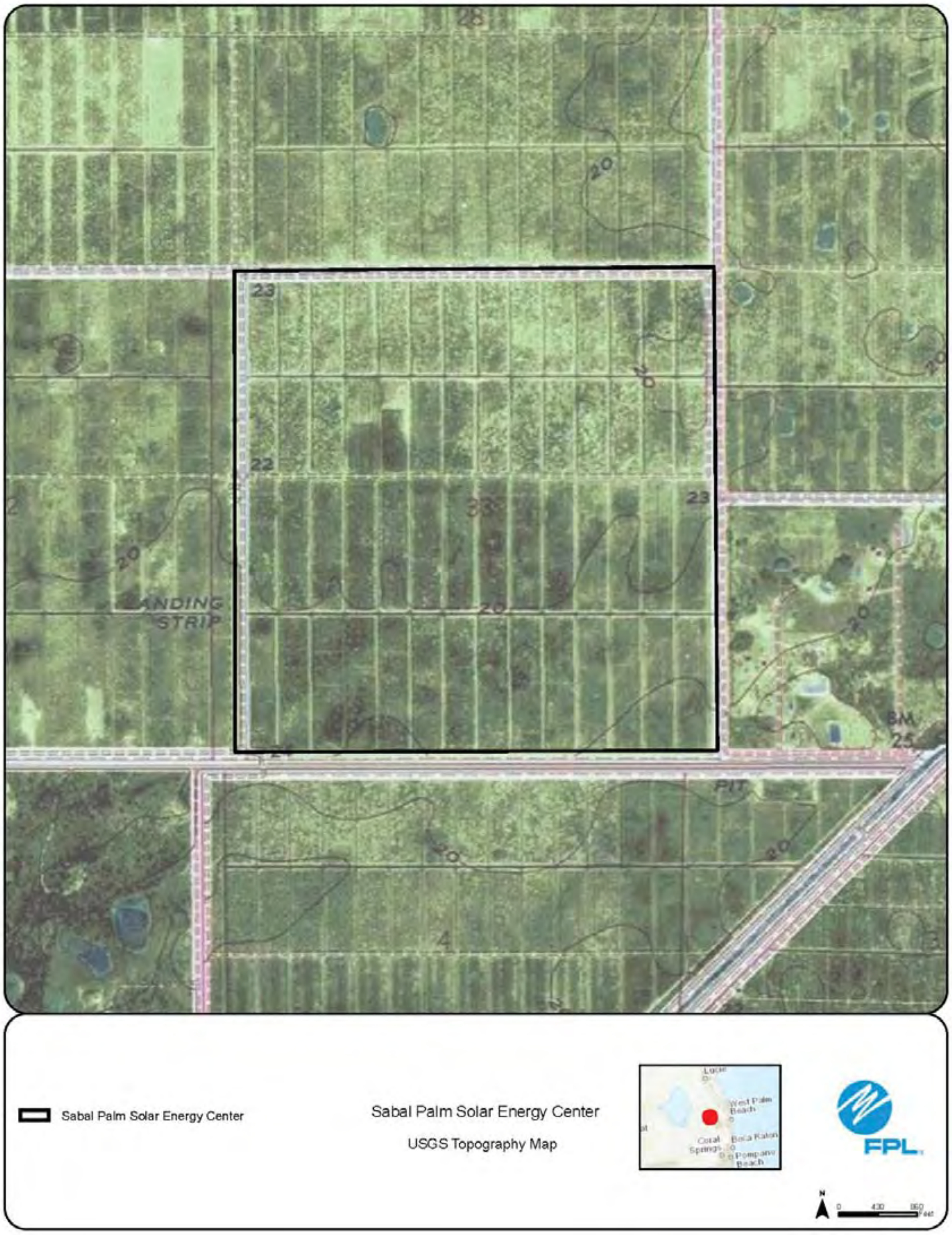

Orange Blossom Solar Energy Center
Orange Blossom Solar Energy Center
USGS Topography Map
FPL
N
0
460
920
Feet

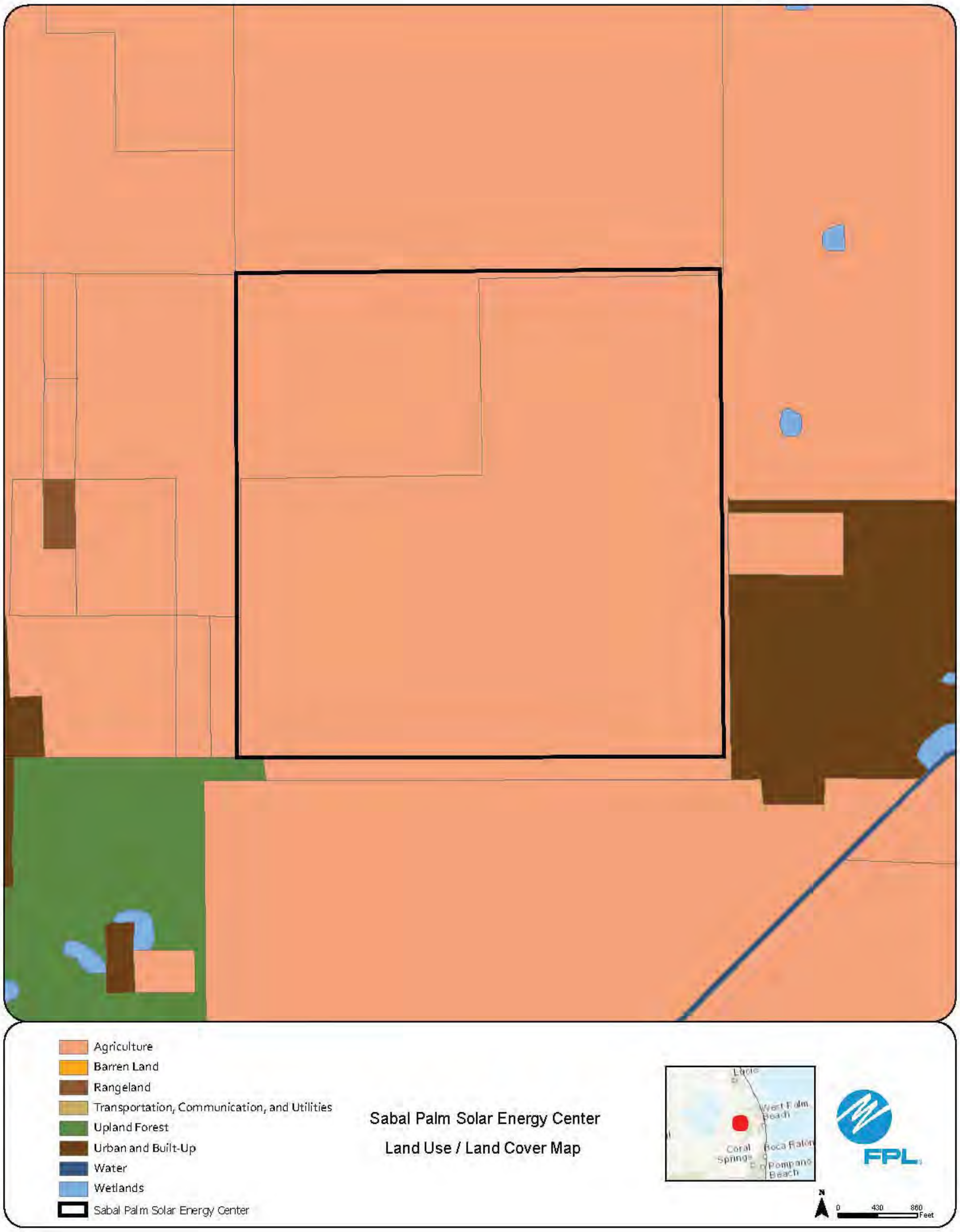

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Orange Blossom Solar Energy Center
Orange Blossom Solar Energy Center
Land Use / Land Cover Map
FPL


Orange Blossom Solar Energy Center
Orange Blossom Solar Energy Center
Facility Layout Map
FPL

Environmental and Land Use Information: Supplemental Information

Preferred Site # 3: Sabal Palm Solar Energy Center, Palm Beach County


23
22
23
20
LANDING STRIP
PIT
BM 25
4
Sabal Palm Solar Energy Center
Sabal Palm Solar Energy Center
USGS Topography Map
West Palm Beach
Coral Springs
Boca Raton
Pompano Beach
FPL
N
0
430
860


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Sabal Palm Solar Energy Center
Sabal Palm Solar Energy Center
Land Use / Land Cover Map
West Palm Beach
Coral Springs
Boca Raton
Pompano Beach
FPL
N
0
430
860
Feet

Sabal Palm Solar Energy Center

Sabal Palm Solar Energy Center

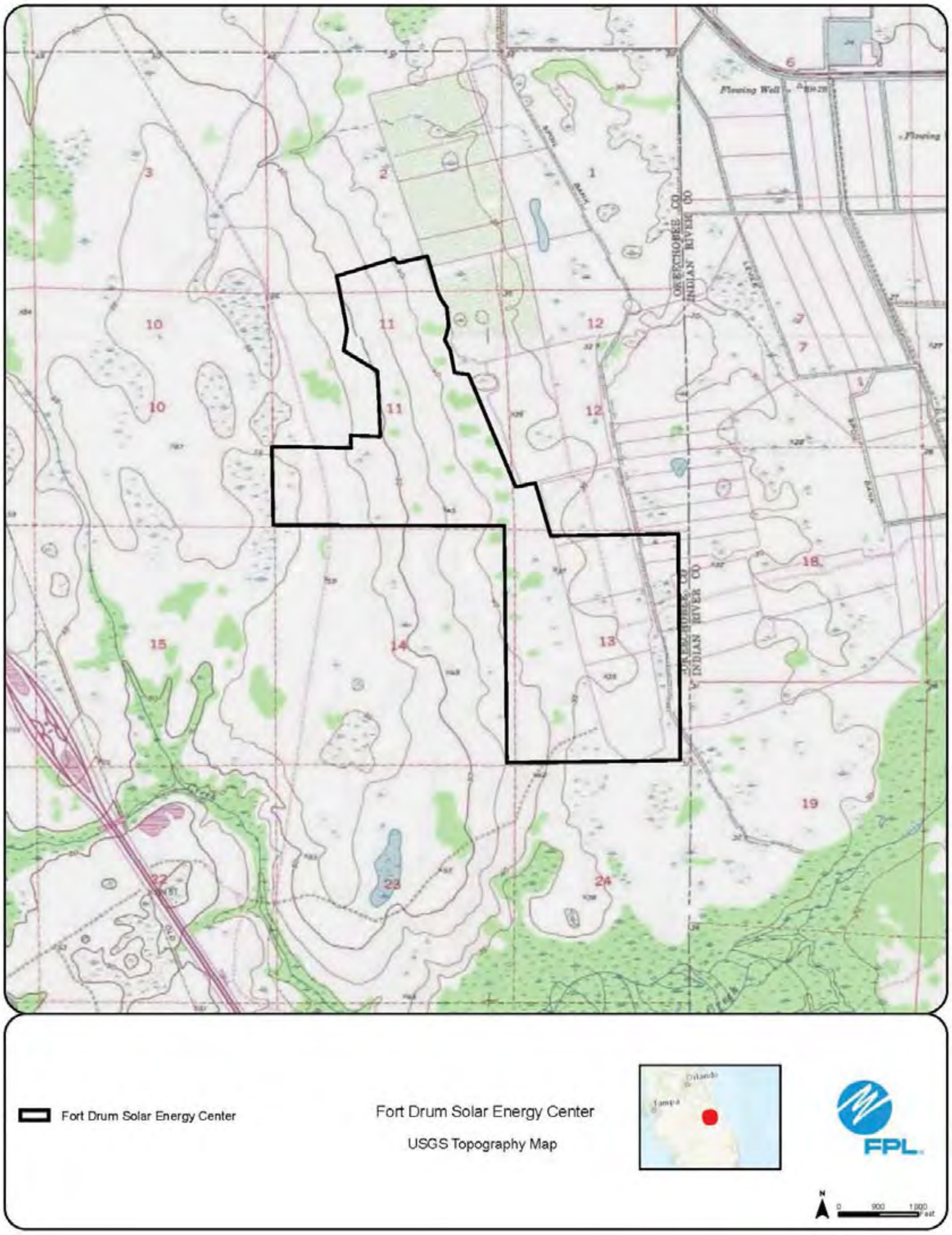
Facility Layout Map

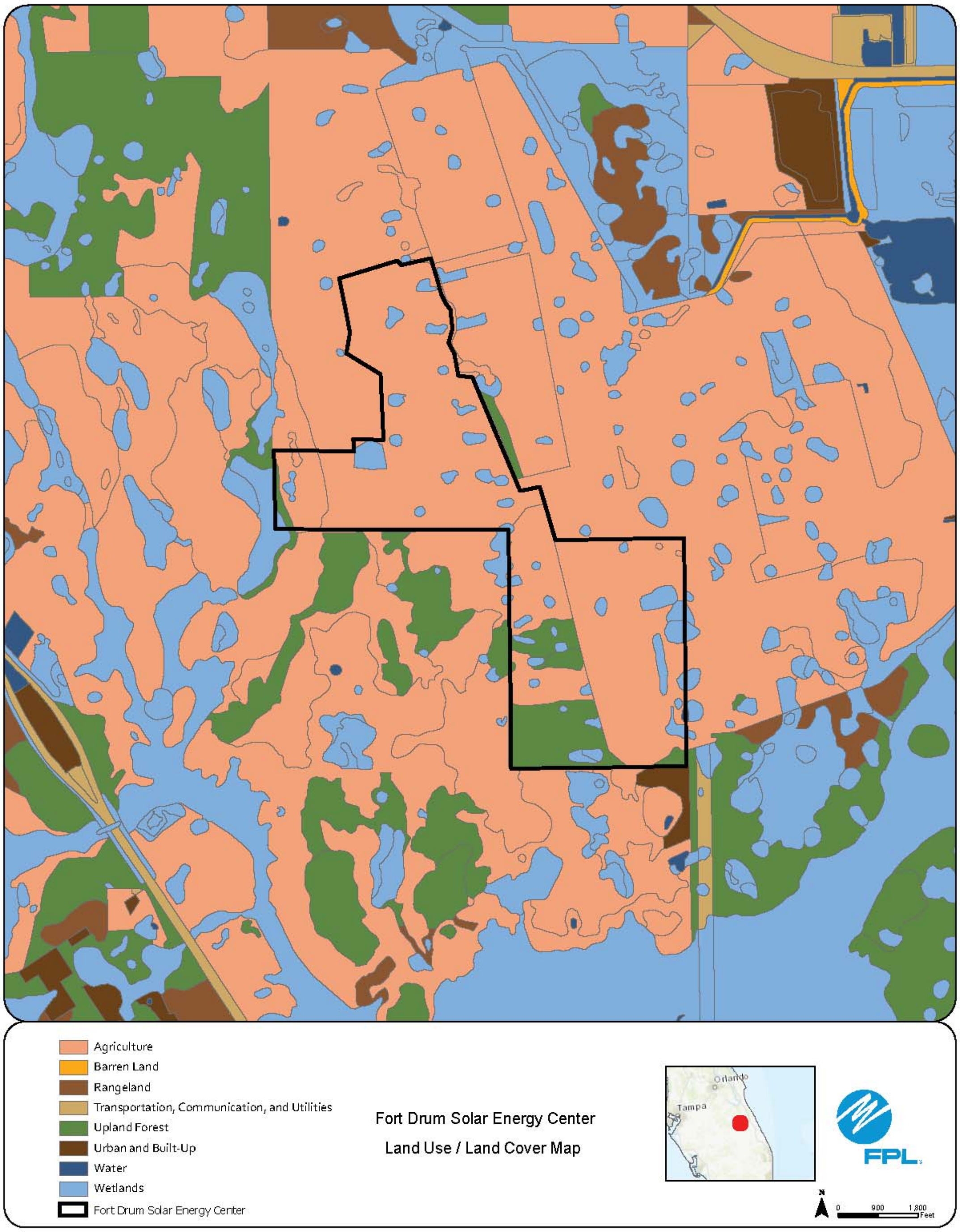
N

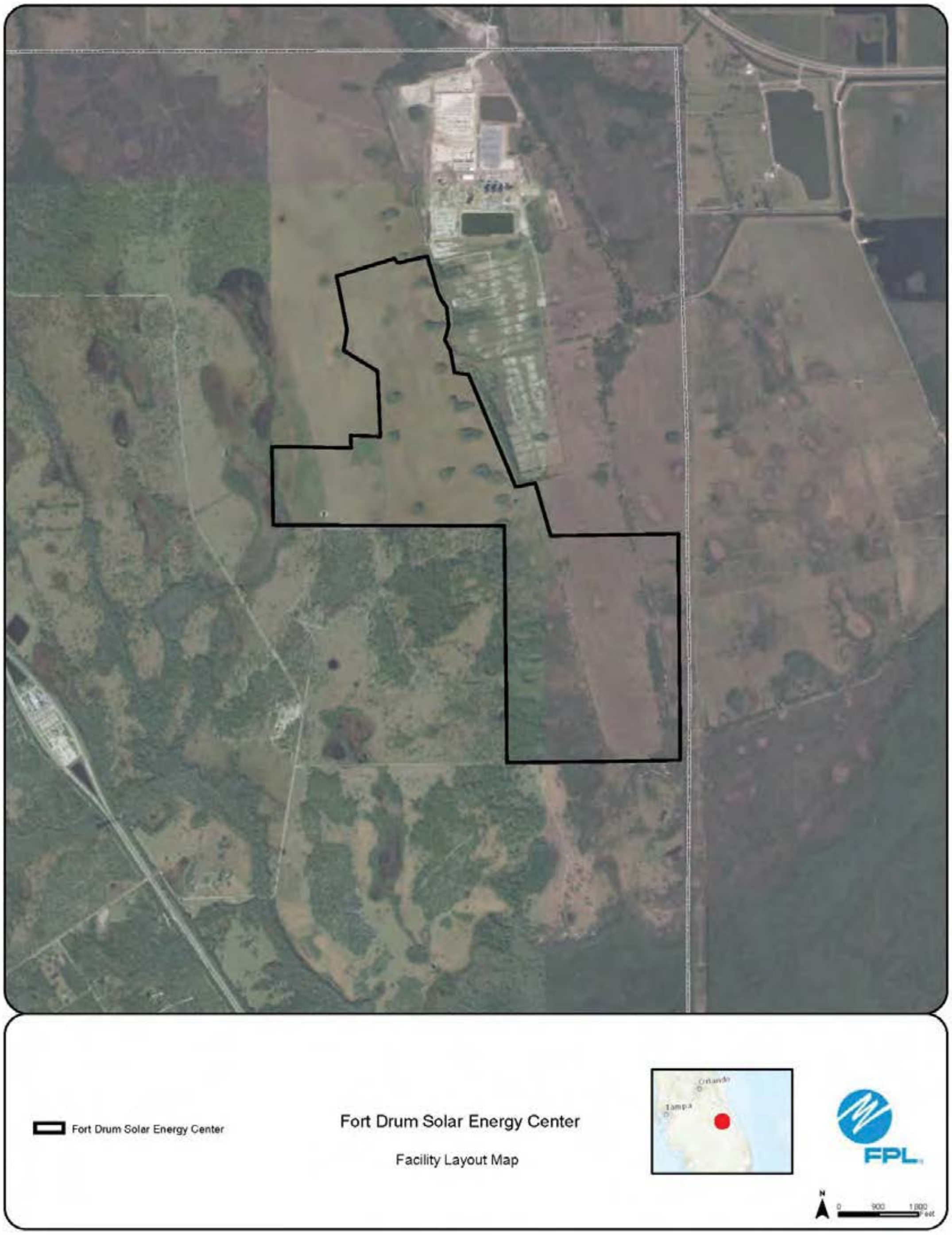
0 430 860 Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 4: Fort Drum Solar Energy Center, Okeechobee County

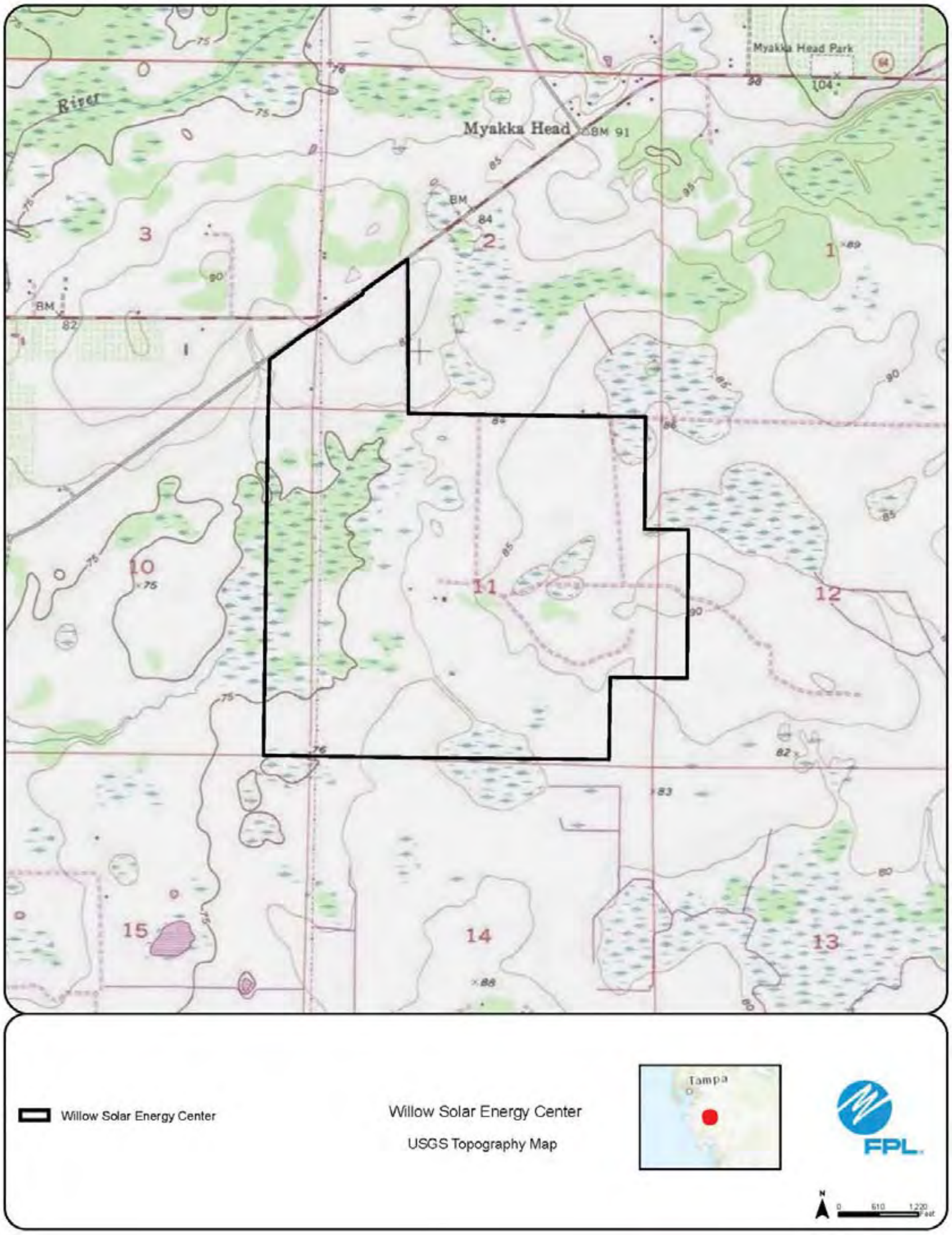

Fort Drum Solar Energy Center
Fort Drum Solar Energy Center
USGS Topography Map
OKEECHOBEE CO
INDIAN RIVER CO
Flowing Well
FPL

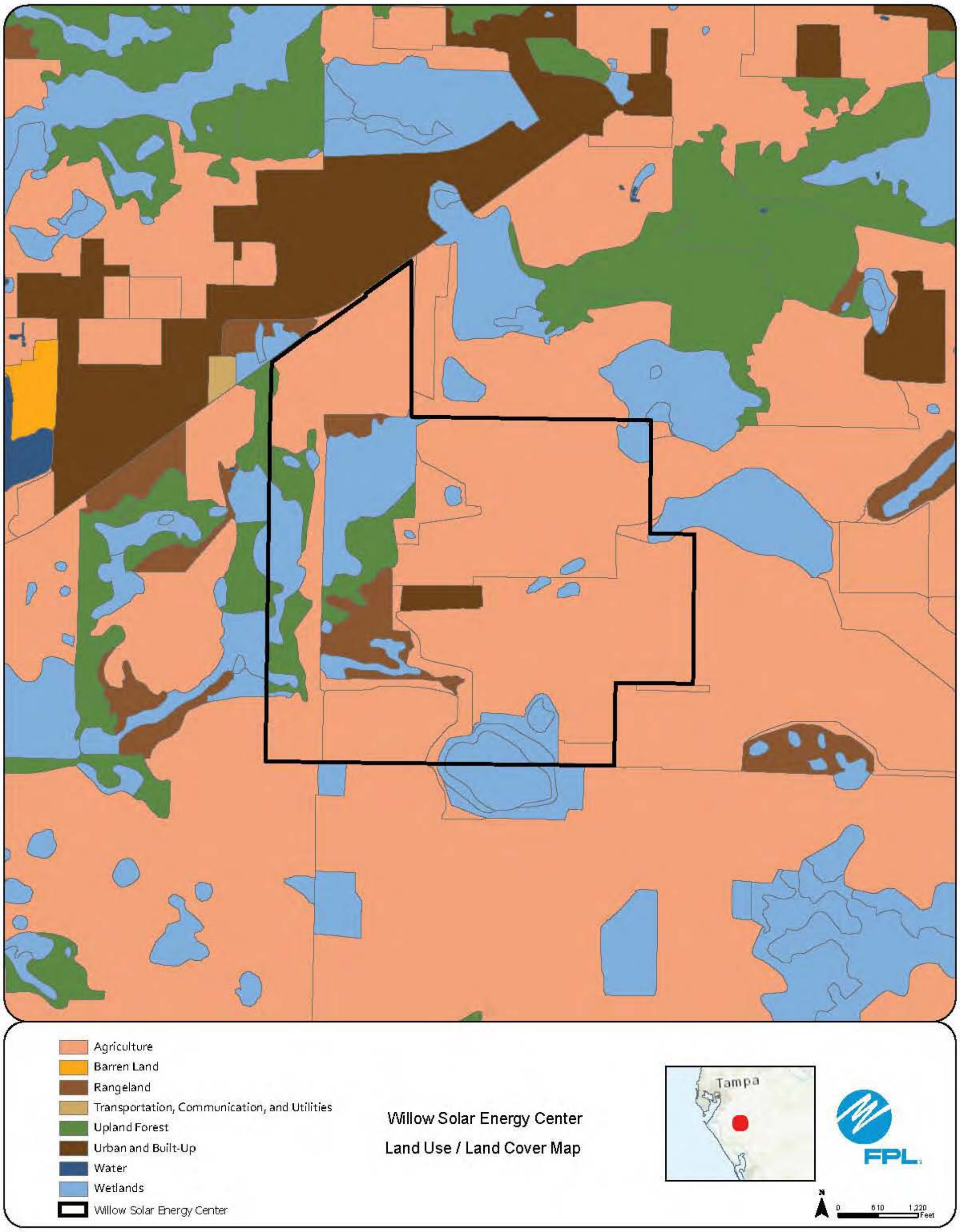

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Fort Drum Solar Energy Center
Fort Drum Solar Energy Center
Land Use / Land Cover Map
Orlando
Tampa
FPL
0
900
1,800
Feet

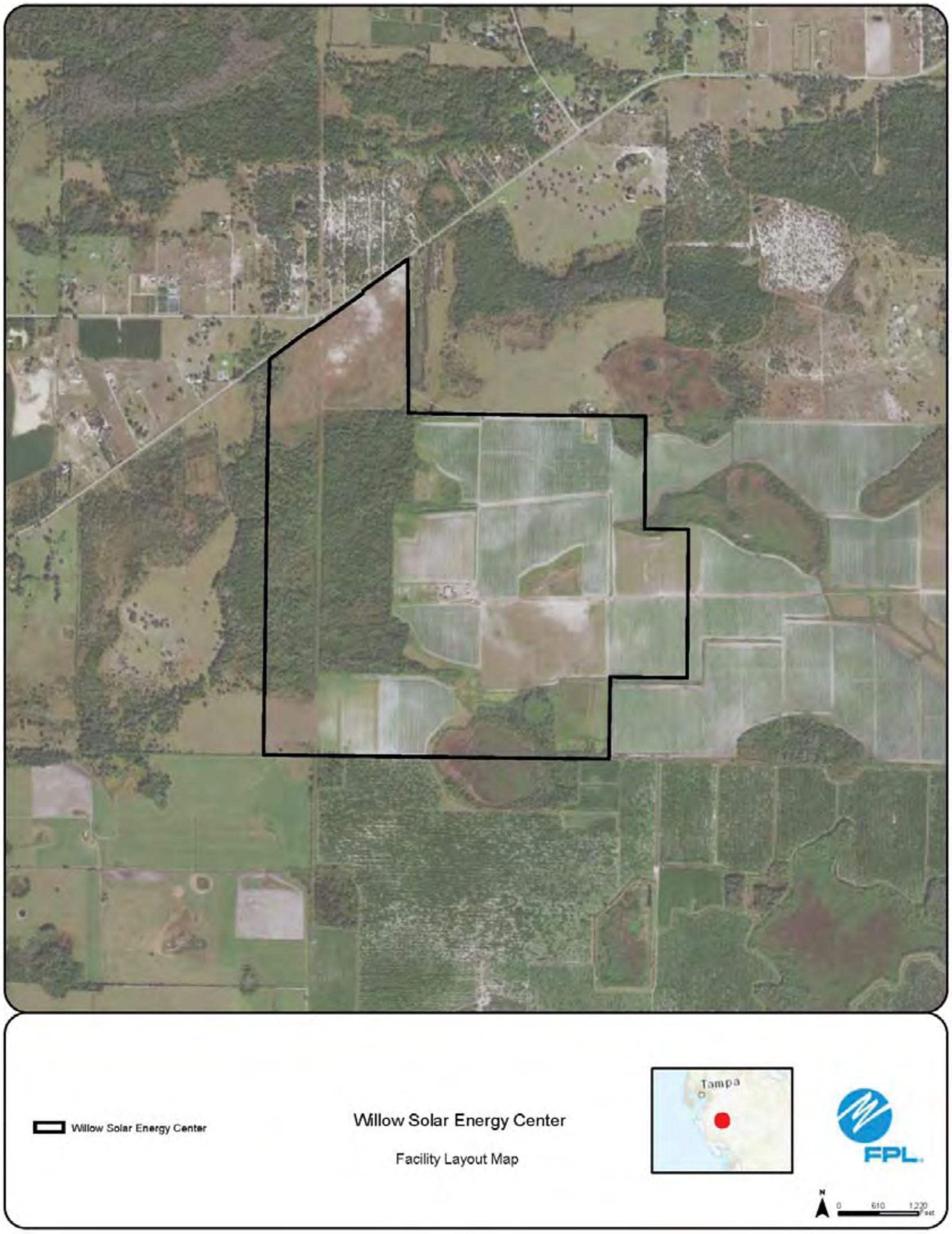

Fort Drum Solar Energy Center
Fort Drum Solar Energy Center
Facility Layout Map
Orlando
Tampa
FPL
N
0
900
1,800
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 5: Willow Solar Energy Center, Manatee County


Myakka Head Park
Myakka Head
River
Willow Solar Energy Center
Willow Solar Energy Center
USGS Topography Map
Tampa
FPL

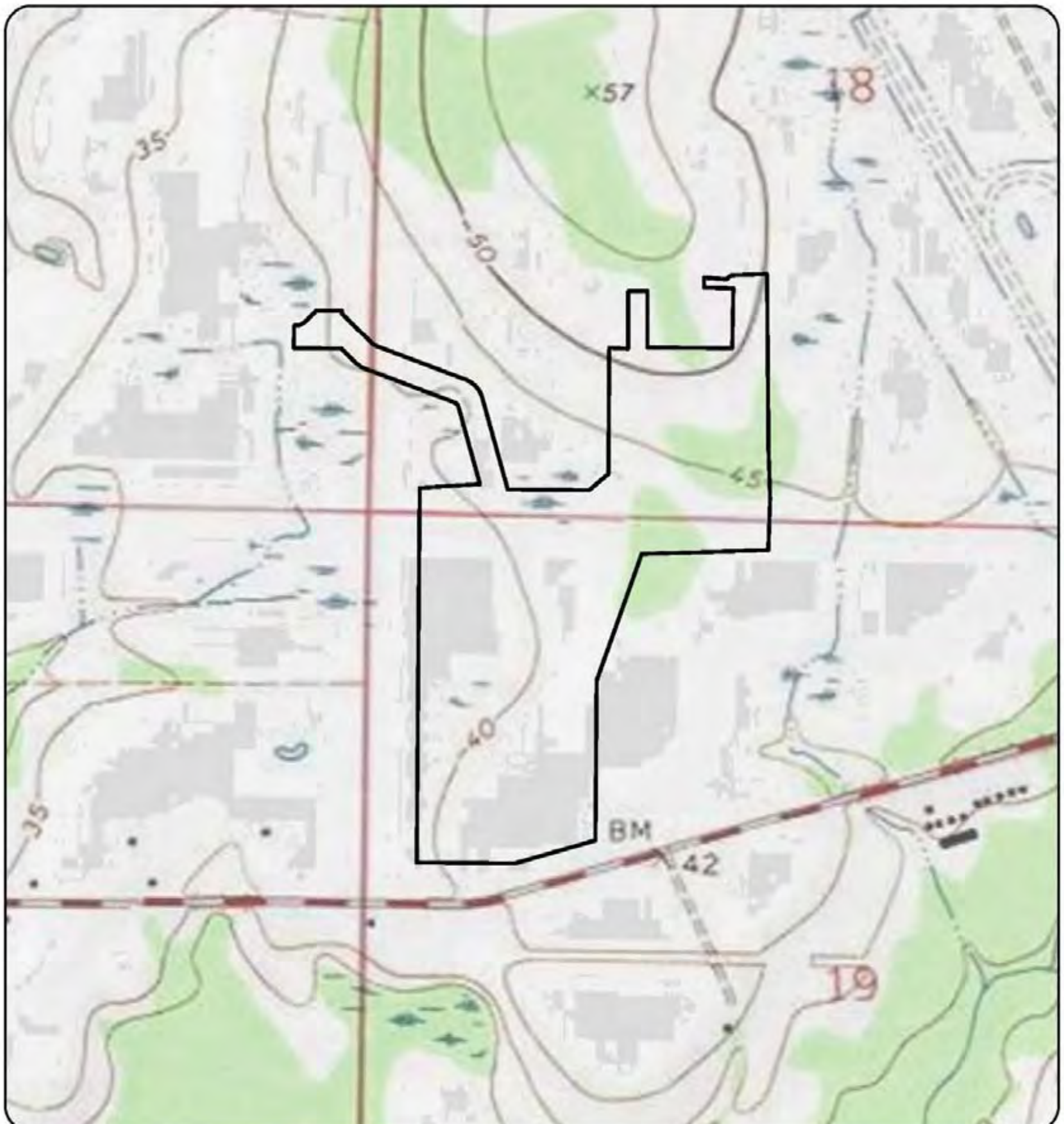

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Willow Solar Energy Center
Willow Solar Energy Center
Land Use / Land Cover Map
Tampa
FPL
0
610
1,220
Feet



Willow Solar Energy Center
Willow Solar Energy Center
Facility Layout Map
Tampa
FPL

Environmental and Land Use Information: Supplemental Information

Preferred Site # 6: Manatee Battery Energy Center, Manatee County



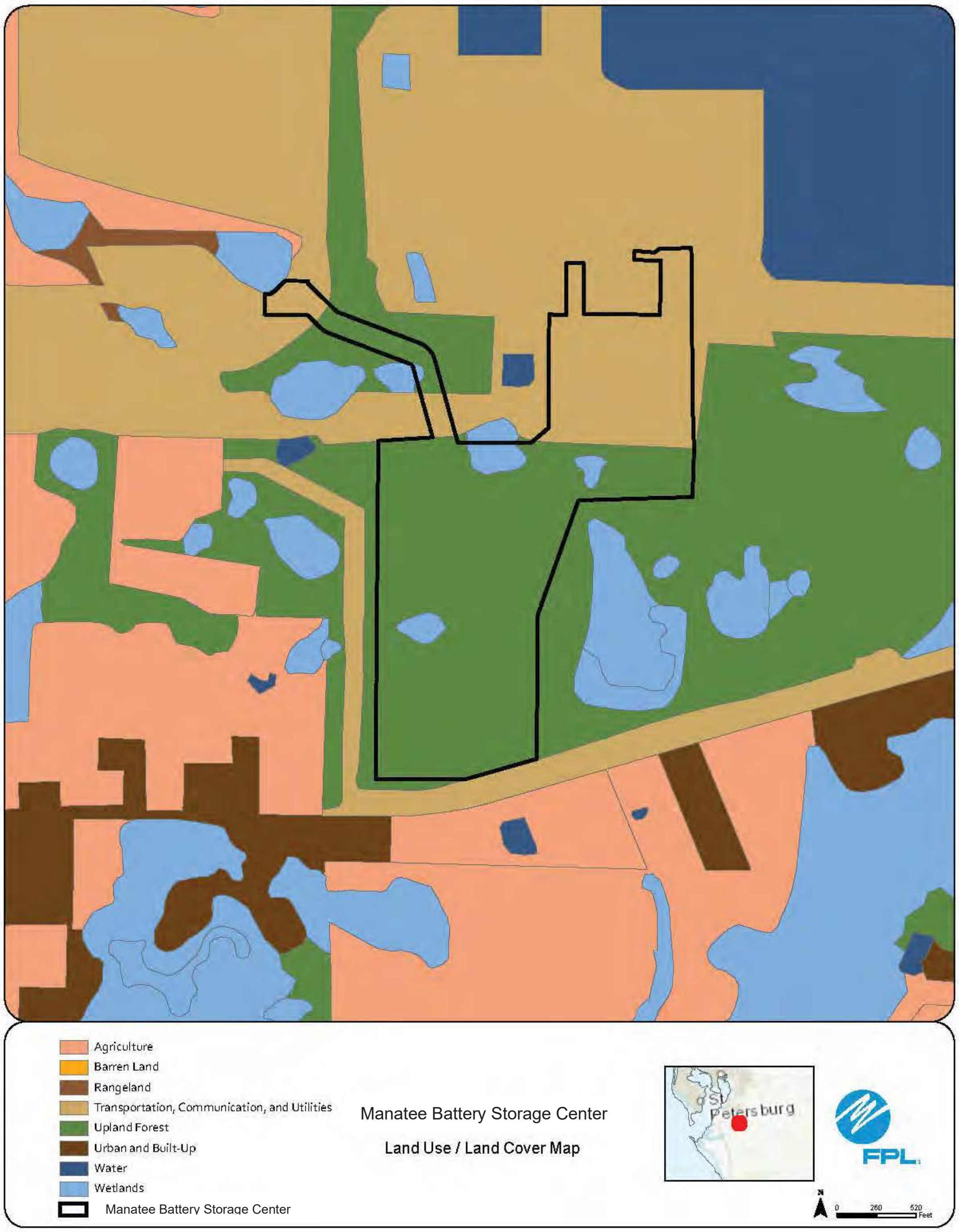
Manatee Battery Storage Center

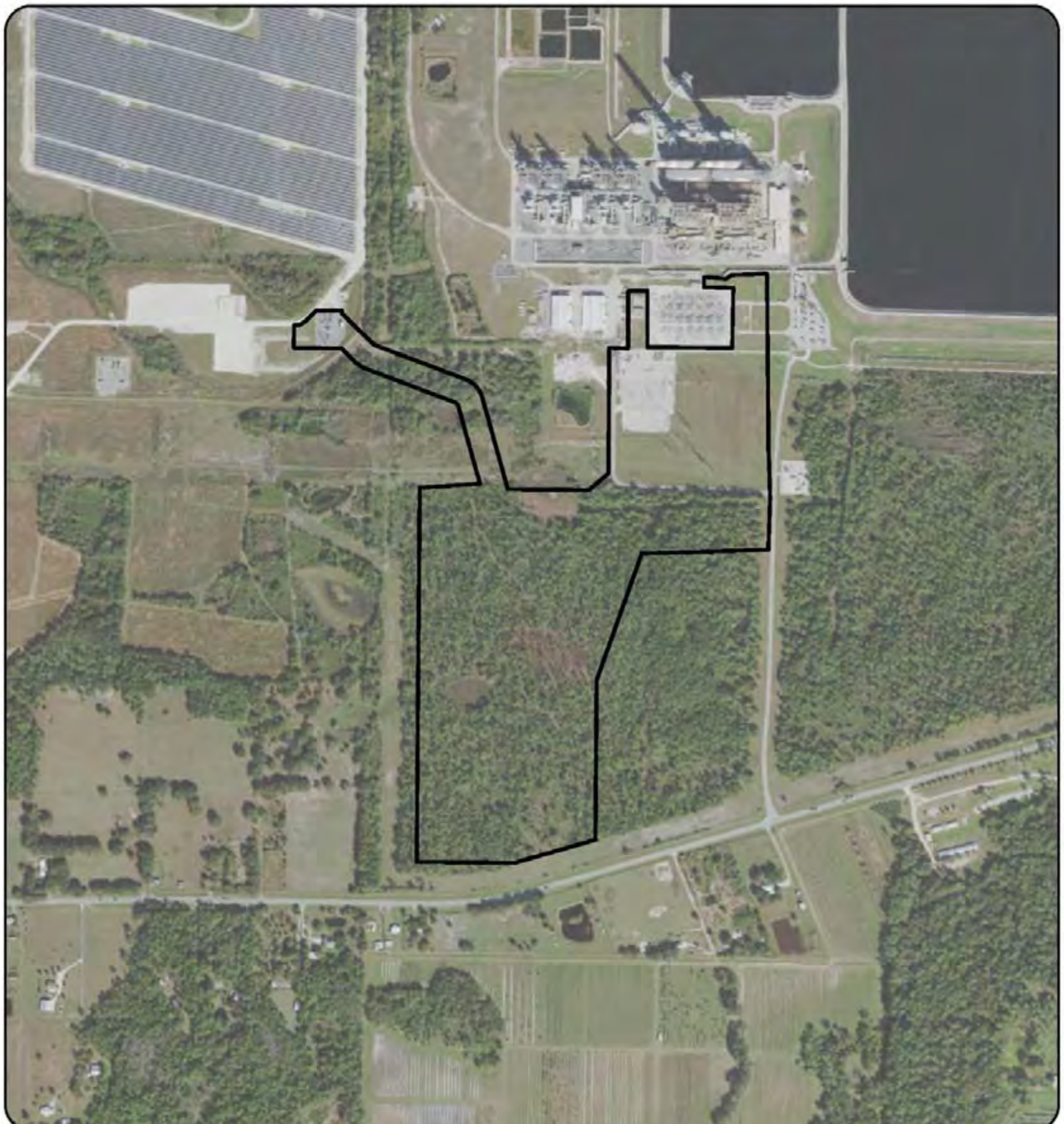
Manatee Battery Storage Center

USGS Topography Map

FPL

N
0 260 520 Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Manatee Battery Storage Center
Manatee Battery Storage Center
Land Use / Land Cover Map
FPL
N
0
260
520
Feet



Manatee Battery Storage Center

Manatee Battery Storage Center

Facility Layout Map

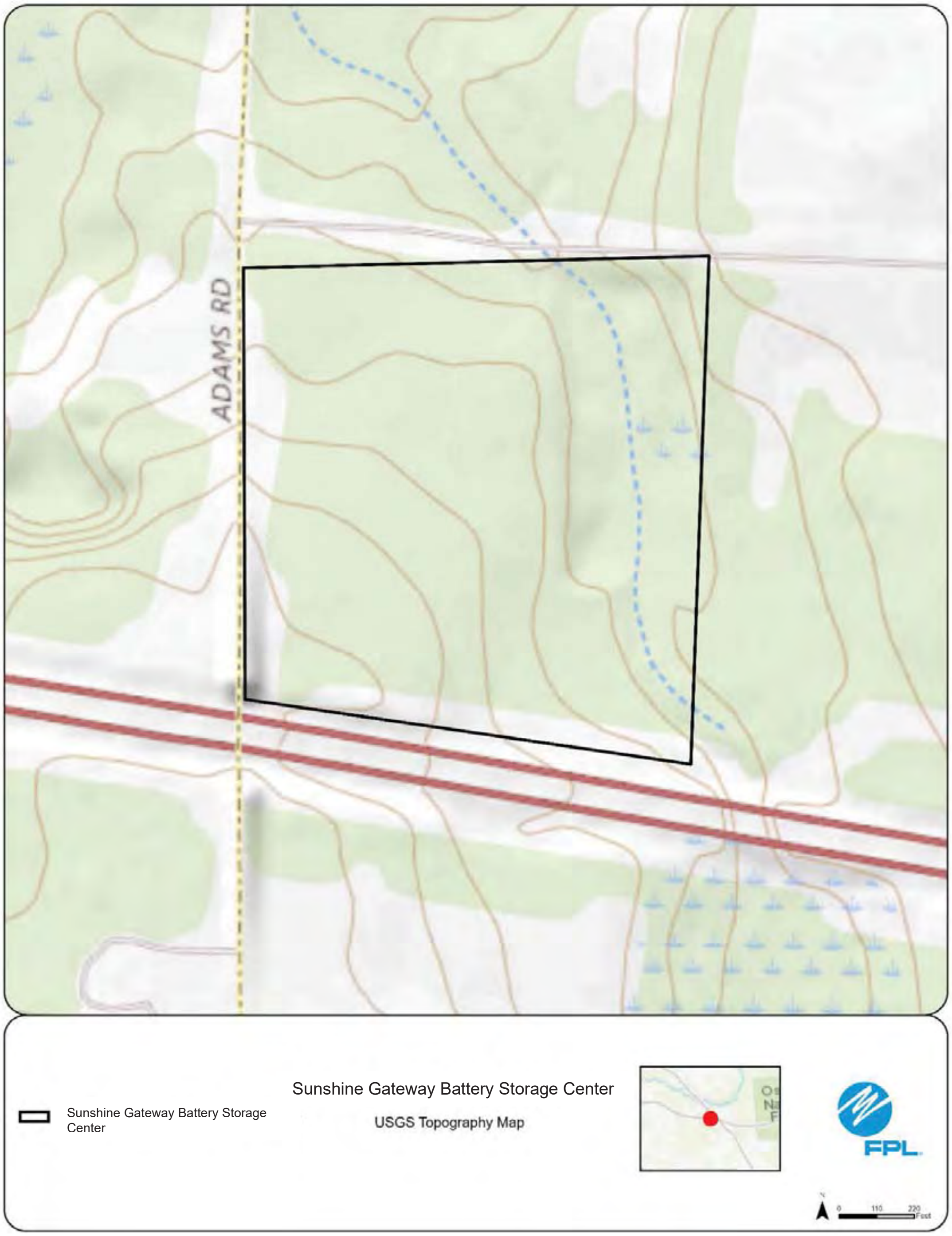
FPL.

N

0 260 520 Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 7: Sunshine Gateway Battery Energy Center, Columbia County


ADAMS RD
Sunshine Gateway Battery Storage Center
Sunshine Gateway Battery Storage Center
USGS Topography Map
FPL
0
110
220
Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Sunshine Gateway Battery Storage Center
Sunshine Gateway Battery Storage Center
Land Use / Land Cover Map
FPL
0
110
220
Feet

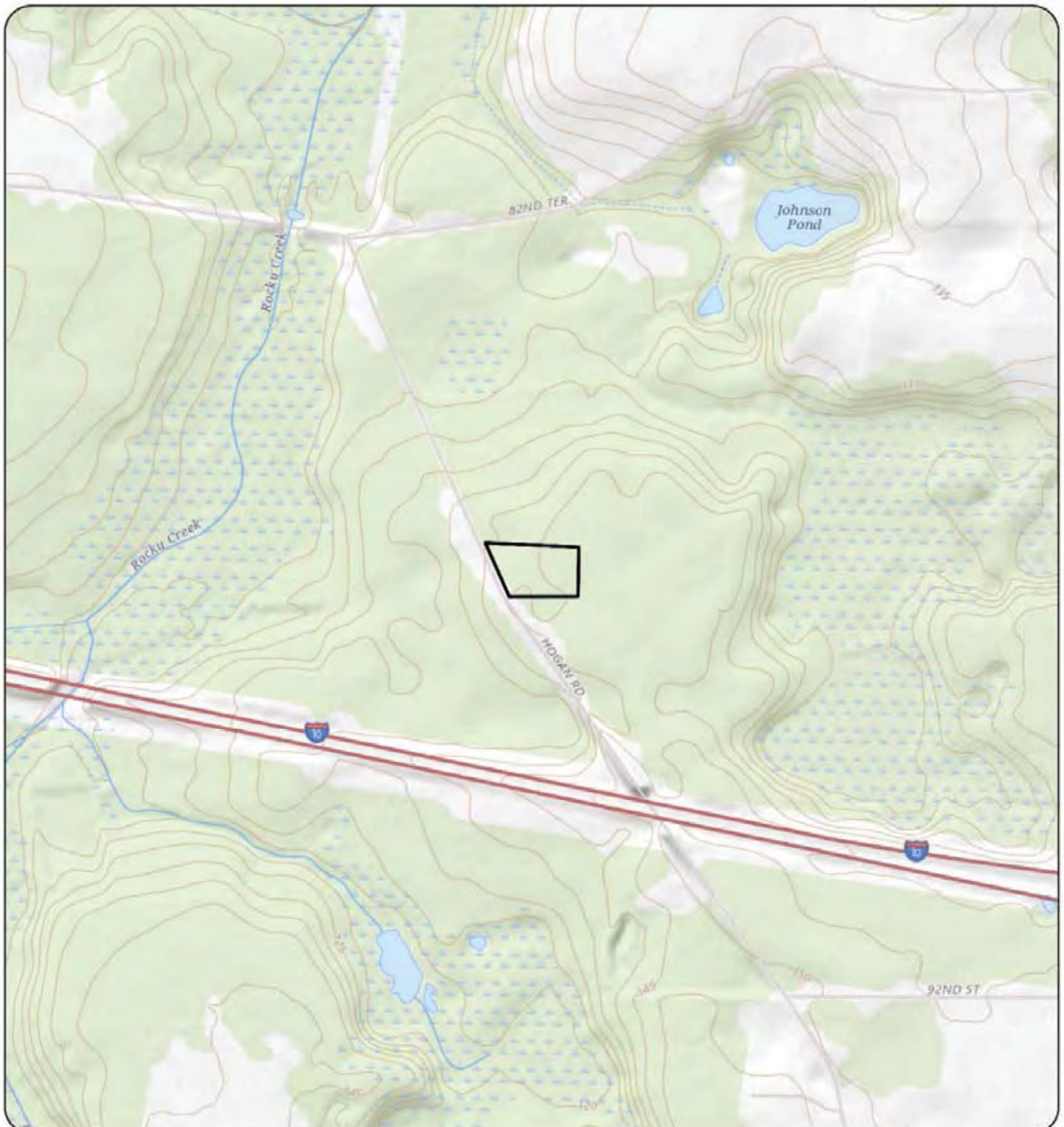
Sunshine Gateway Battery Storage Center

Sunshine Gateway Battery Storage Center

Facility Layout Map

Environmental and Land Use Information: Supplemental Information

Preferred Site # 8: Echo River Battery Energy Center, Suwannee County

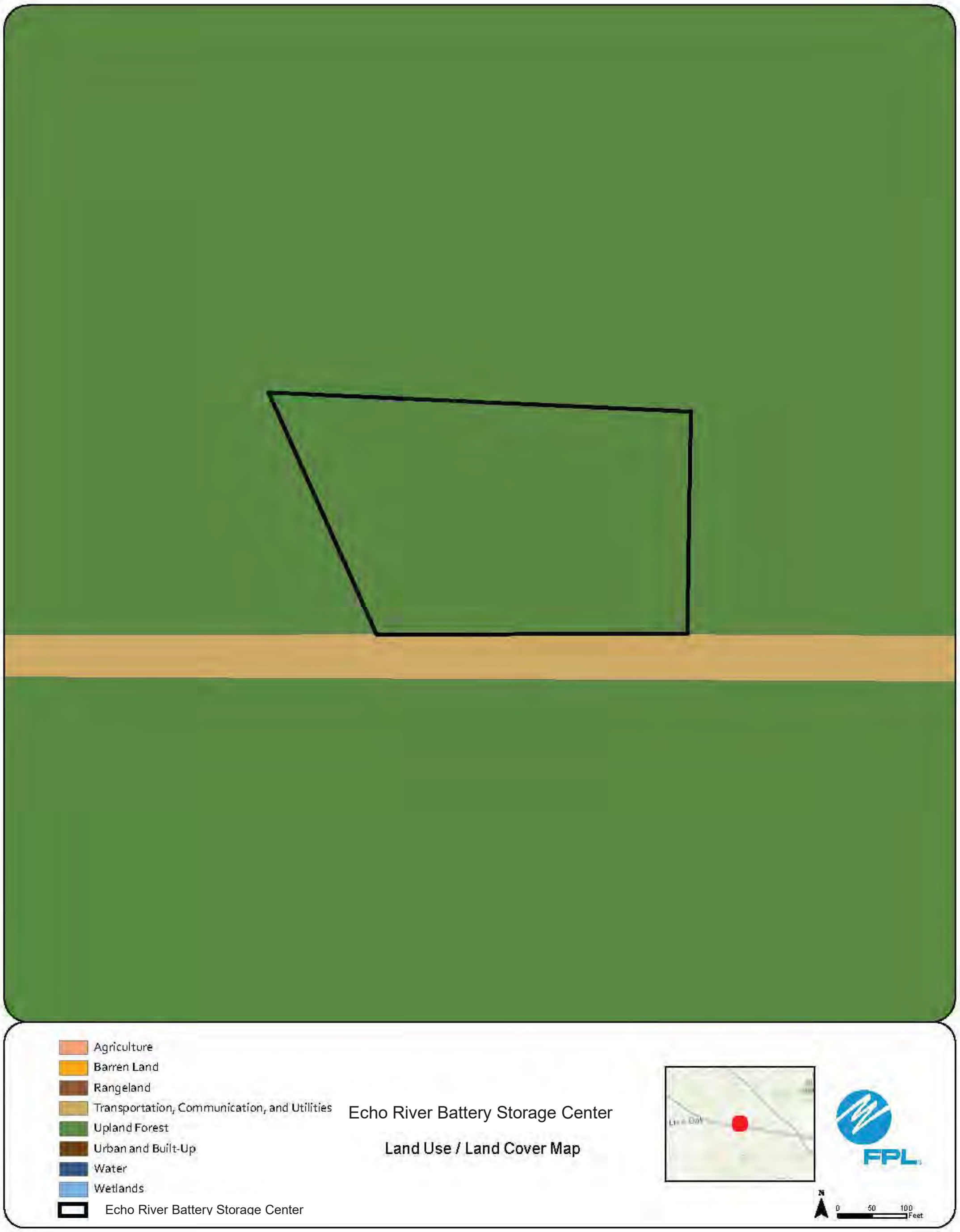


Echo River Battery Storage Center

Echo River Battery Storage Center

USGS Topography Map

FPL


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Echo River Battery Storage Center
Echo River Battery Storage Center
Land Use / Land Cover Map
FPL
N
0
50
100
Feet

Echo River Battery Storage Center

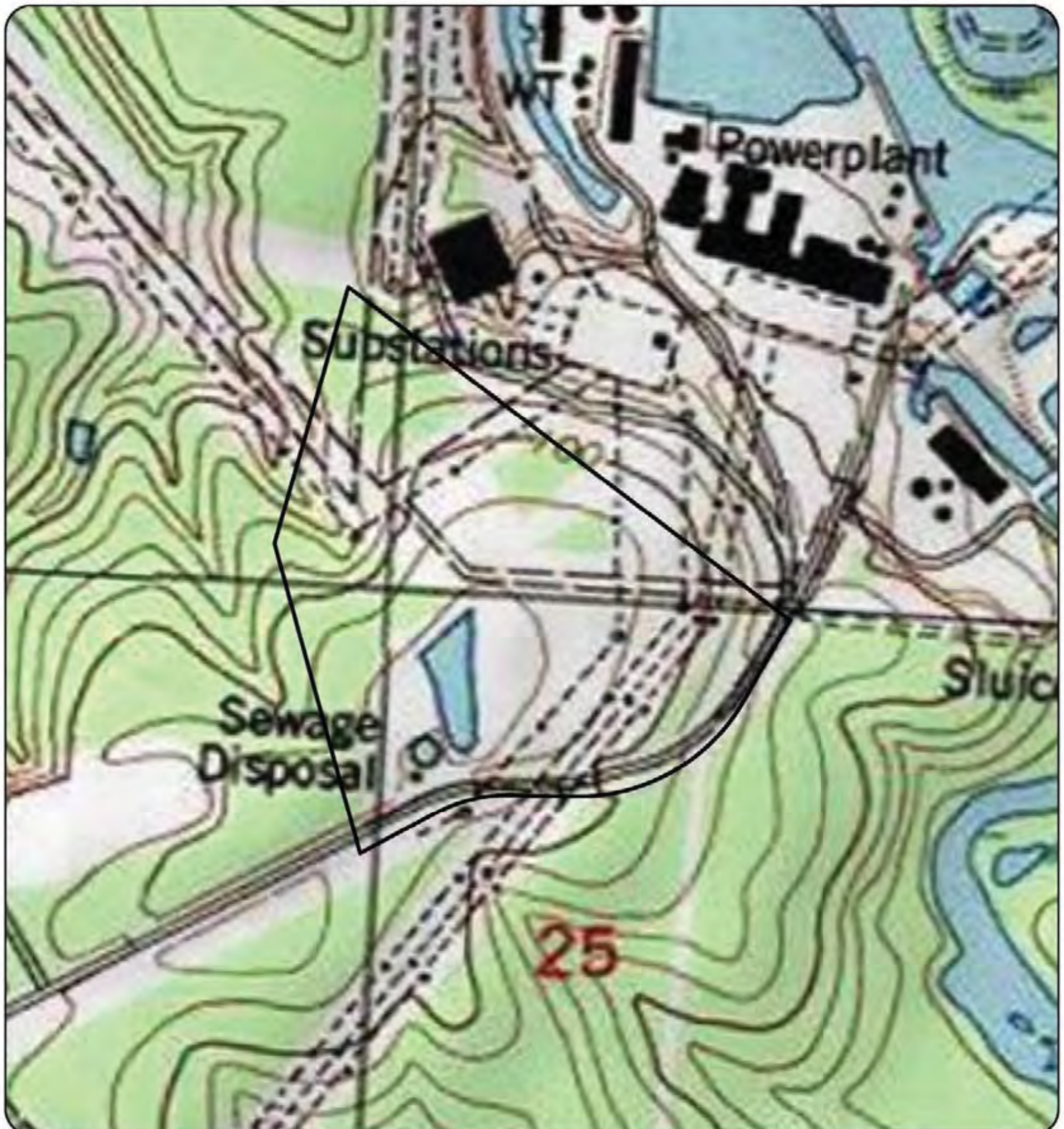
Echo River Battery Storage Center

Facility Layout Map

FPL

Environmental and Land Use Information: Supplemental Information

Preferred Site # 9: Gulf Clean Energy Center Unit 8, Escambia County



Gulf Clean Energy Center Unit 8

Gulf Clean Energy Center Unit 8

USGS Topography Map

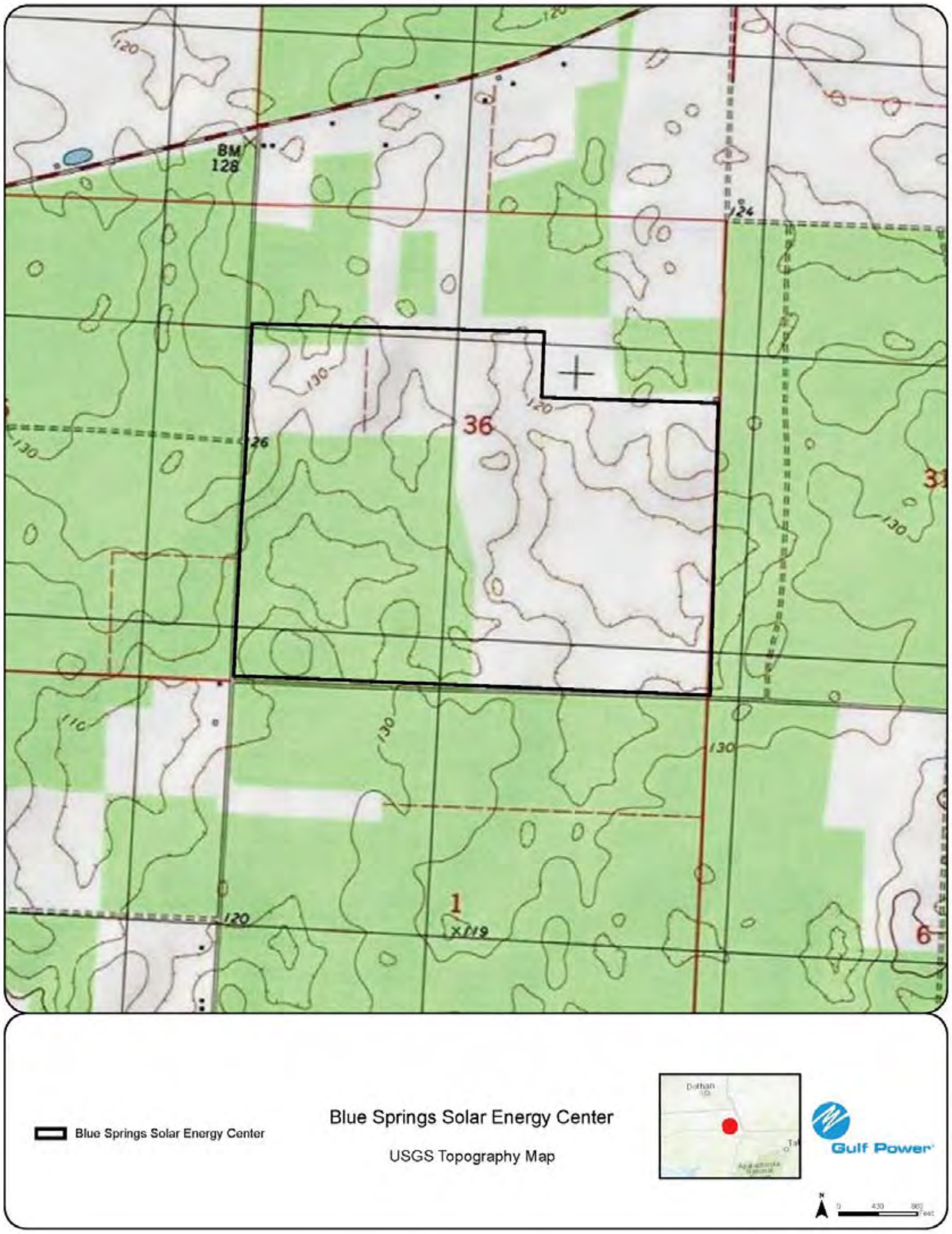
Gulf Power

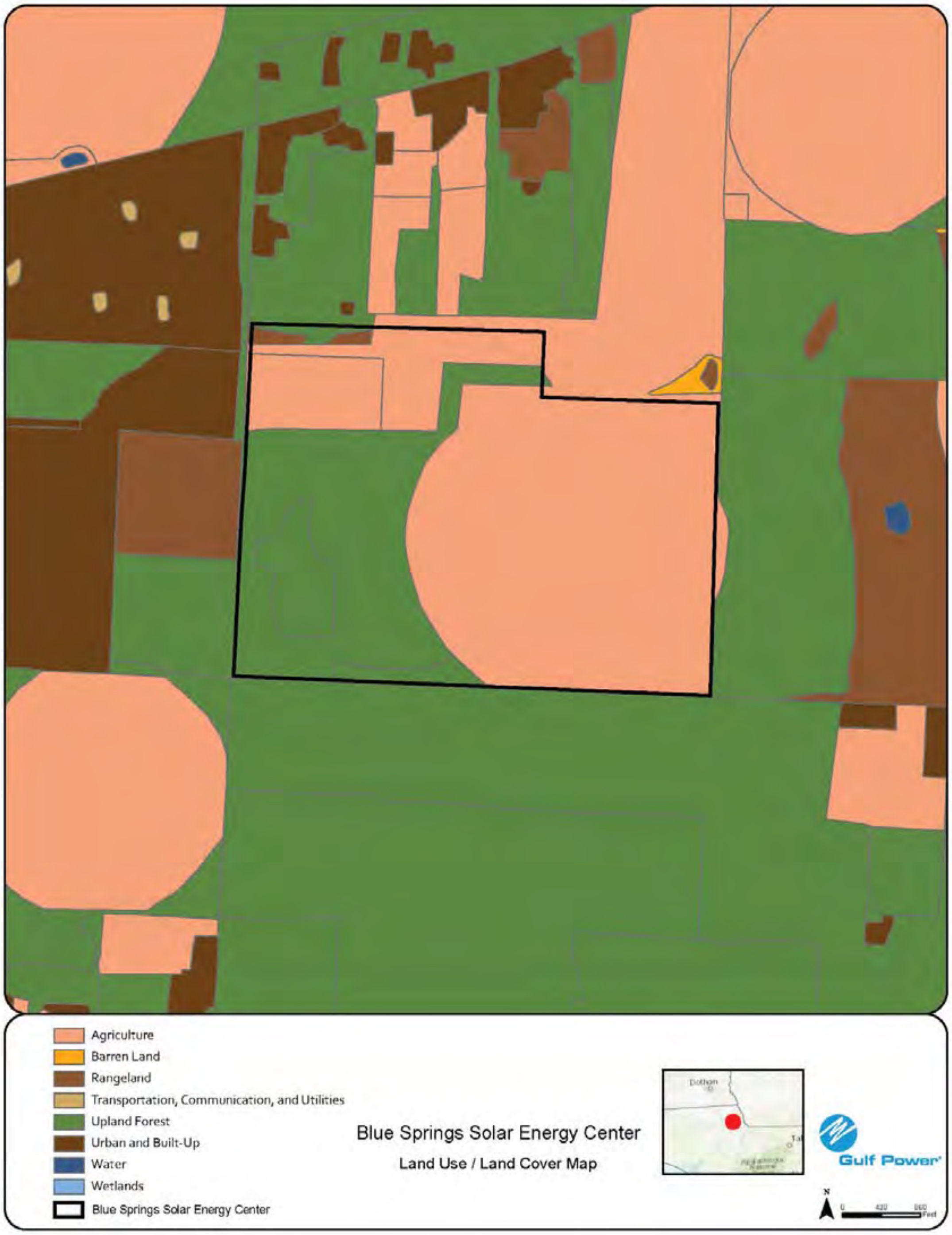

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Gulf Clean Energy Center Unit 8
Gulf Clean Energy Center Unit 8
Land Use / Land Cover Map
Pensacola
Gulf Power
0
170
340
Feet

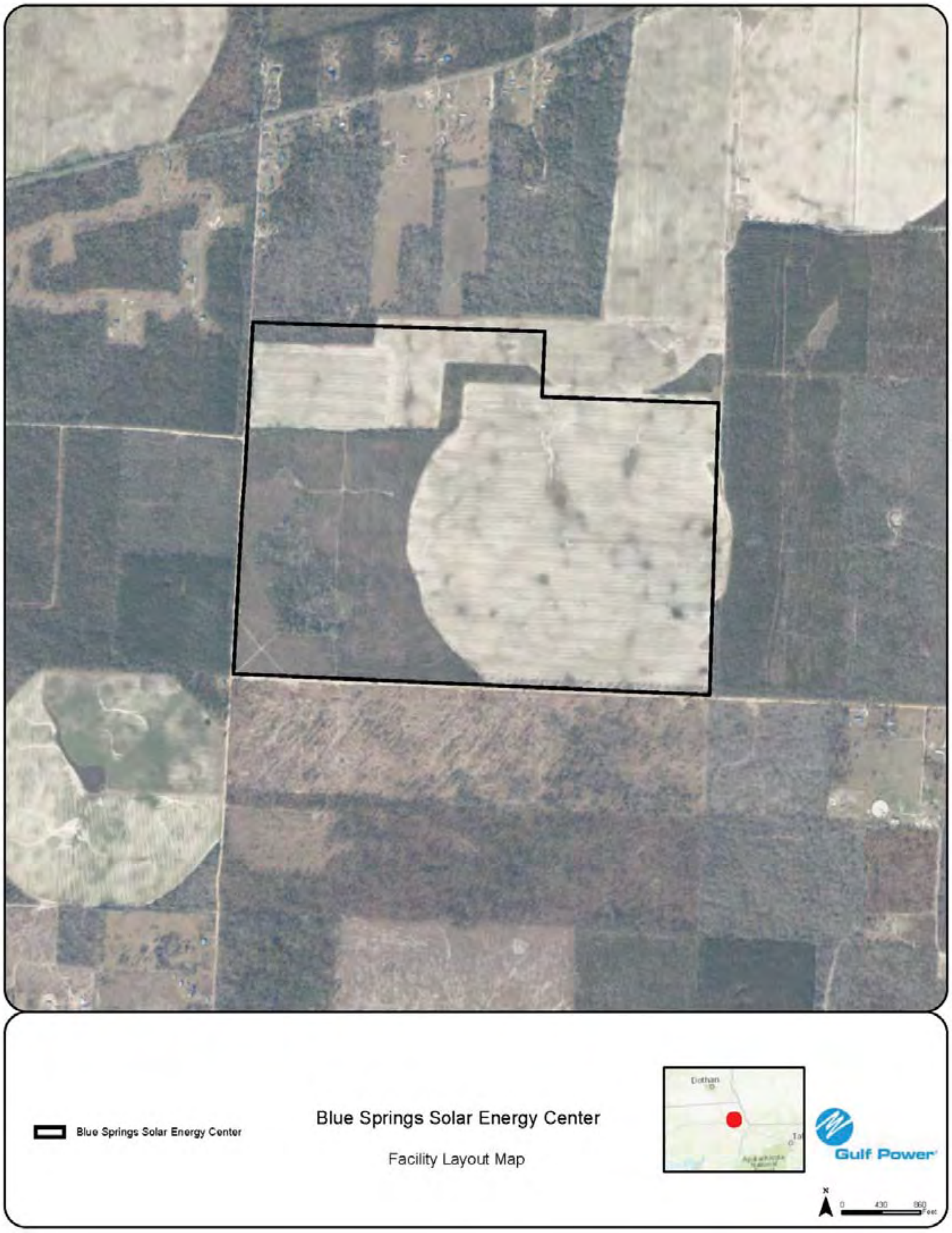

Gulf Clean Energy Center Unit 8
Gulf Clean Energy Center Unit 8
Facility Layout Map
Pensacola
Gulf Power

Environmental and Land Use Information: Supplemental Information

Preferred Site # 10: Blue Springs Solar Energy Center, Jackson County


BM
128
36
130
120
126
124
1
×119
6
Blue Springs Solar Energy Center
Blue Springs Solar Energy Center
USGS Topography Map
Dothan
Gulf Power

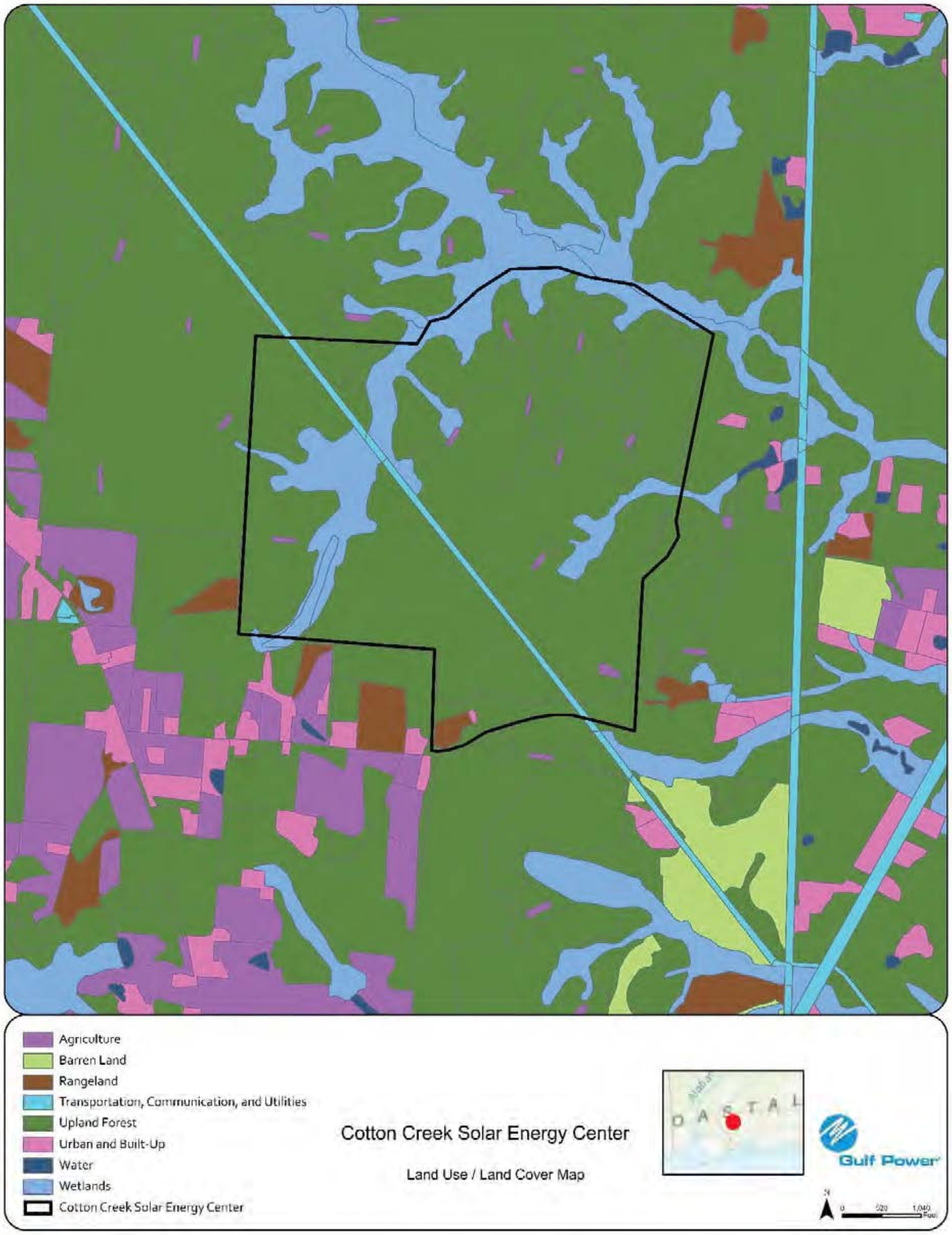

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Blue Springs Solar Energy Center
Blue Springs Solar Energy Center
Land Use / Land Cover Map
Dothan
Gulf Power
N

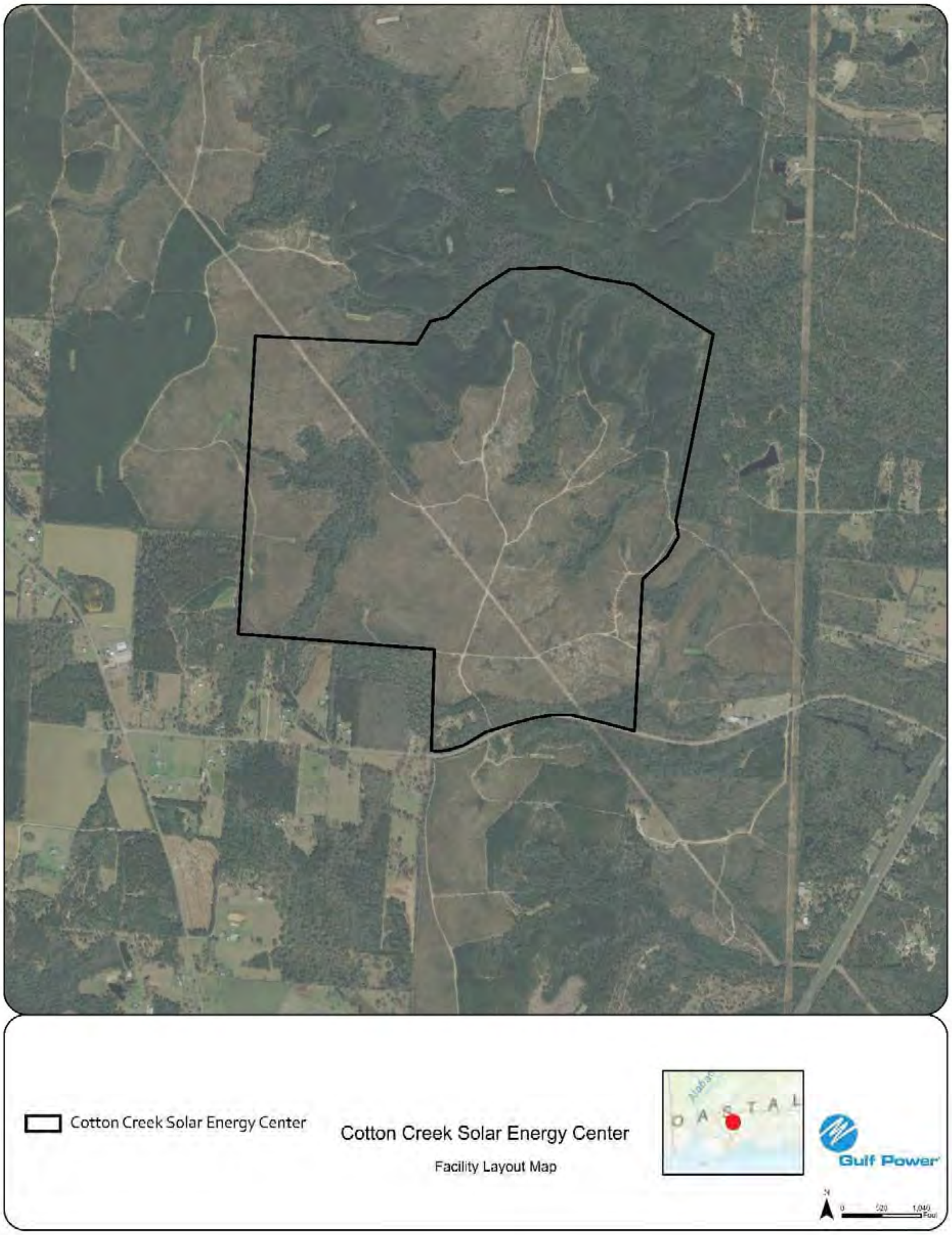

Blue Springs Solar Energy Center
Blue Springs Solar Energy Center
Facility Layout Map
Dothan
Gulf Power
0
430
860
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 11: Cotton Creek Solar Energy Center, Escambia County


Cotton Creek Solar Energy Center
Cotton Creek Solar Energy Center
USGS Topography Map
Gulf Power
Cotton
Radio Tower
Rays Chapel
17
16
15
40
20
21
22
29
28
43
27


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Cotton Creek Solar Energy Center
Cotton Creek Solar Energy Center
Land Use / Land Cover Map
Gulf Power
N
0
520
1,040
Feet

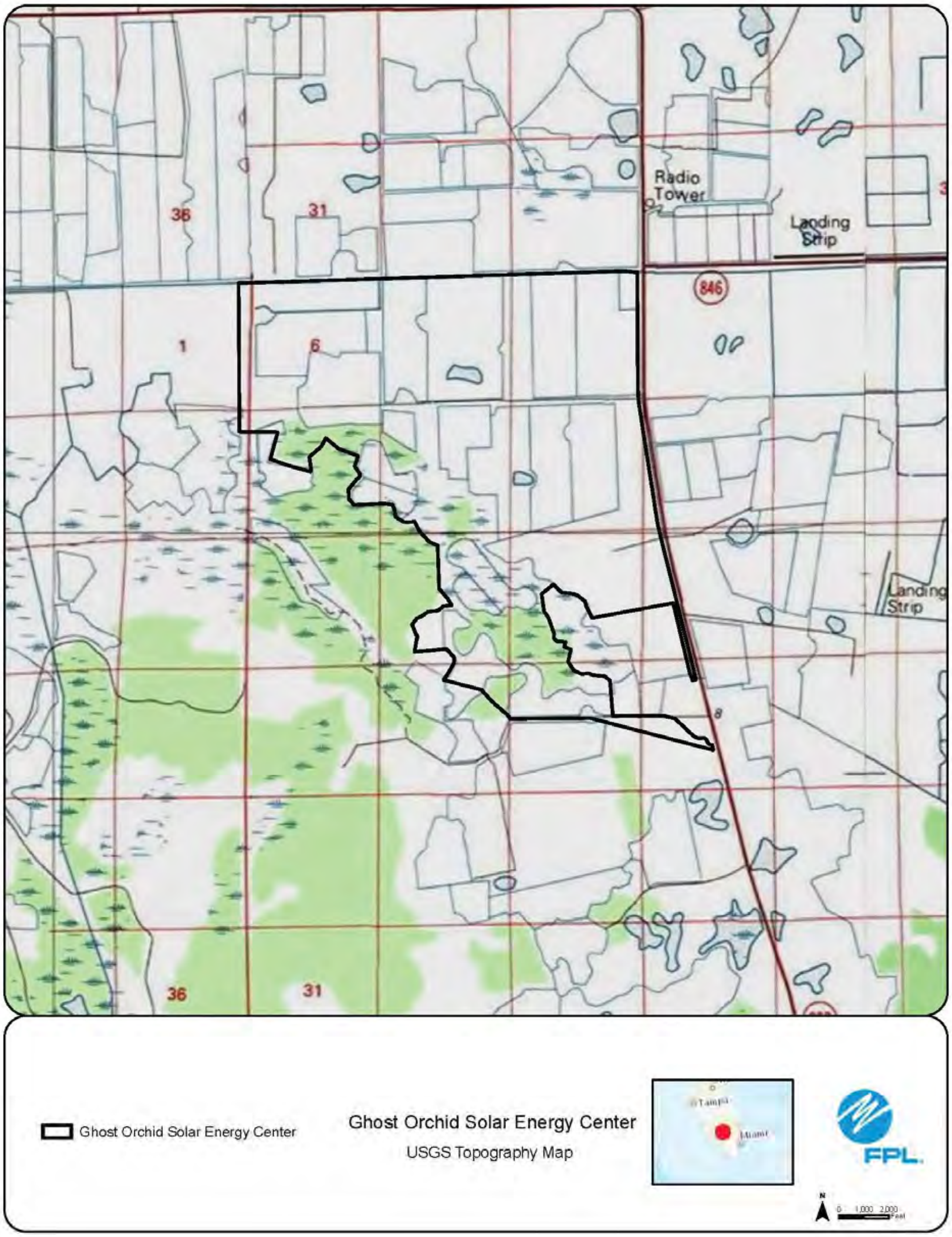


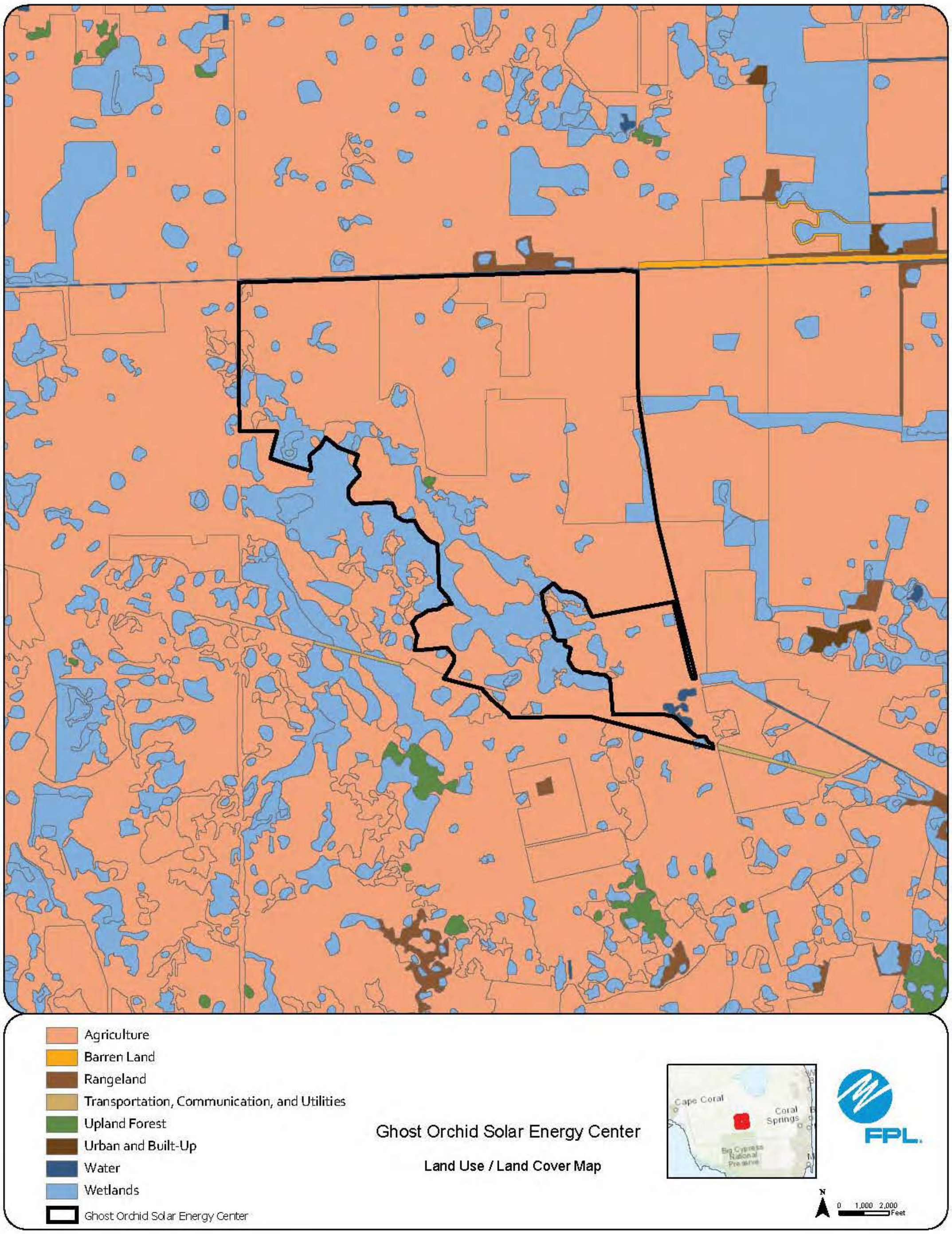
Cotton Creek Solar Energy Center

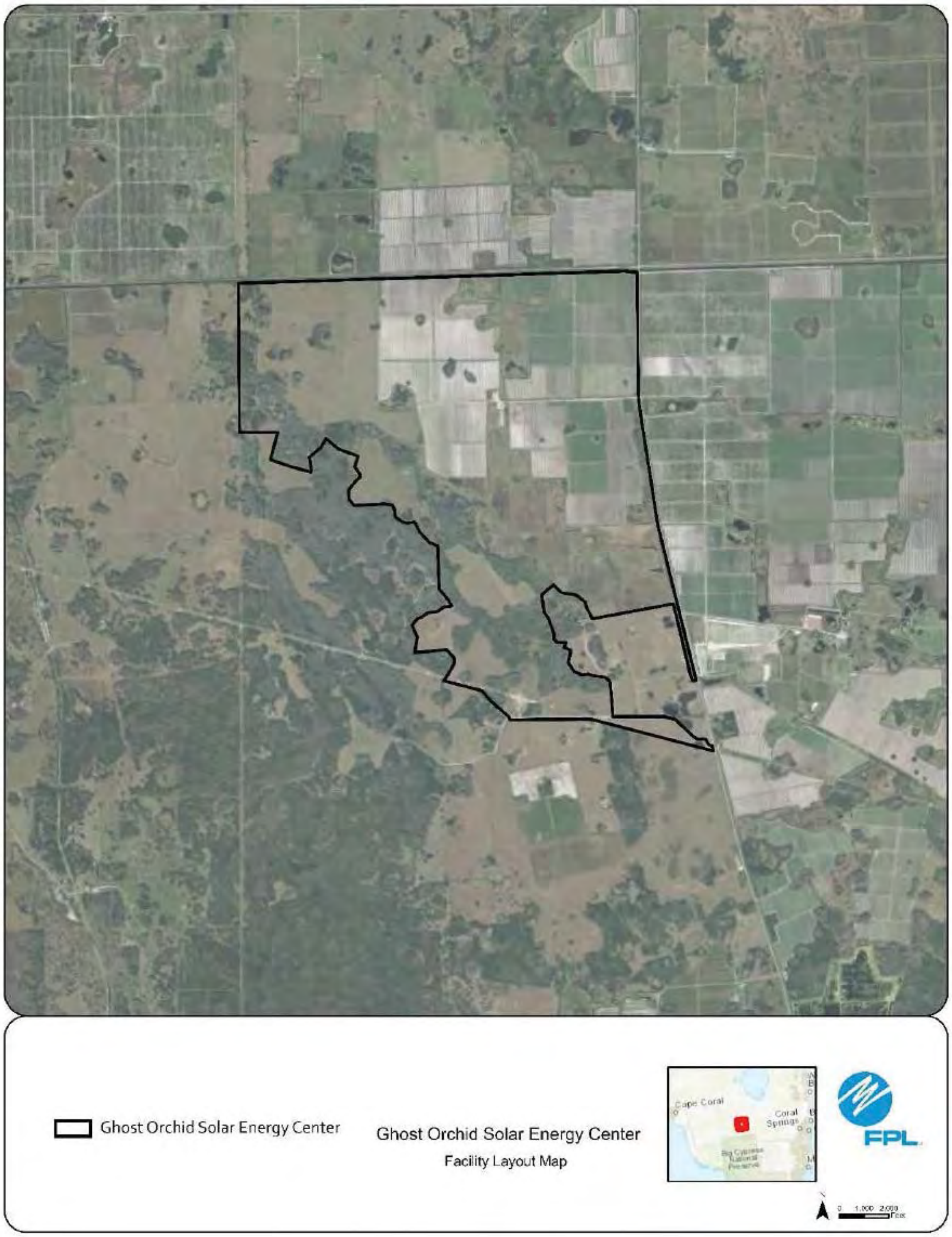
Facility Layout Map

Environmental and Land Use Information: Supplemental Information

Preferred Site # 12: Ghost Orchid Solar Energy Center, Hendry County

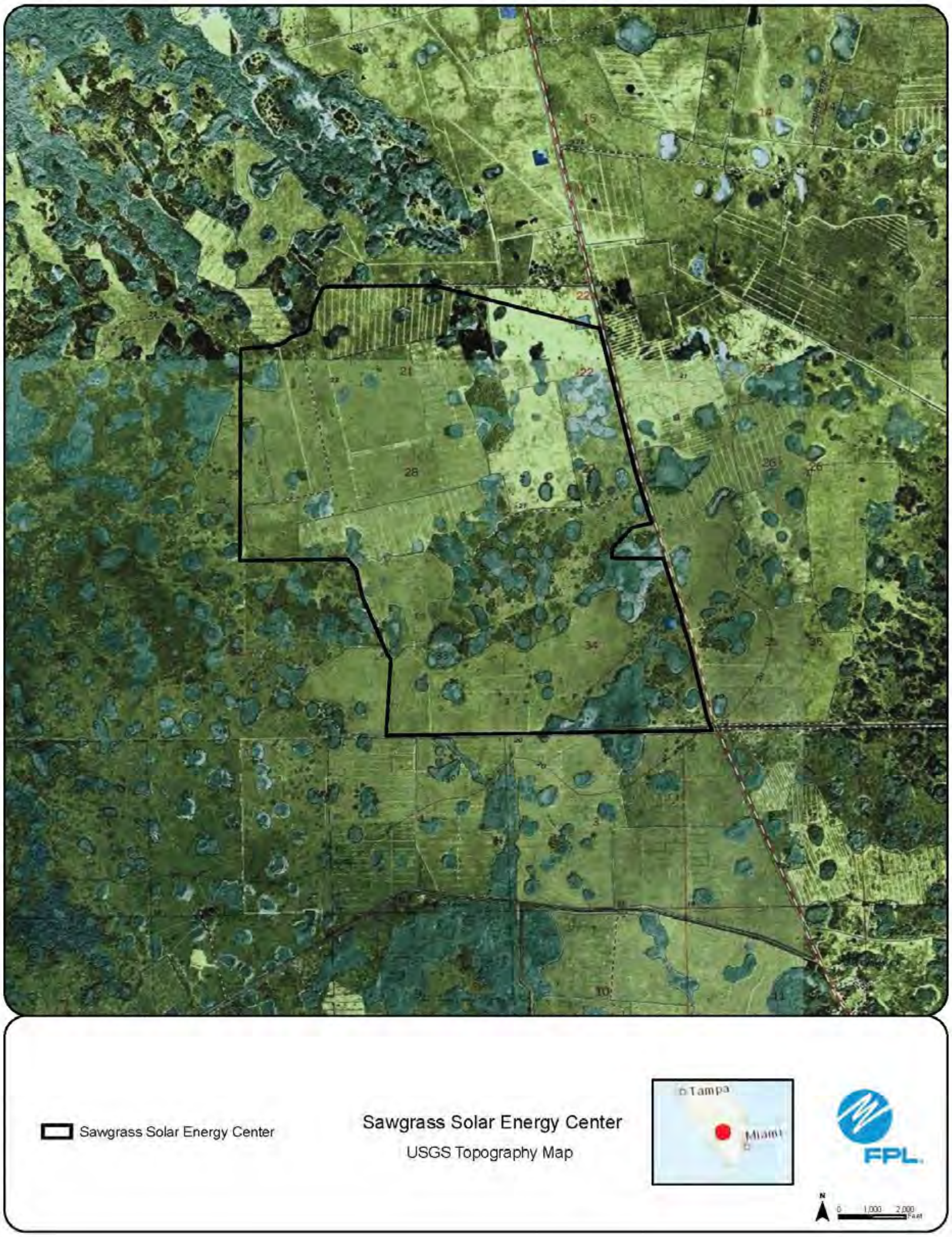

Radio Tower
Landing Strip
846
36
31
1
6
Landing Strip
Ghost Orchid Solar Energy Center
Ghost Orchid Solar Energy Center
USGS Topography Map
FPL

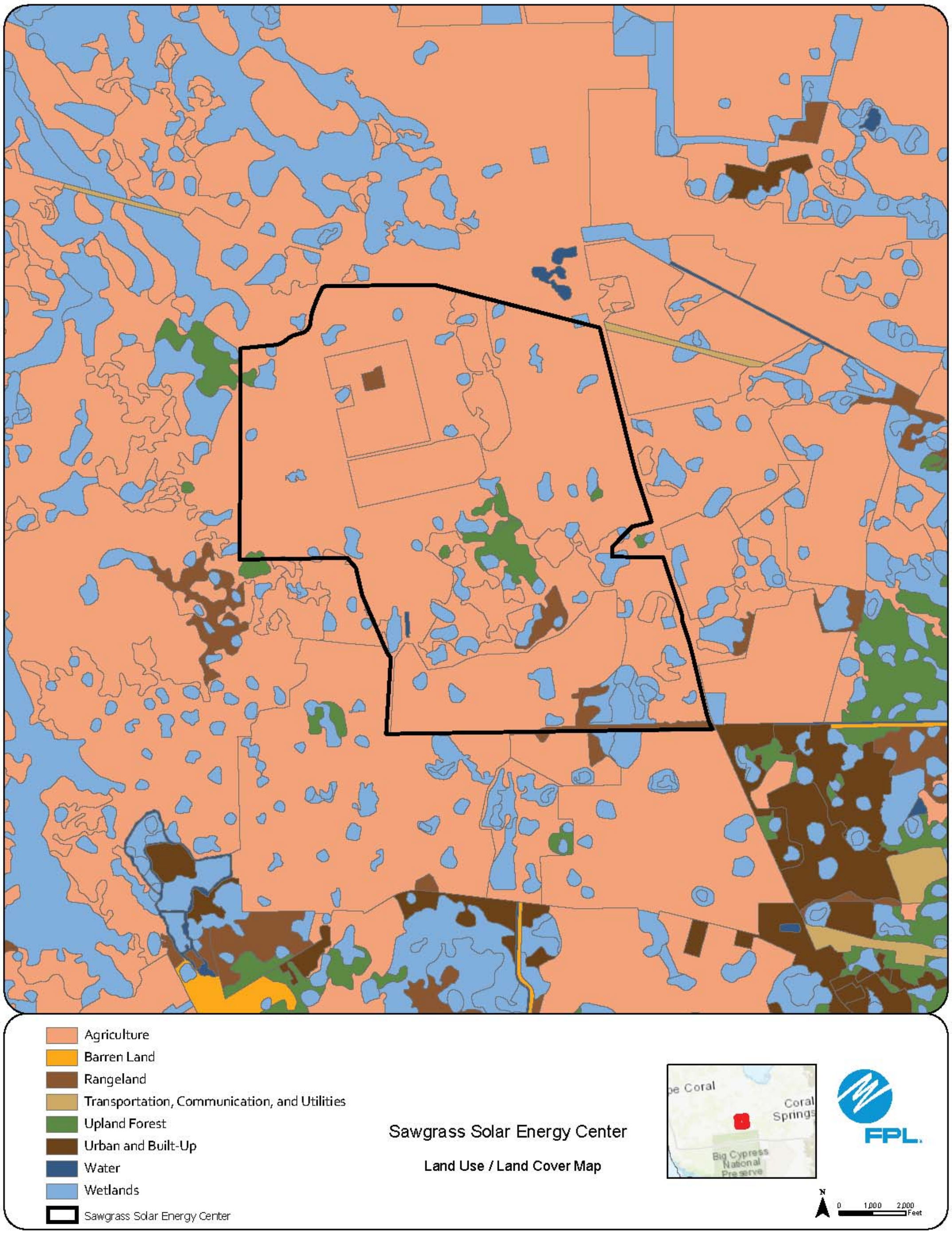

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Ghost Orchid Solar Energy Center
Ghost Orchid Solar Energy Center
Land Use / Land Cover Map
Cape Coral
Coral Springs
Big Cypress National Preserve
FPL.
N
0 1,000 2,000
Feet

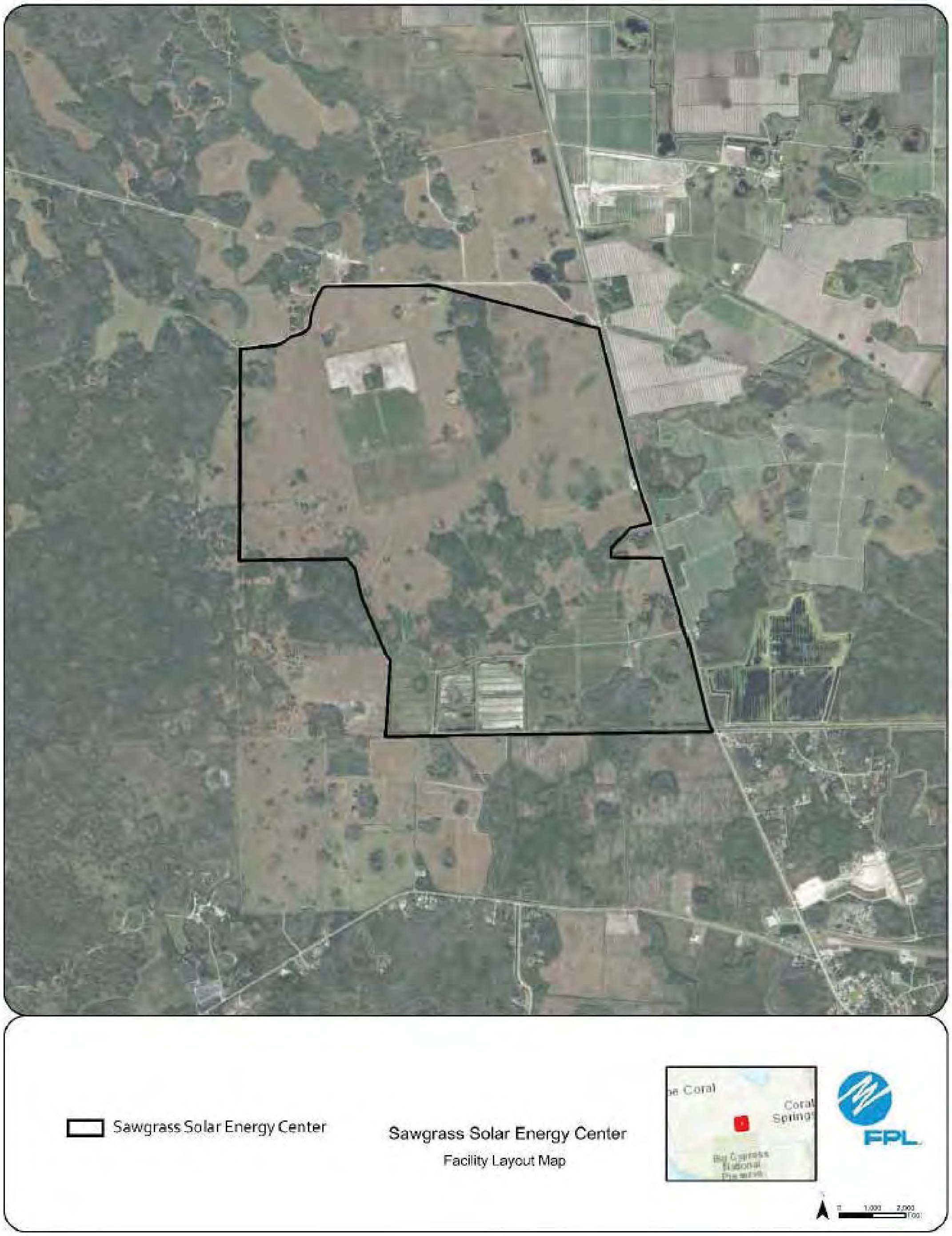

Ghost Orchid Solar Energy Center
Ghost Orchid Solar Energy Center
Facility Layout Map
FPL

Environmental and Land Use Information: Supplemental Information

Preferred Site # 13: Sawgrass Solar Energy Center, Hendry County


Sawgrass Solar Energy Center
Sawgrass Solar Energy Center
USGS Topography Map
Tampa
Miami
FPL

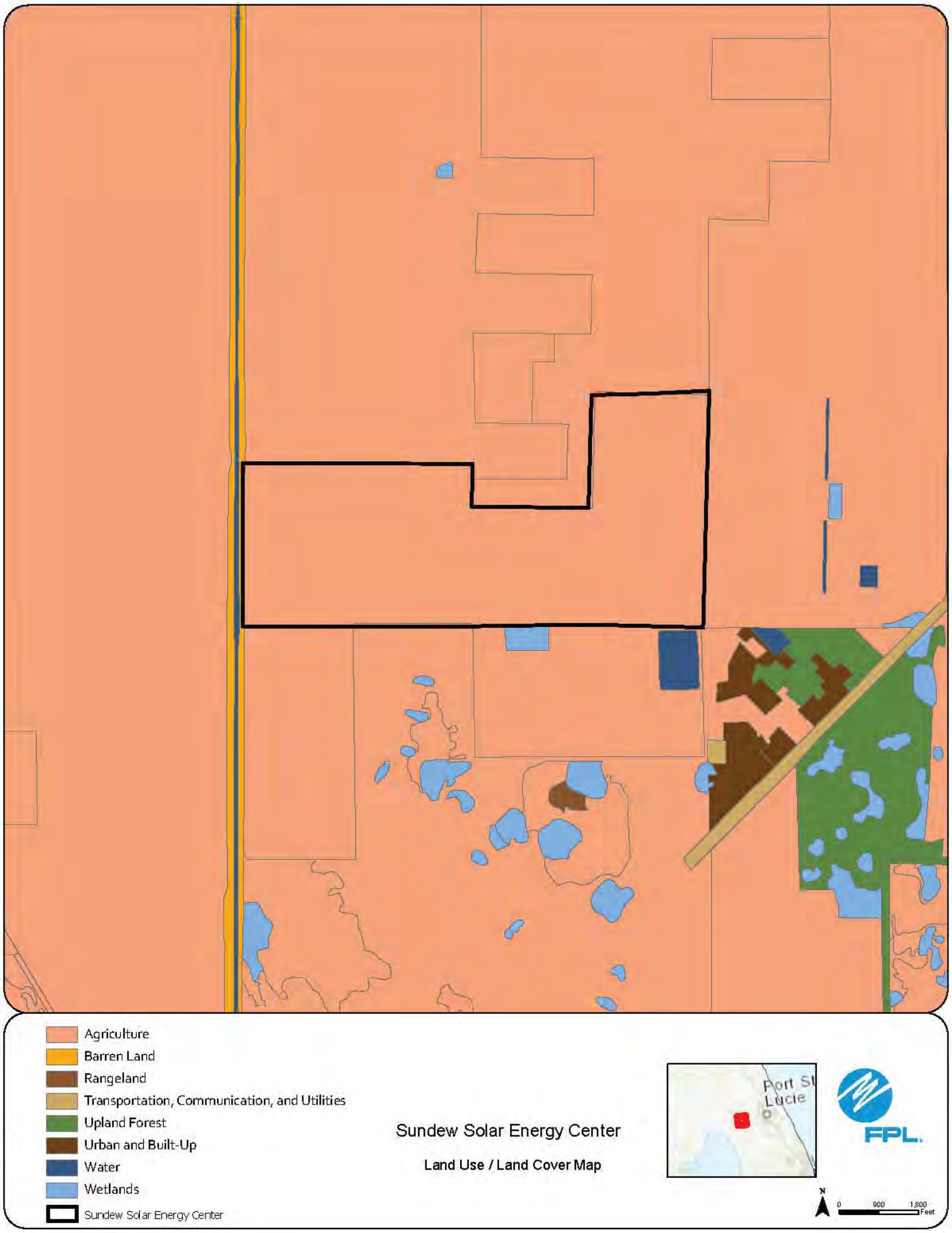

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Sawgrass Solar Energy Center
Sawgrass Solar Energy Center
Land Use / Land Cover Map
FPL.
0 1,000 2,000 Feet

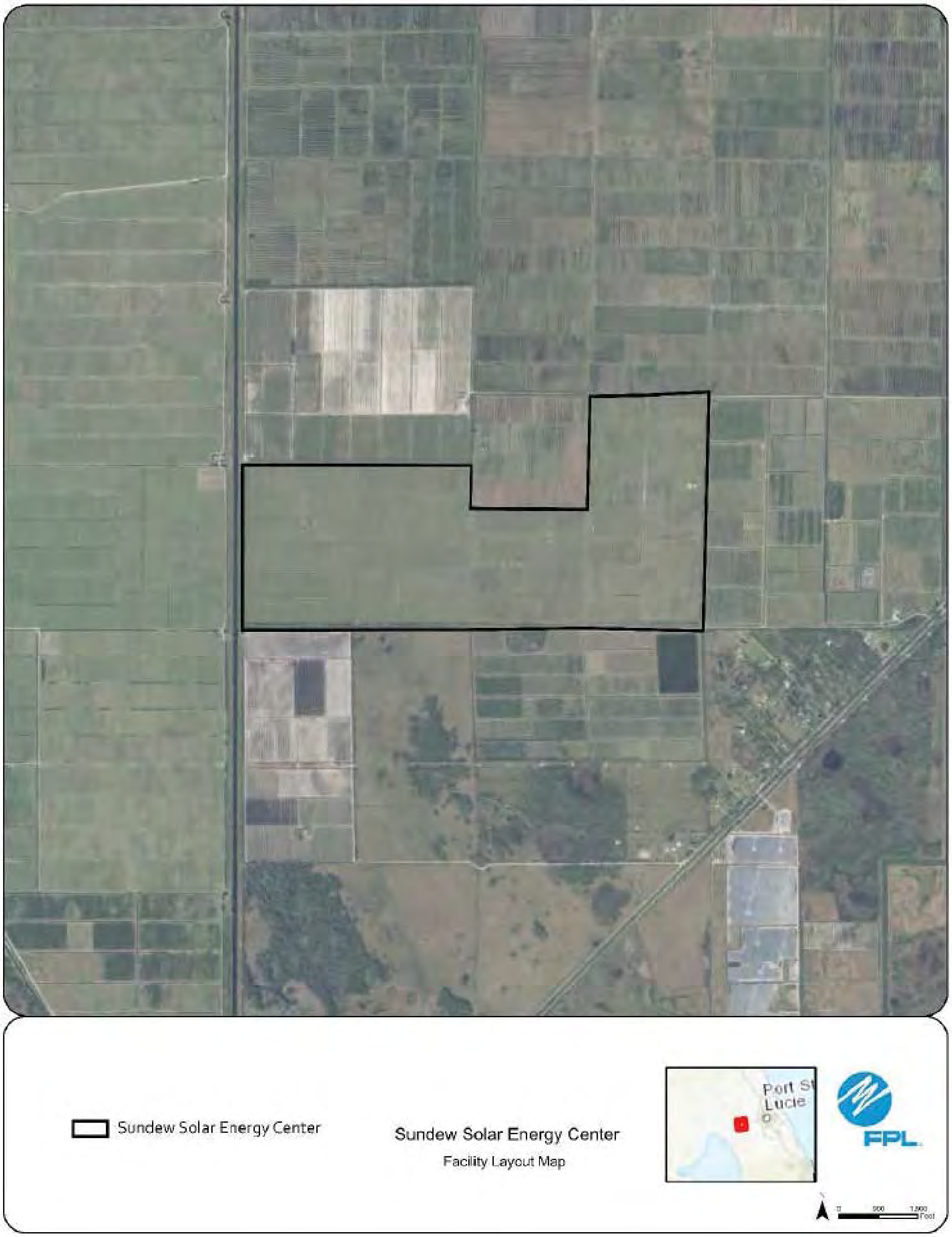

Sawgrass Solar Energy Center
Sawgrass Solar Energy Center
Facility Layout Map

Environmental and Land Use Information: Supplemental Information

Preferred Site # 14: Sundew Solar Energy Center, St. Lucie County

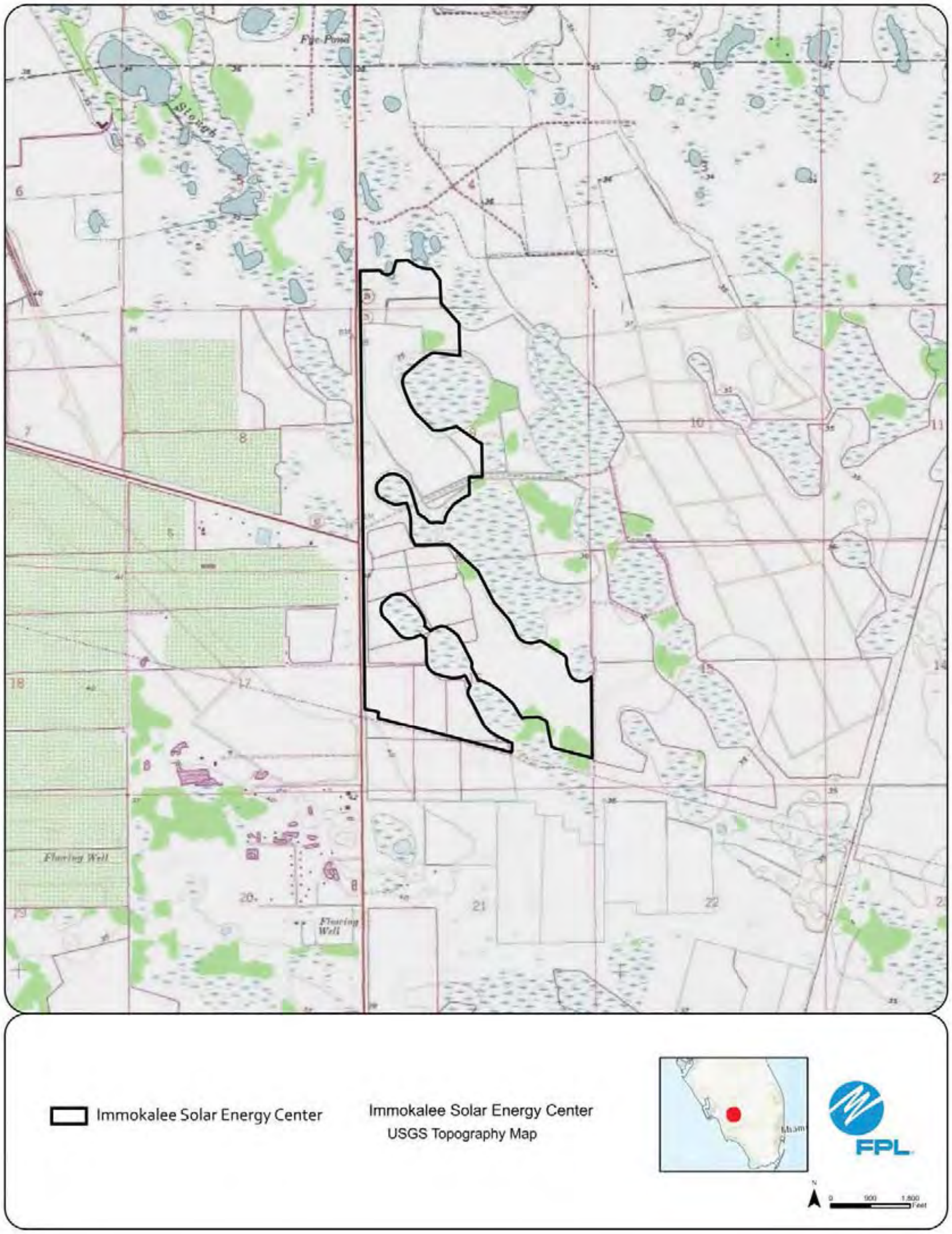

ALLAPATTAH FLATS
Flowing Well
Landing Strip
SPOIL BANK
LEVEE
Sundew Solar Energy Center
Sundew Solar Energy Center
USGS Topography Map
FPL

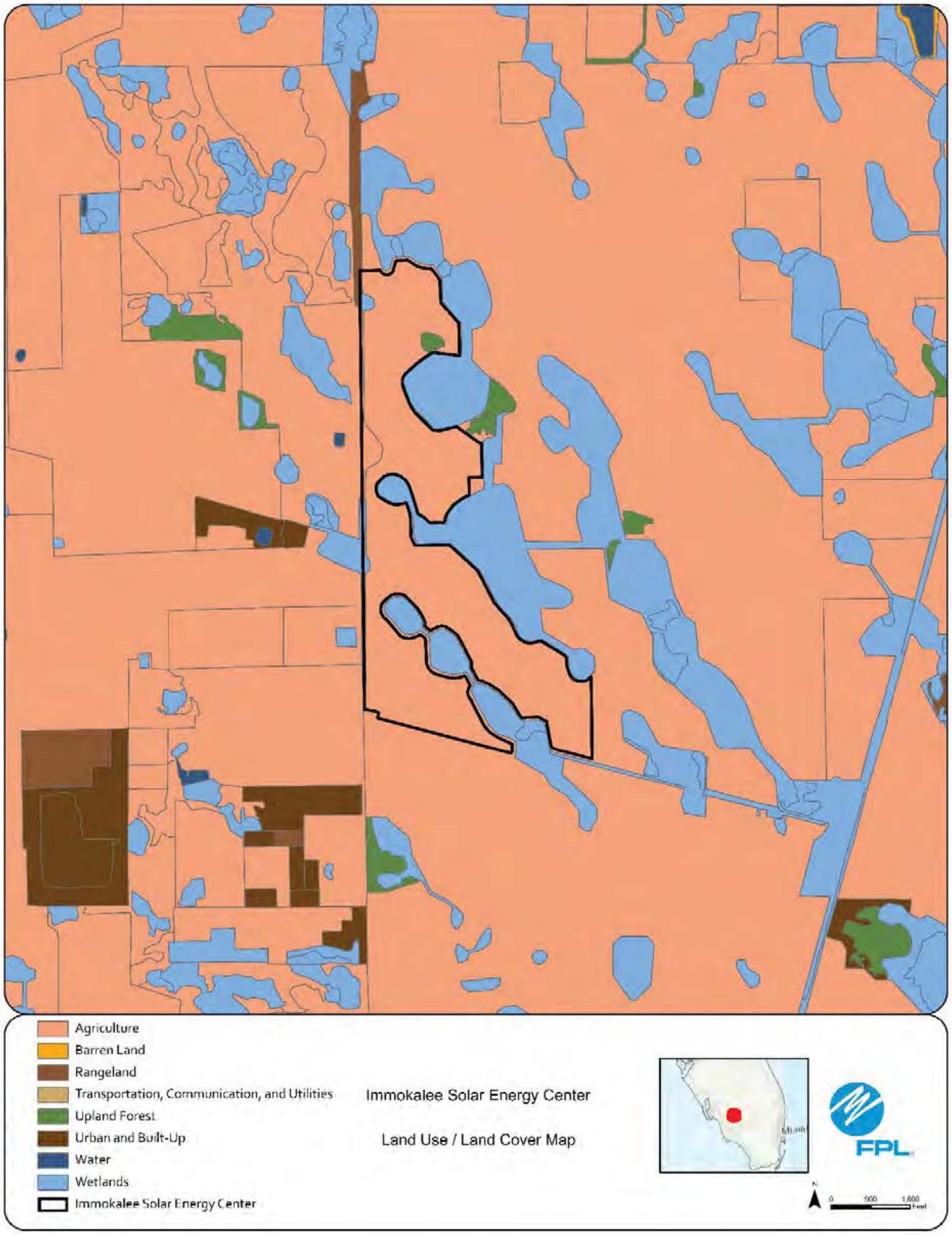

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Sundew Solar Energy Center
Sundew Solar Energy Center
Land Use / Land Cover Map
Port St
Lucie
FPL.
0
900
1,800
Feet

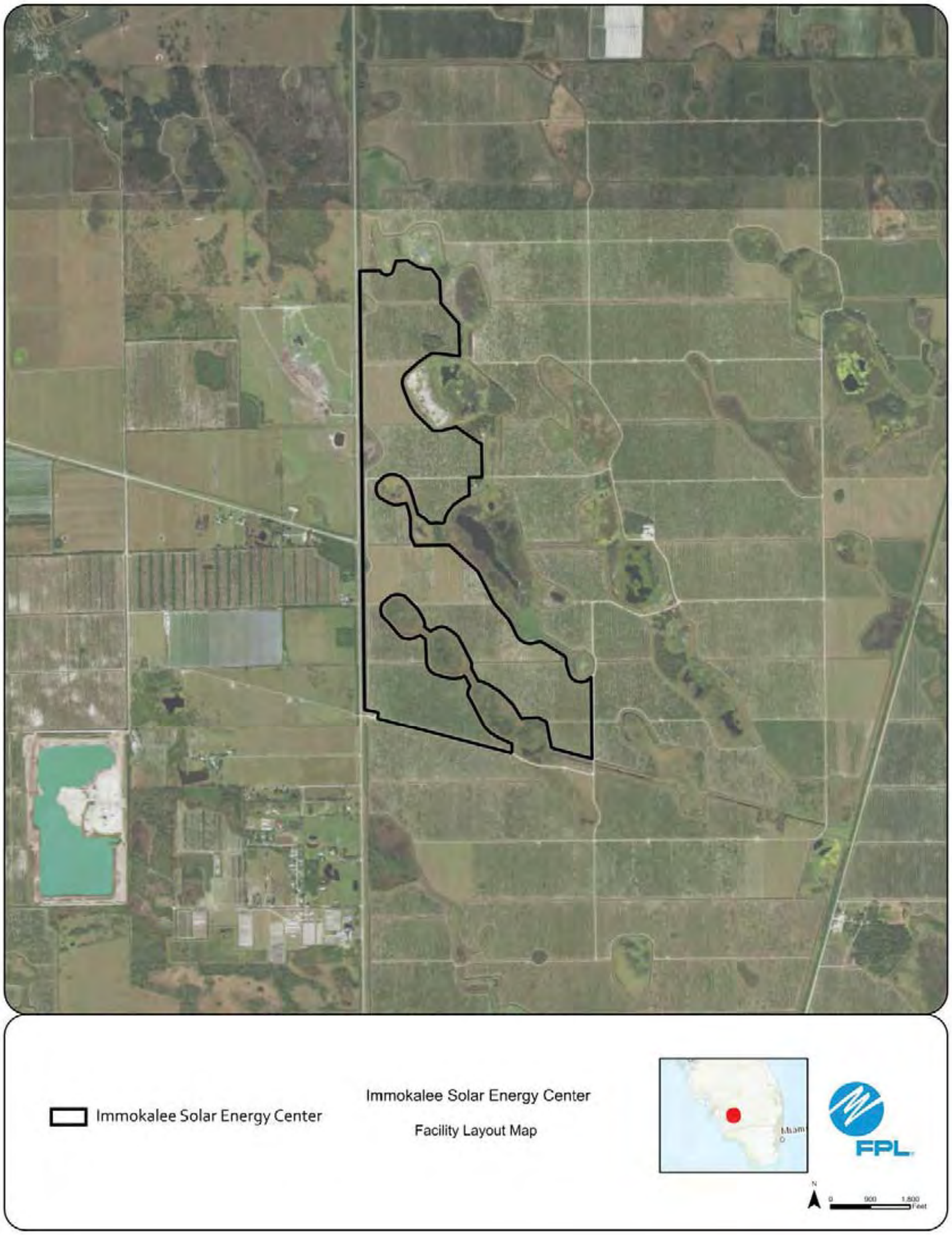

Sundew Solar Energy Center
Sundew Solar Energy Center
Facility Layout Map
Port St
Lucie
FPL

Environmental and Land Use Information: Supplemental Information

Preferred Site # 15: Immokalee Solar Energy Center, Collier County


Fye Pond
Slough
Flowing Well
Flowing Well
Immokalee Solar Energy Center
Immokalee Solar Energy Center
USGS Topography Map
FPL

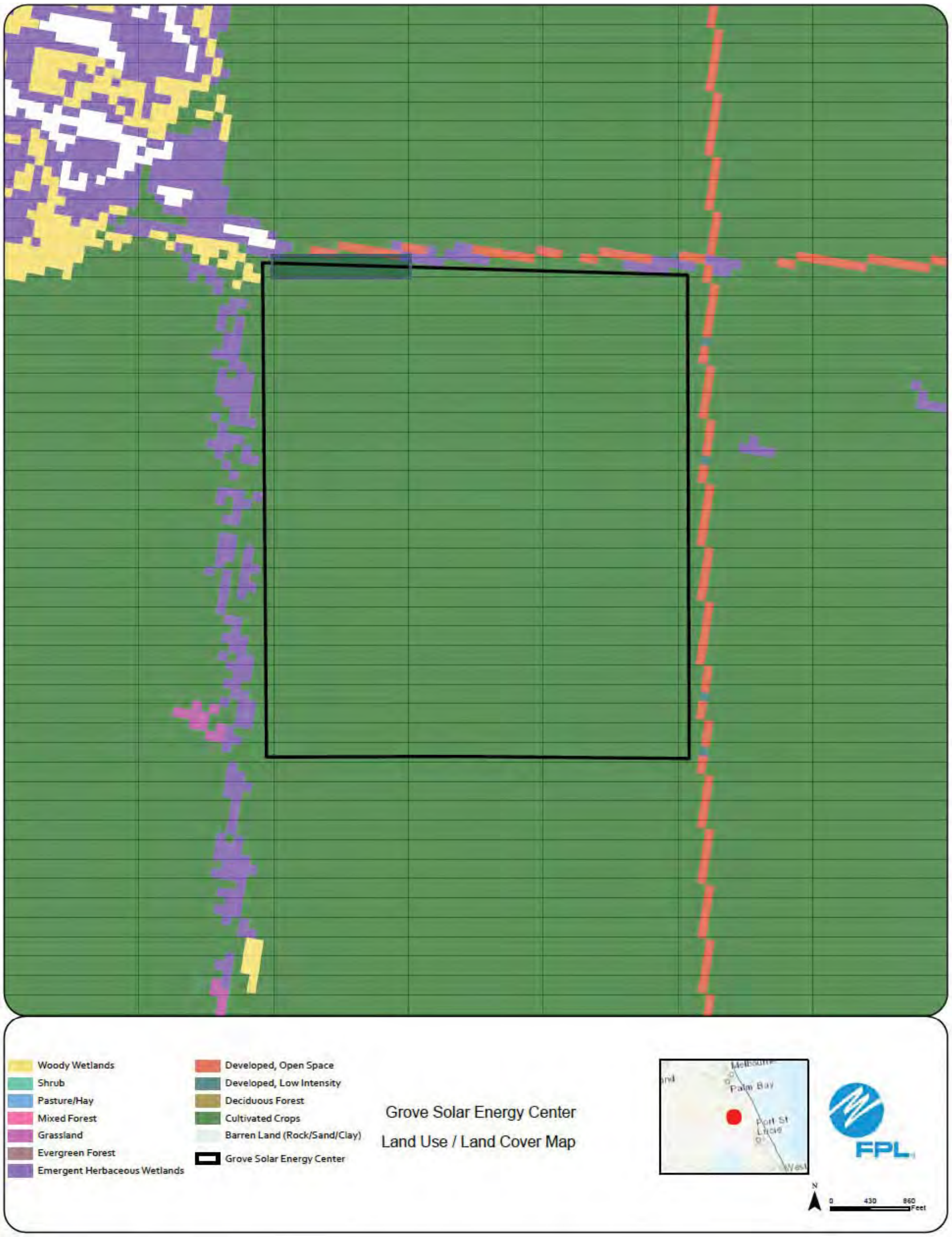

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Immokalee Solar Energy Center
Immokalee Solar Energy Center
Land Use / Land Cover Map
FPL


Immokalee Solar Energy Center
Immokalee Solar Energy Center
Facility Layout Map
FPL
N
0
900
1,800
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 16: Grove Solar Energy Center, Indian River County

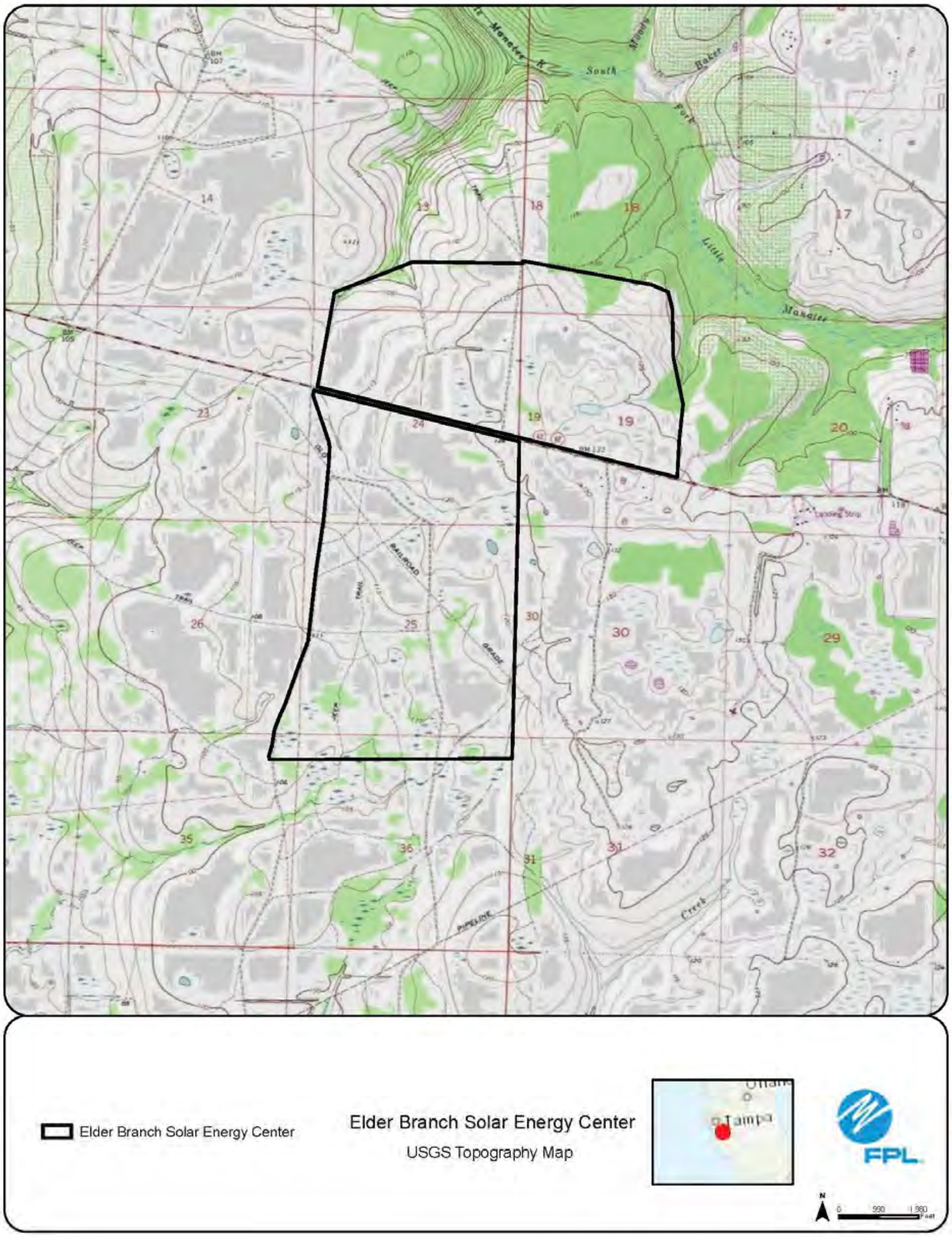

20
29
32
Grove Solar Energy Center
Grove Solar Energy Center
USGS Topography Map
Palm Bay
Port St Lucie
FPL
0
430
860
Feet

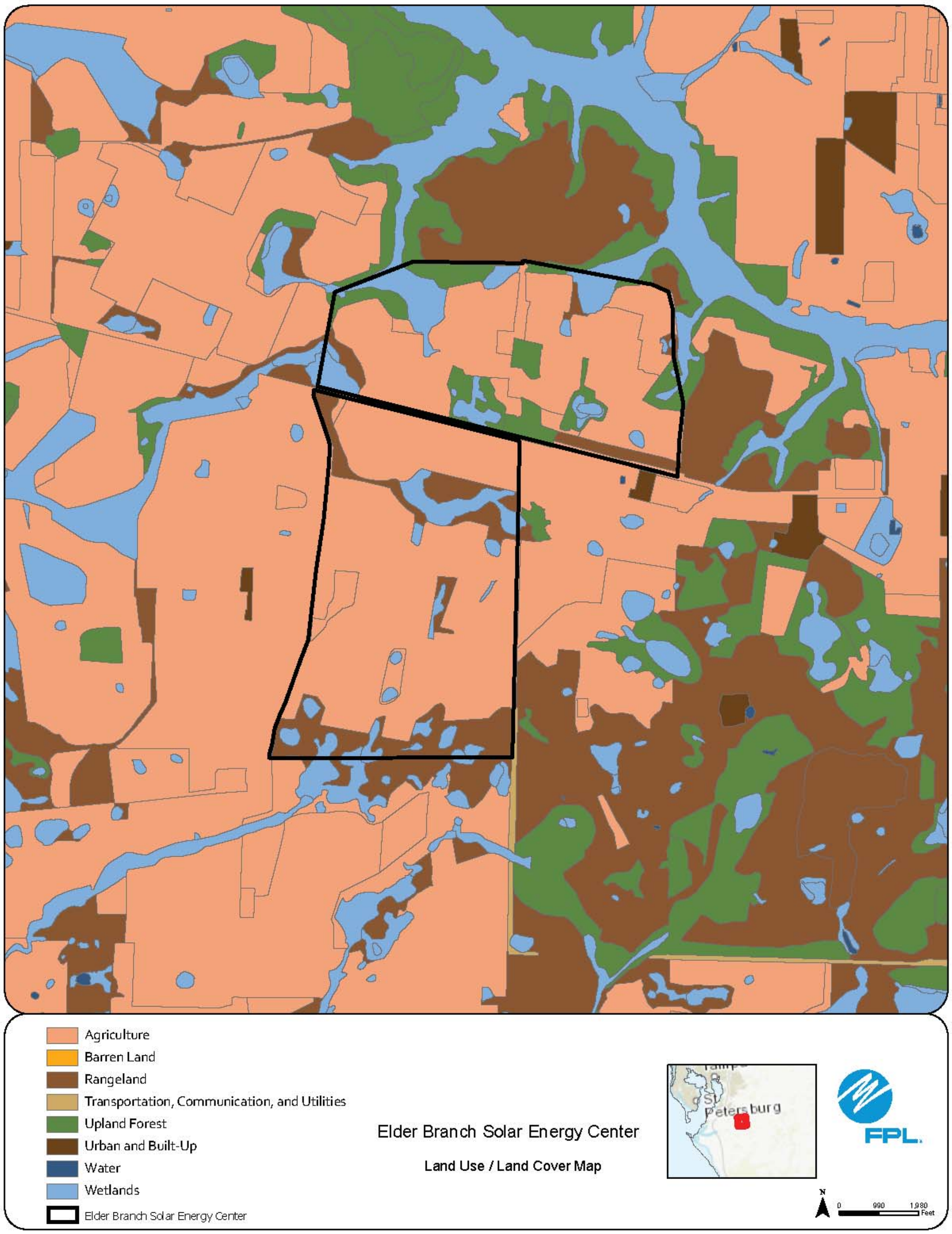

Woody Wetlands
Shrub
Pasture/Hay
Mixed Forest
Grassland
Evergreen Forest
Emergent Herbaceous Wetlands
Developed, Open Space
Developed, Low Intensity
Deciduous Forest
Cultivated Crops
Barren Land (Rock/Sand/Clay)
Grove Solar Energy Center
Grove Solar Energy Center
Land Use / Land Cover Map
Palm Bay
Port St Lucie
FPL
N
0
430
860
Feet

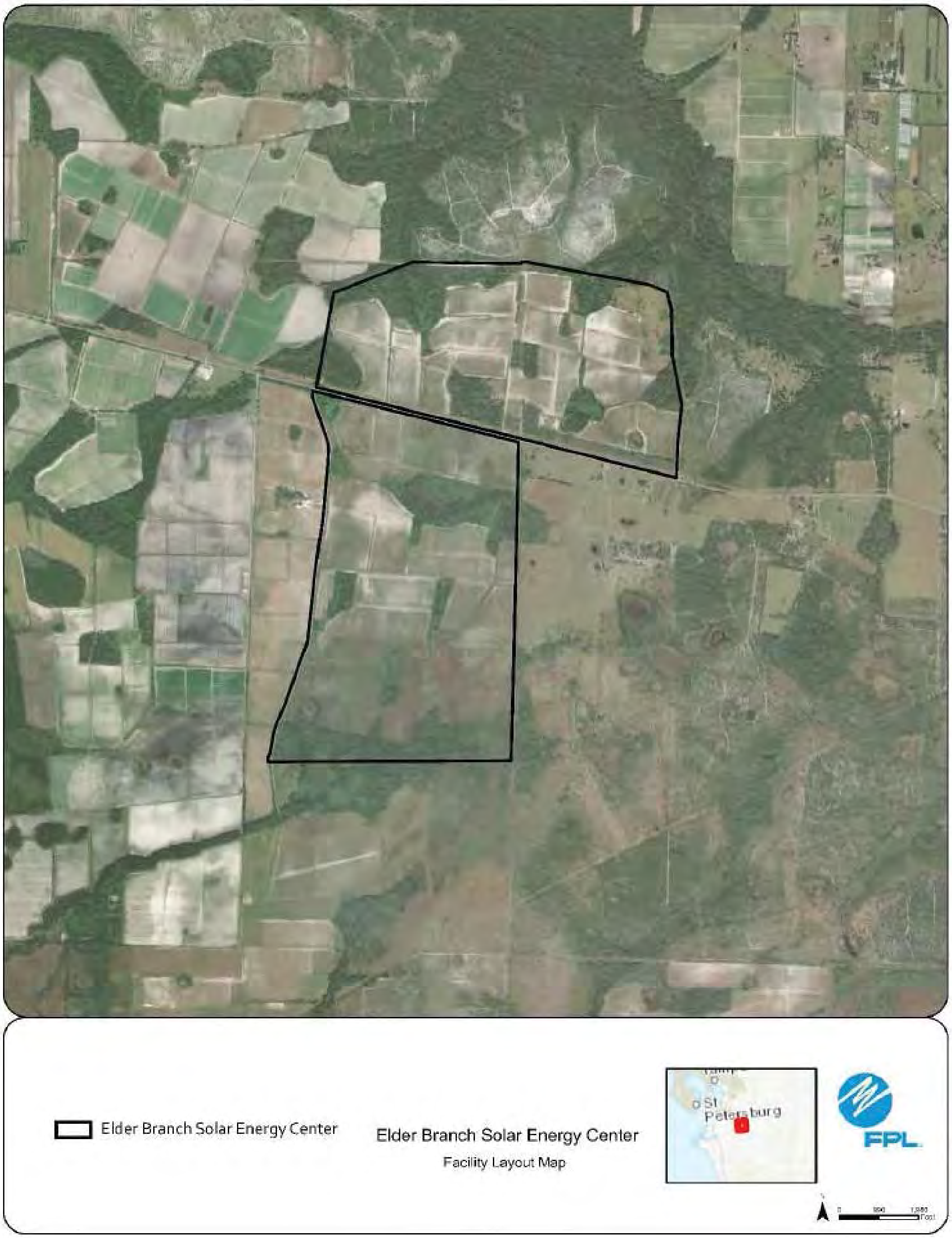

Grove Solar Energy Center
Grove Solar Energy Center
Facility Layout Map
Palm Bay
Port St Lucie
FPL

Environmental and Land Use Information: Supplemental Information

Preferred Site # 17: Elder Branch Solar Energy Center, Manatee County

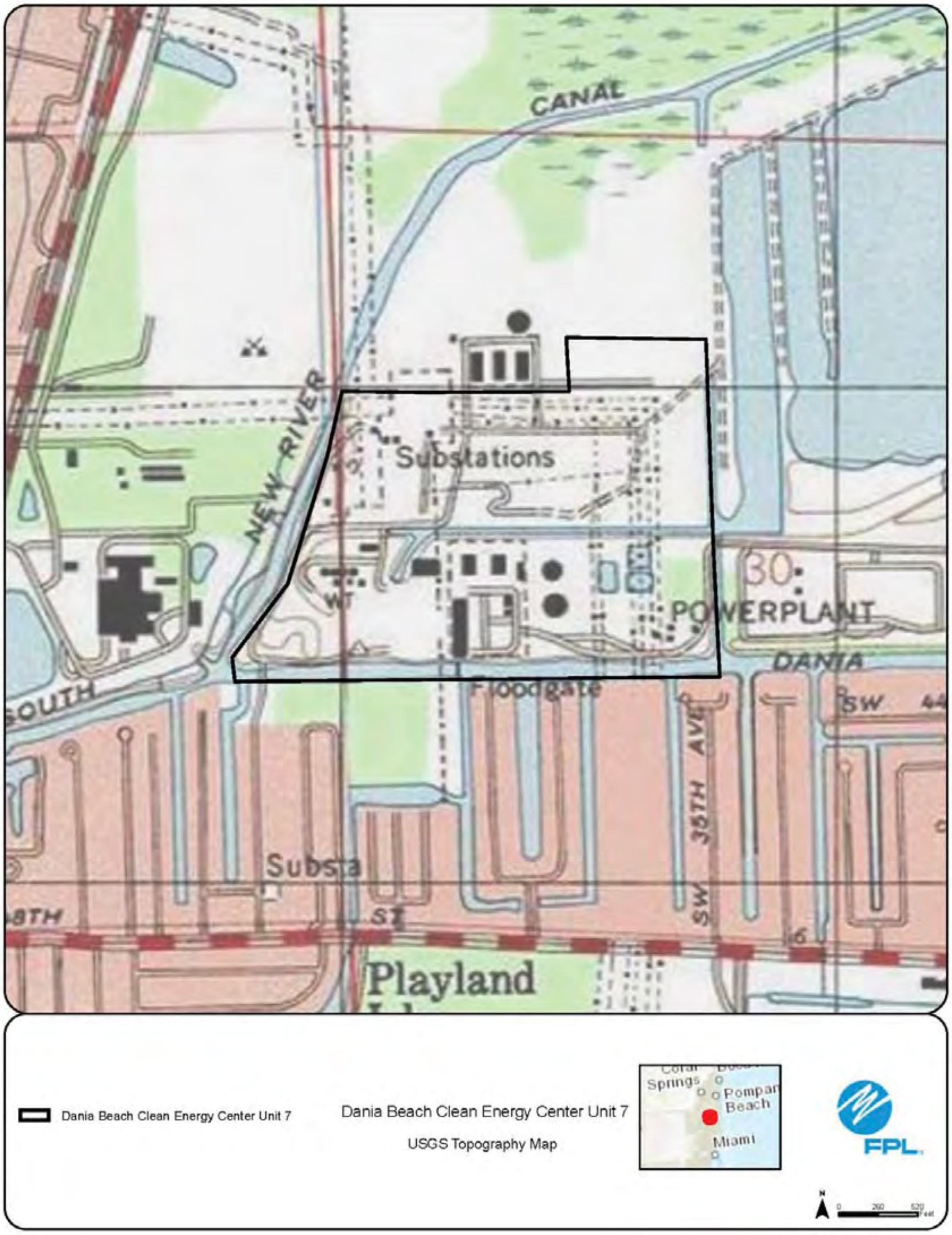

Elder Branch Solar Energy Center
Elder Branch Solar Energy Center
USGS Topography Map
Tampa
FPL
0
990
1,980
Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Elder Branch Solar Energy Center
Elder Branch Solar Energy Center
Land Use / Land Cover Map
FPL.
N
0
990
1,980
Feet


Elder Branch Solar Energy Center
Elder Branch Solar Energy Center
Facility Layout Map
St
Petersburg
FPL

Environmental and Land Use Information: Supplemental Information

Preferred Site # 18: Dania Beach Clean Energy Center Unit 7, Broward County



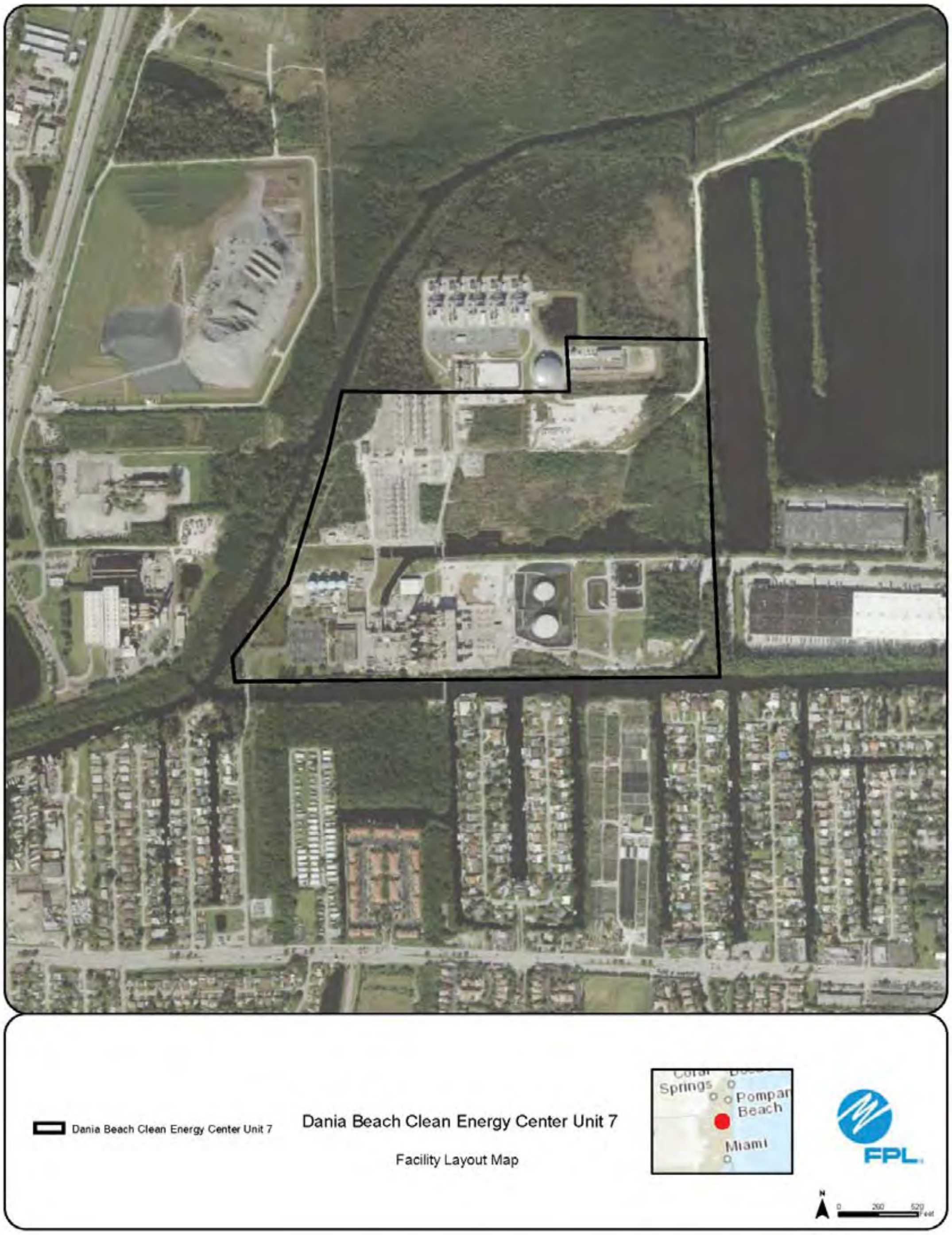
Dania Beach Clean Energy Center Unit 7

Dania Beach Clean Energy Center Unit 7

USGS Topography Map

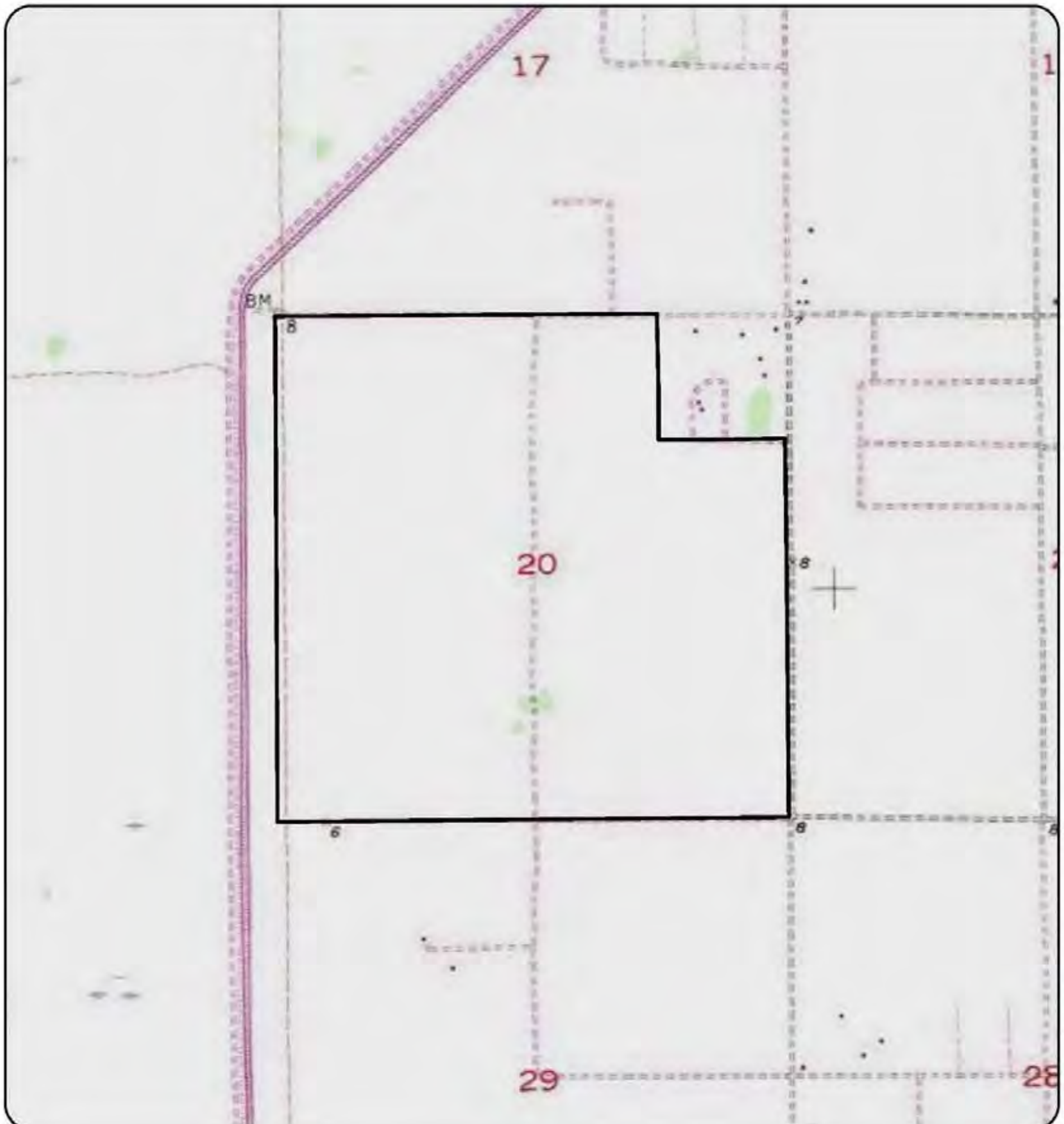
Dania Beach Clean Energy Center Unit 7

Land Use / Land Cover Map


Dania Beach Clean Energy Center Unit 7
Dania Beach Clean Energy Center Unit 7
Facility Layout Map
Springs
Pompan
Beach
Miami
FPL
N
0
260
520
Feet

Environmental and Land Use Information: Supplemental Information

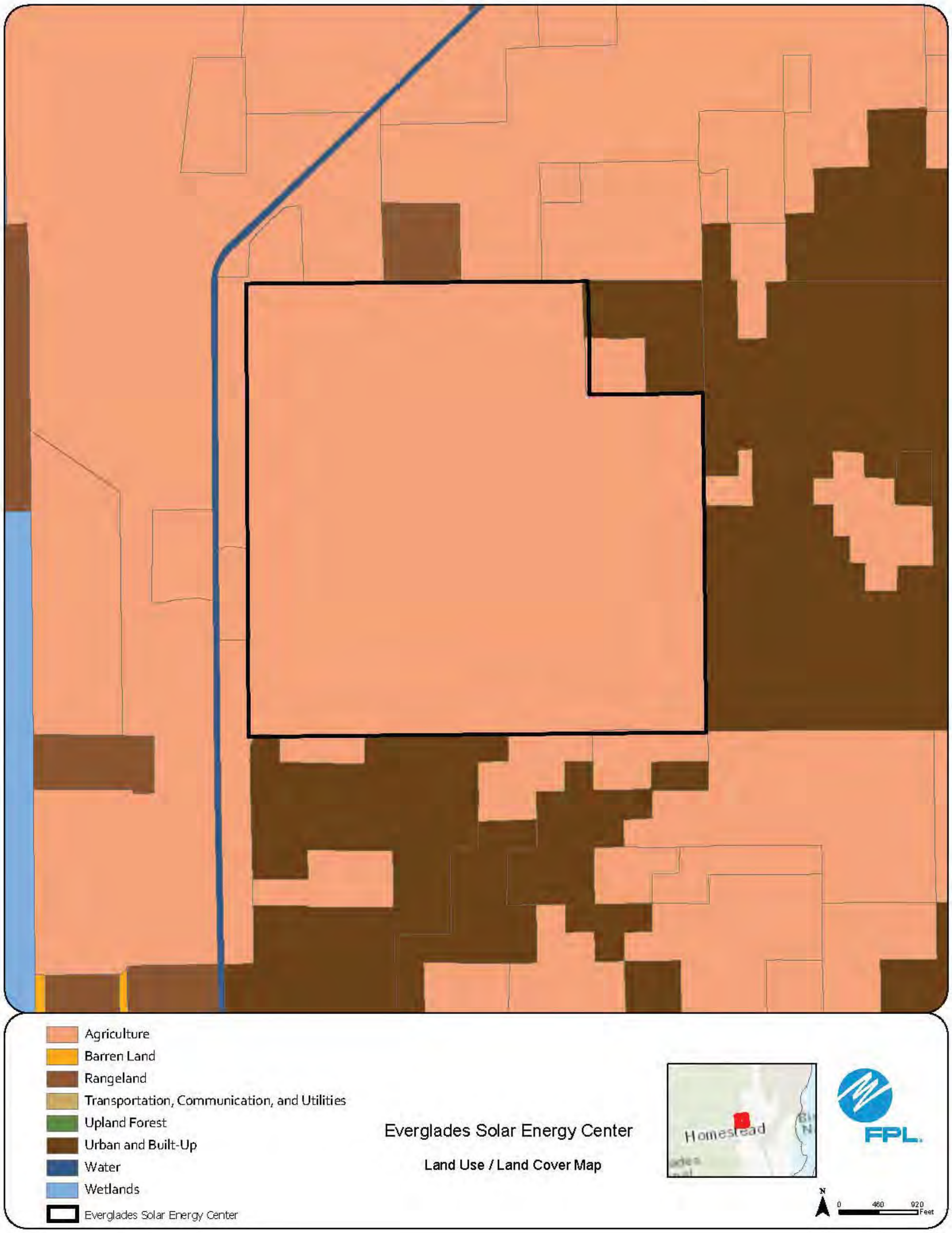
Preferred Site # 19: Everglades Solar Energy Center, Miami-Dade County

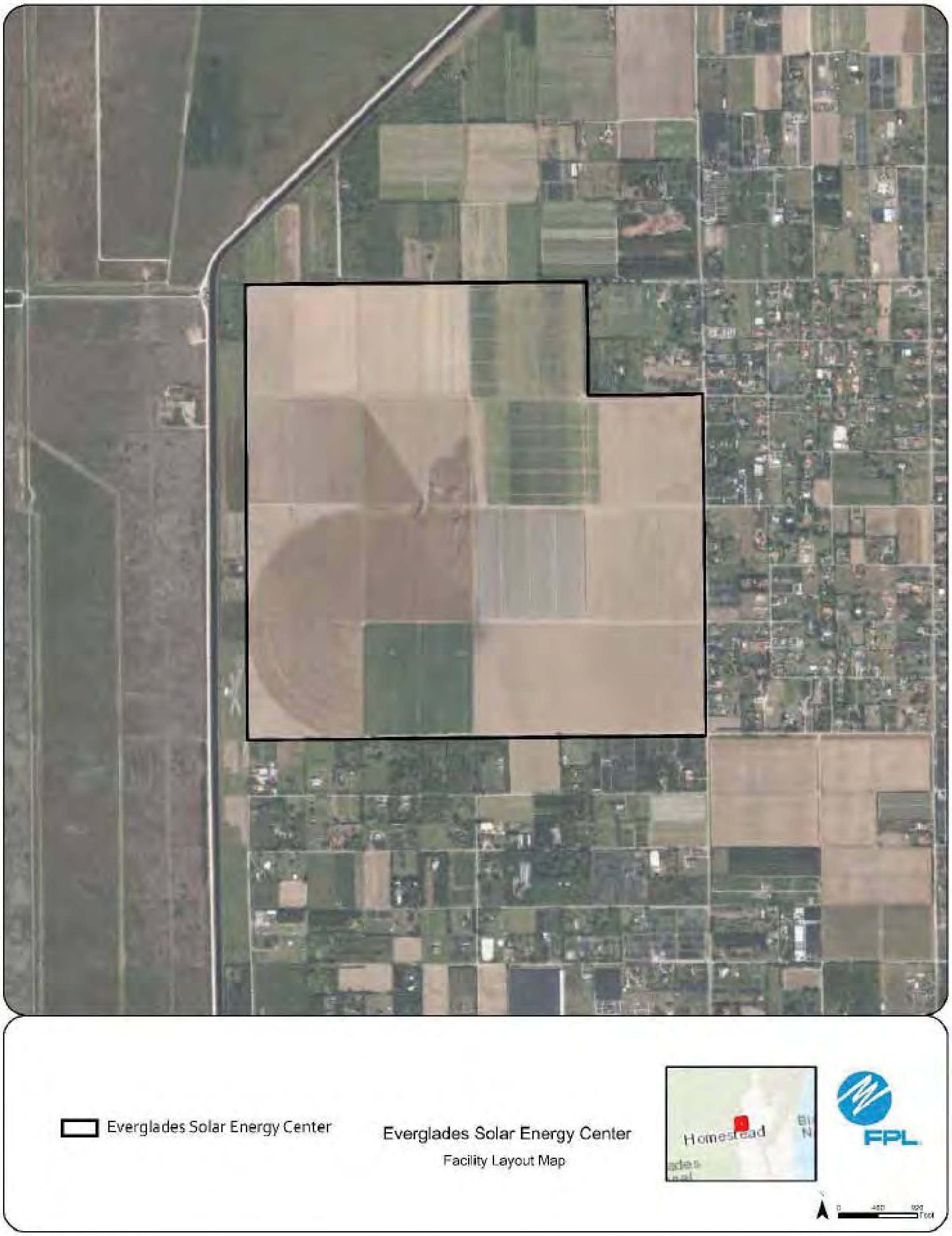


Everglades Solar Energy Center

Everglades Solar Energy Center
USGS Topography Map

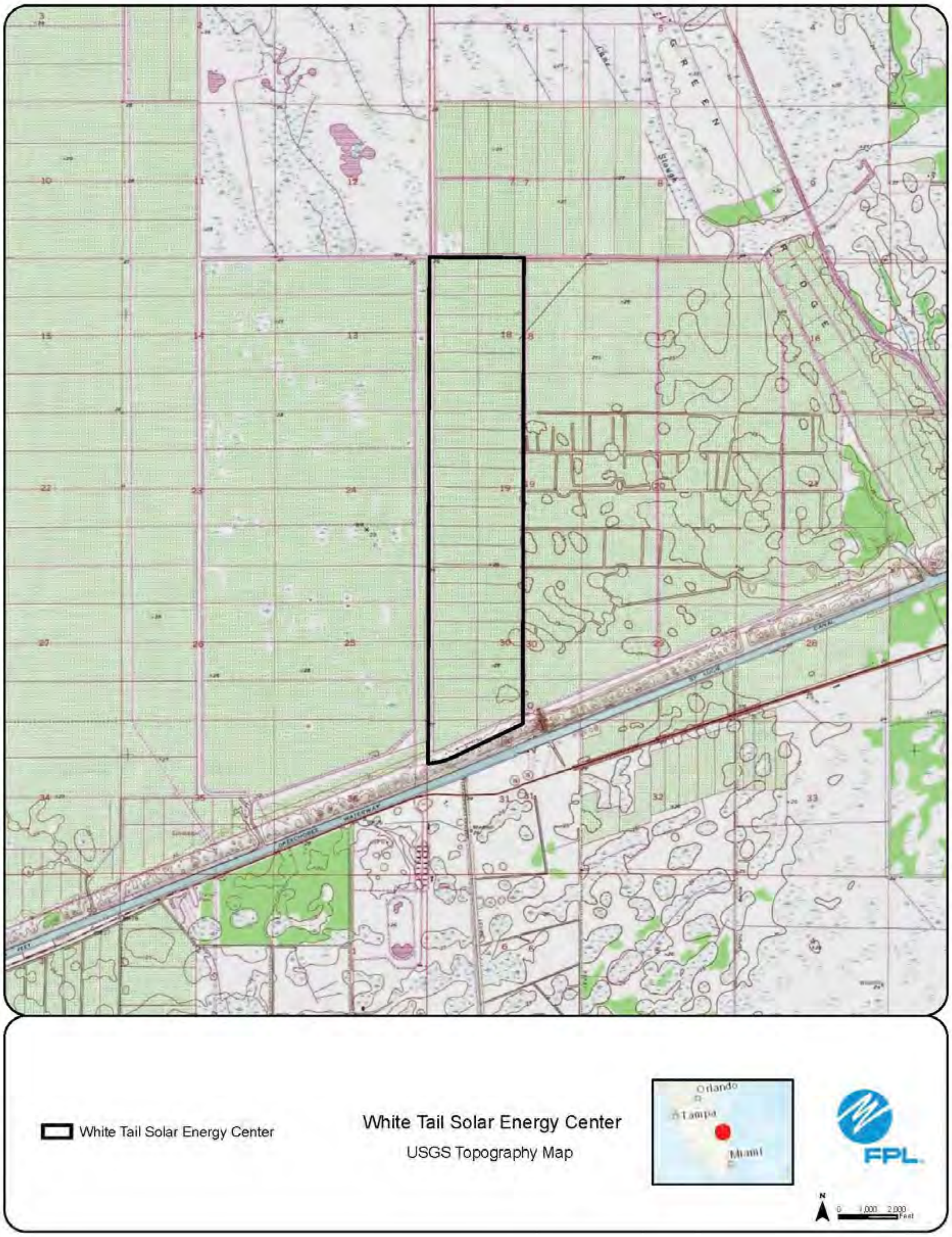
FPL

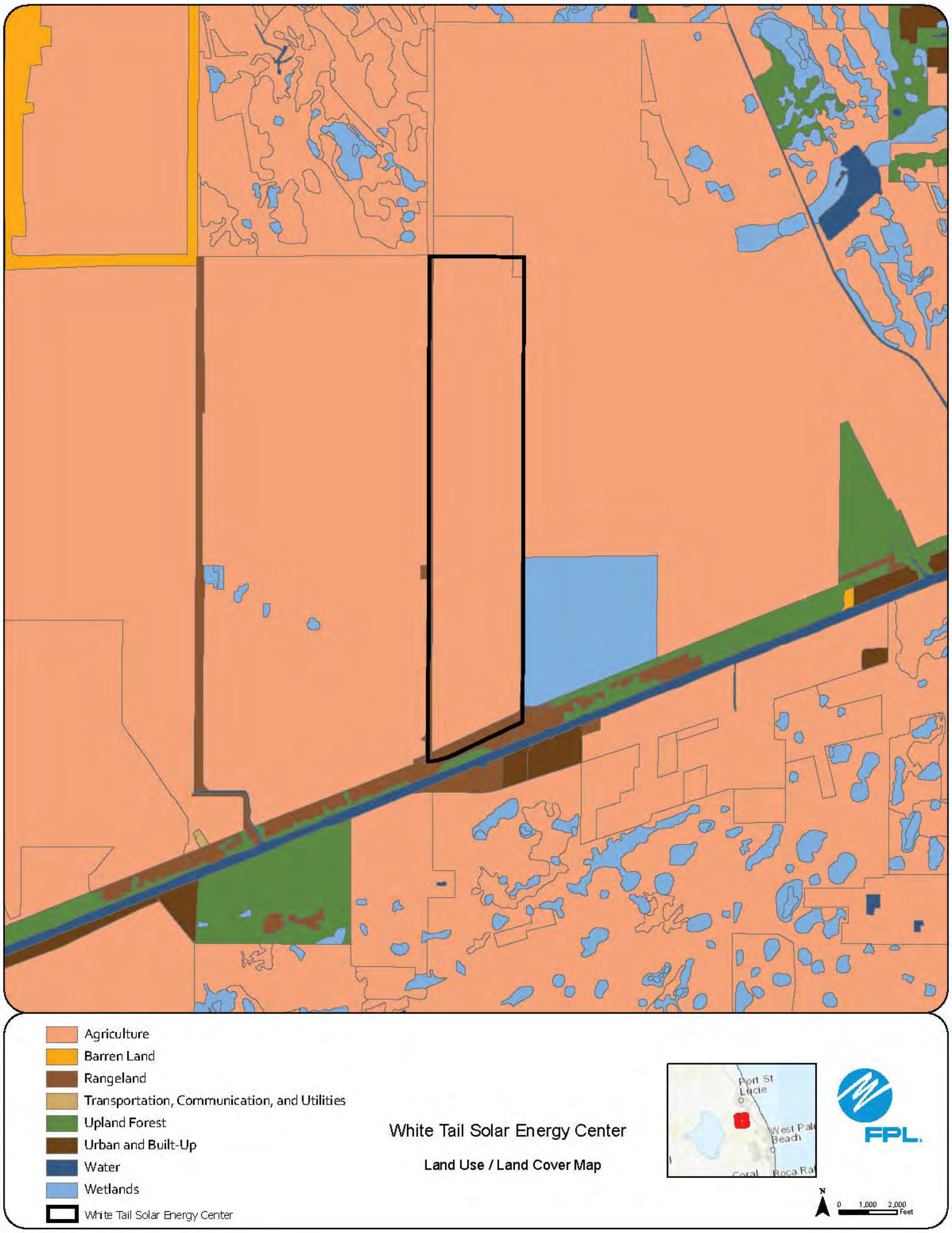

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Everglades Solar Energy Center
Everglades Solar Energy Center
Land Use / Land Cover Map
Homestead
FPL.
0
460
920
Feet

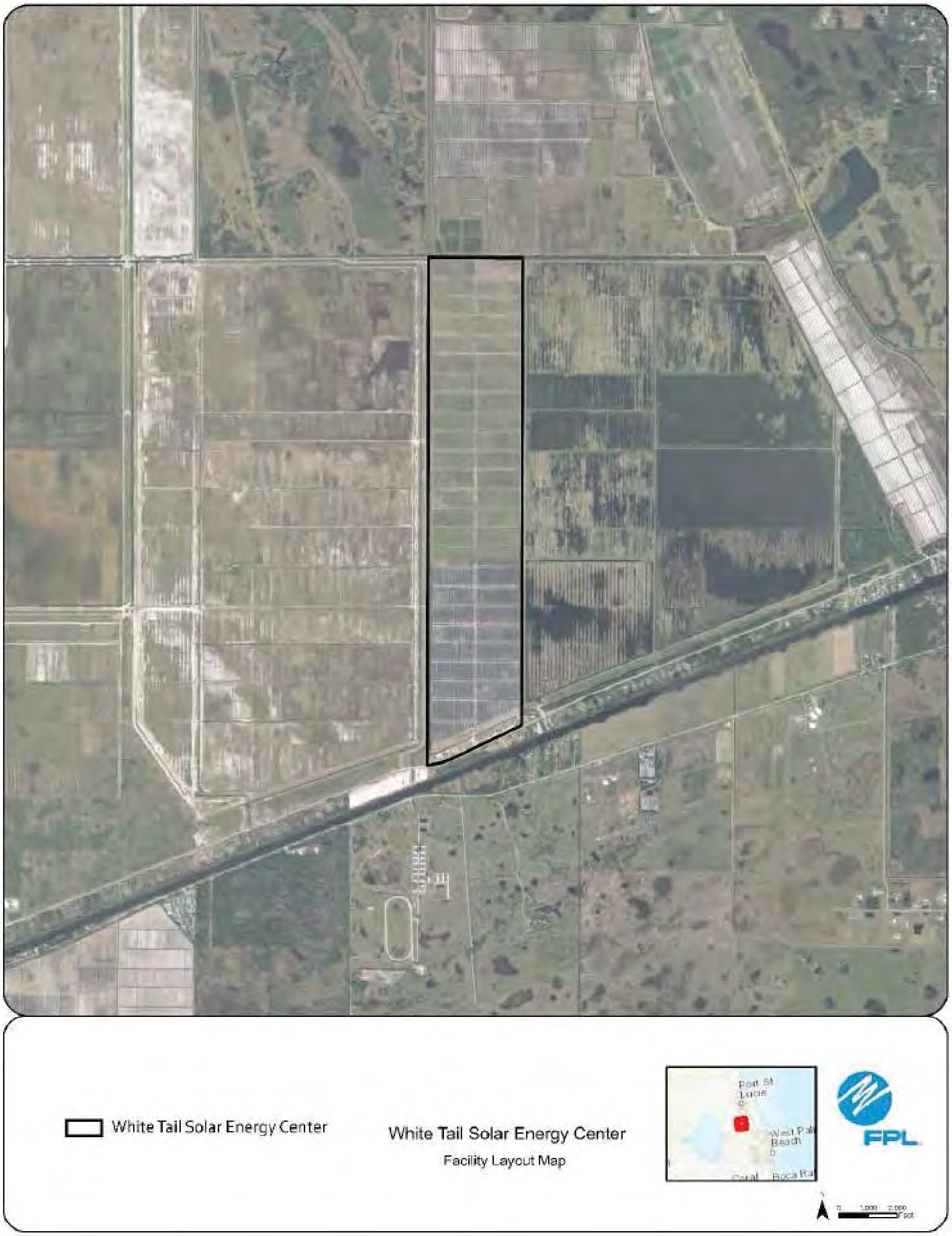

Everglades Solar Energy Center
Everglades Solar Energy Center
Facility Layout Map
Homestead
FPL

Environmental and Land Use Information: Supplemental Information

Preferred Site # 20: White Tail Solar Energy Center, Martin County

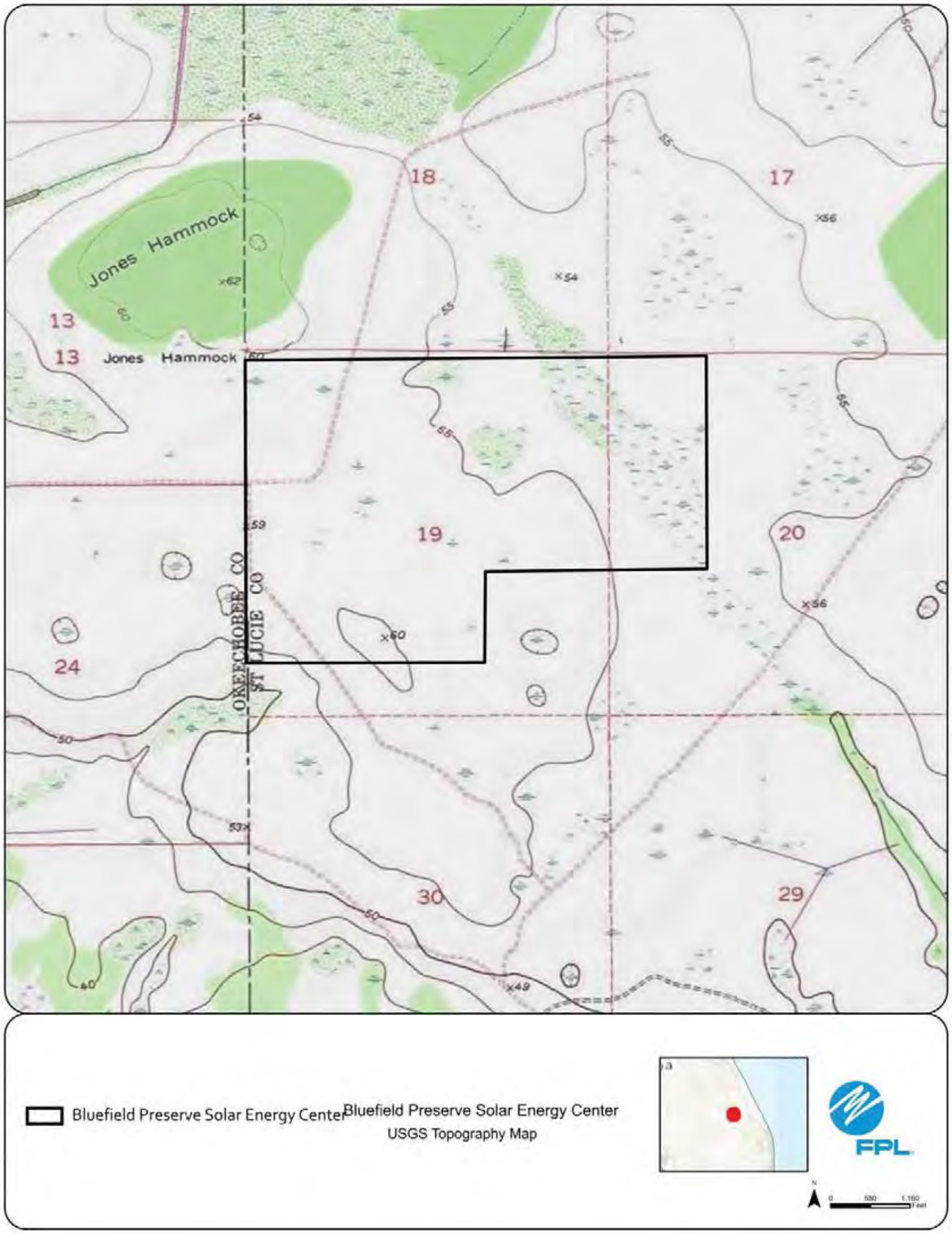

White Tail Solar Energy Center
White Tail Solar Energy Center
USGS Topography Map
Orlando
Tampa
Miami
FPL
N
0 1,000 2,000
Feet

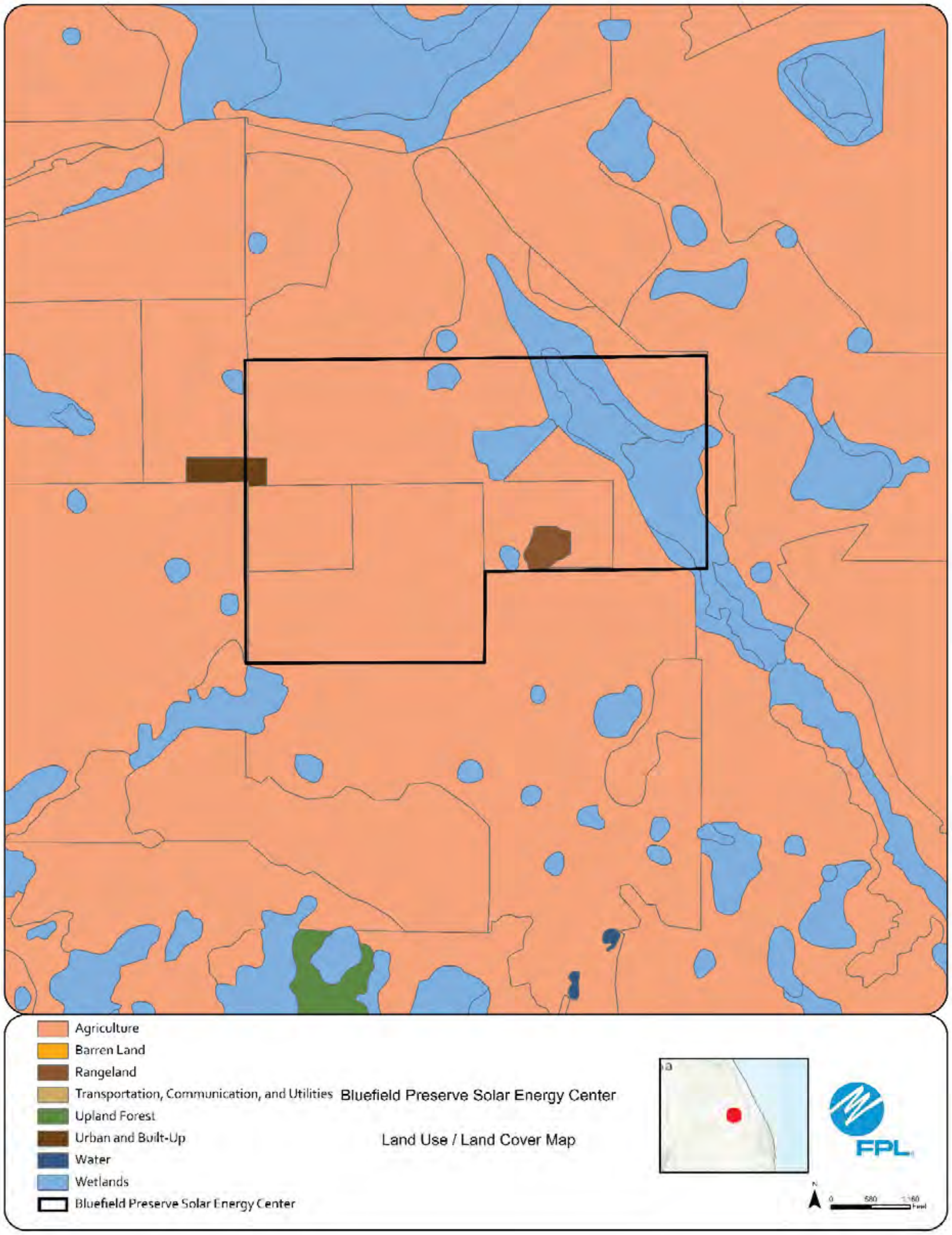

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
White Tail Solar Energy Center
White Tail Solar Energy Center
Land Use / Land Cover Map
Port St Lucie
West Palm Beach
Boca Raton
FPL.
N
0 1,000 2,000 Feet


White Tail Solar Energy Center
White Tail Solar Energy Center
Facility Layout Map
Port St Lucie
West Palm Beach
FPL
0
1,000
2,000
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 21: Bluefield Preserve Solar Energy Center, St. Lucie County

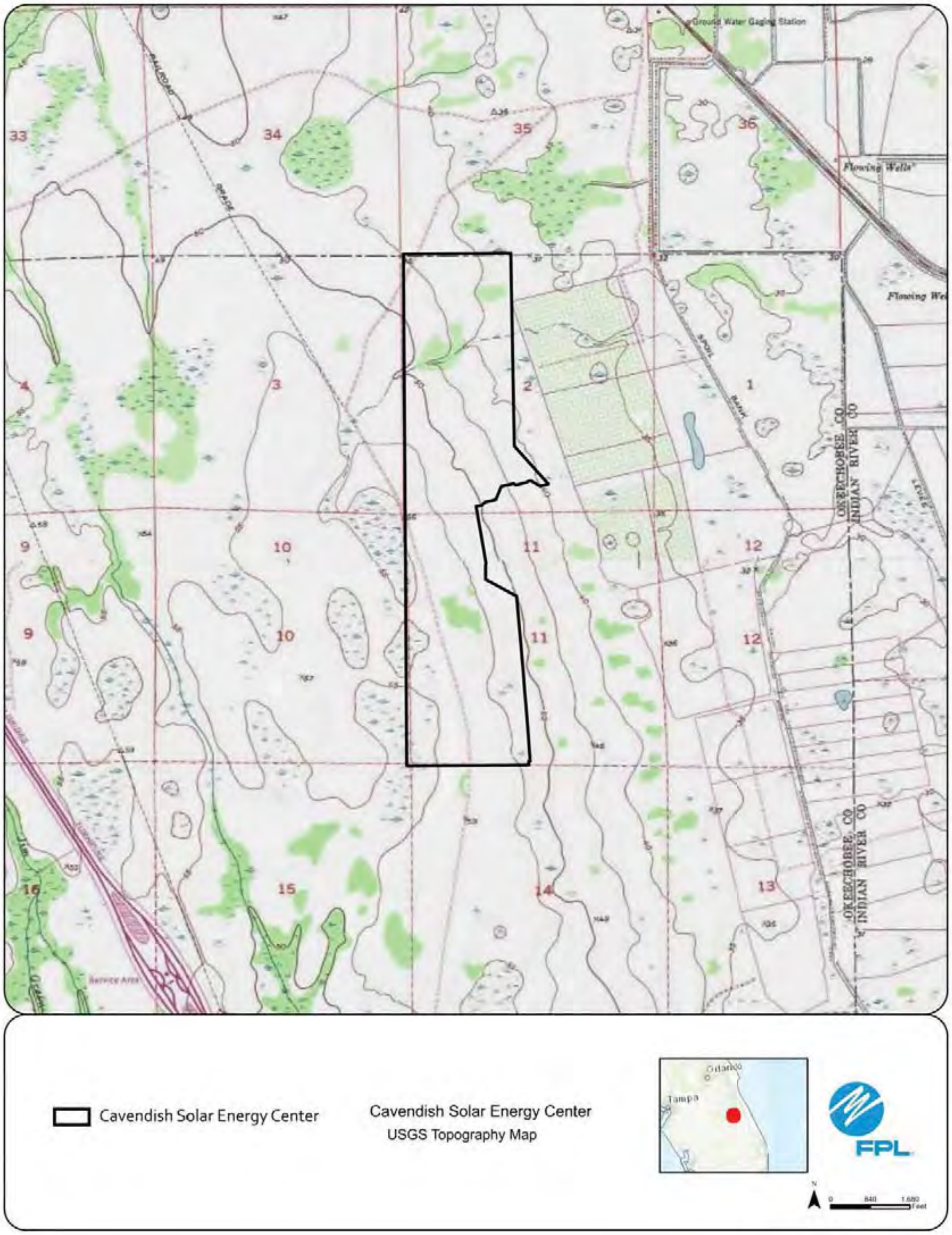

Jones Hammock
Jones Hammock
13
13
18
17
19
20
24
30
29
OKEECHOBEE CO
ST LUCIE CO
Bluefield Preserve Solar Energy Center
Bluefield Preserve Solar Energy Center
USGS Topography Map
FPL

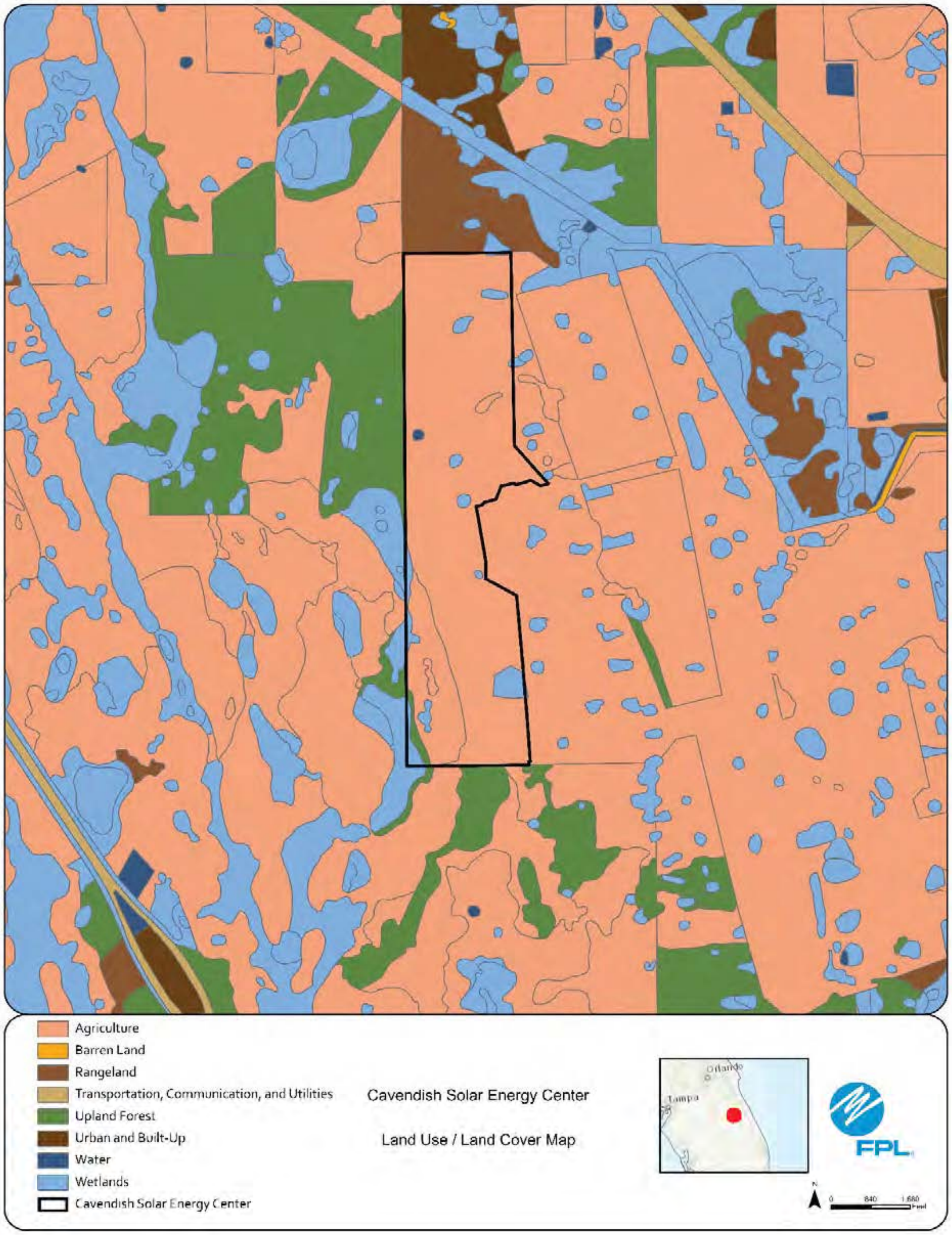

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Bluefield Preserve Solar Energy Center
Bluefield Preserve Solar Energy Center
Land Use / Land Cover Map
FPL


Bluefield Preserve Solar Energy Center
Bluefield Preserve Solar Energy Center
Facility Layout Map
FPL
0 580 1,160 Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 22: Cavendish Solar Energy Center, Okeechobee County

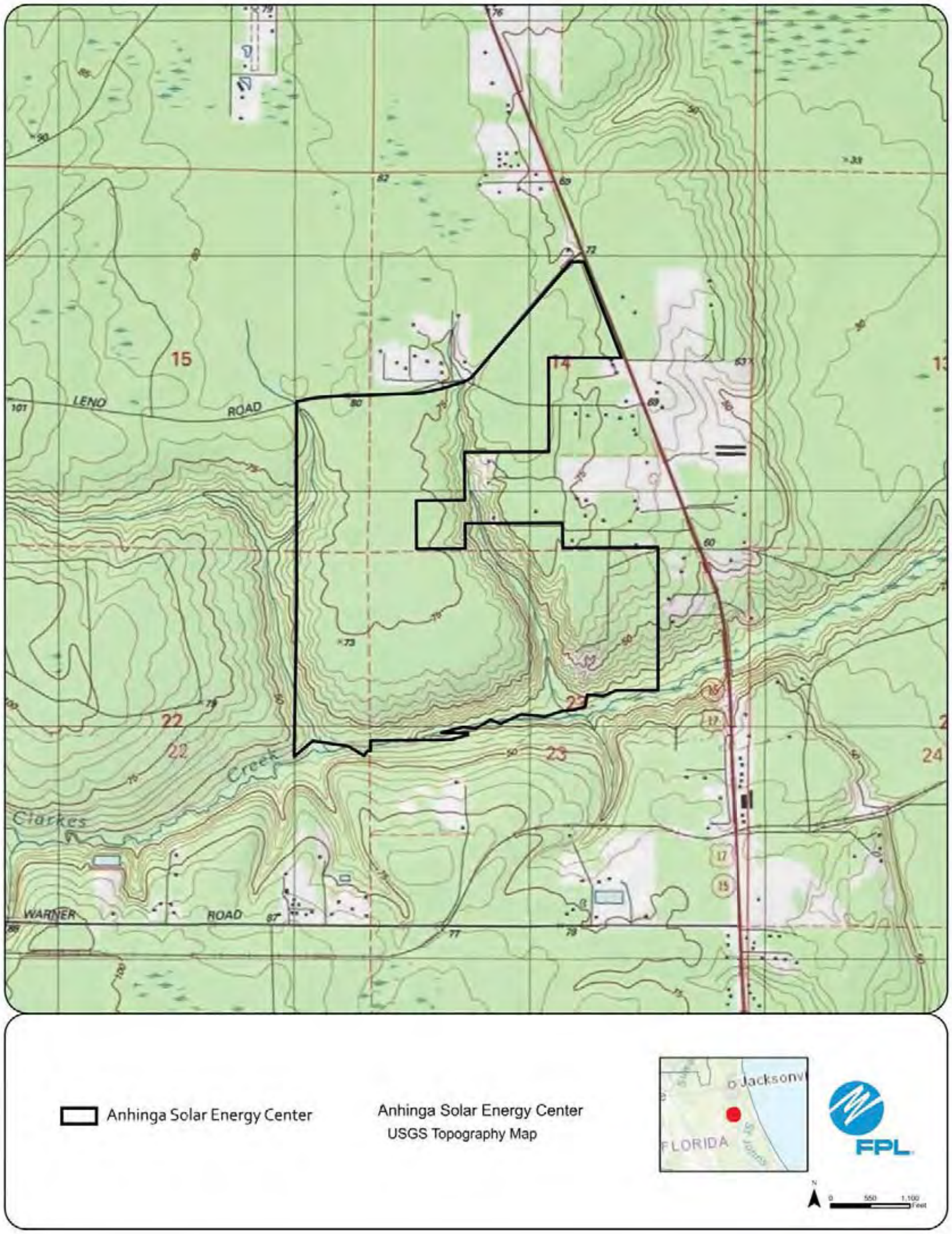

Cavendish Solar Energy Center
Cavendish Solar Energy Center
USGS Topography Map
Orlando
Tampa
FPL
0
840
1,680
Feet

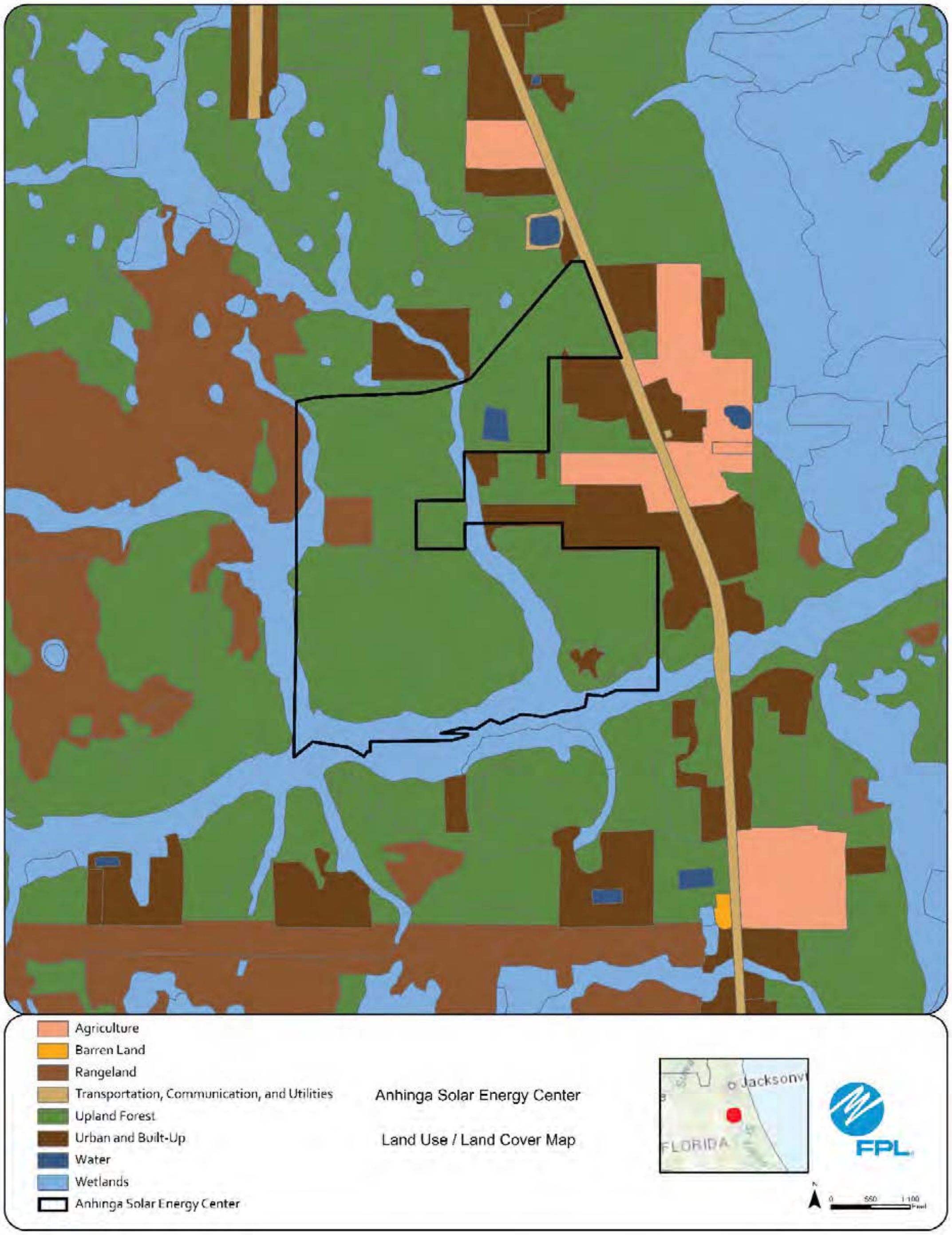

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Cavendish Solar Energy Center
Cavendish Solar Energy Center
Land Use / Land Cover Map
Orlando
Tampa
FPL
N
0
840
1,680
Feet

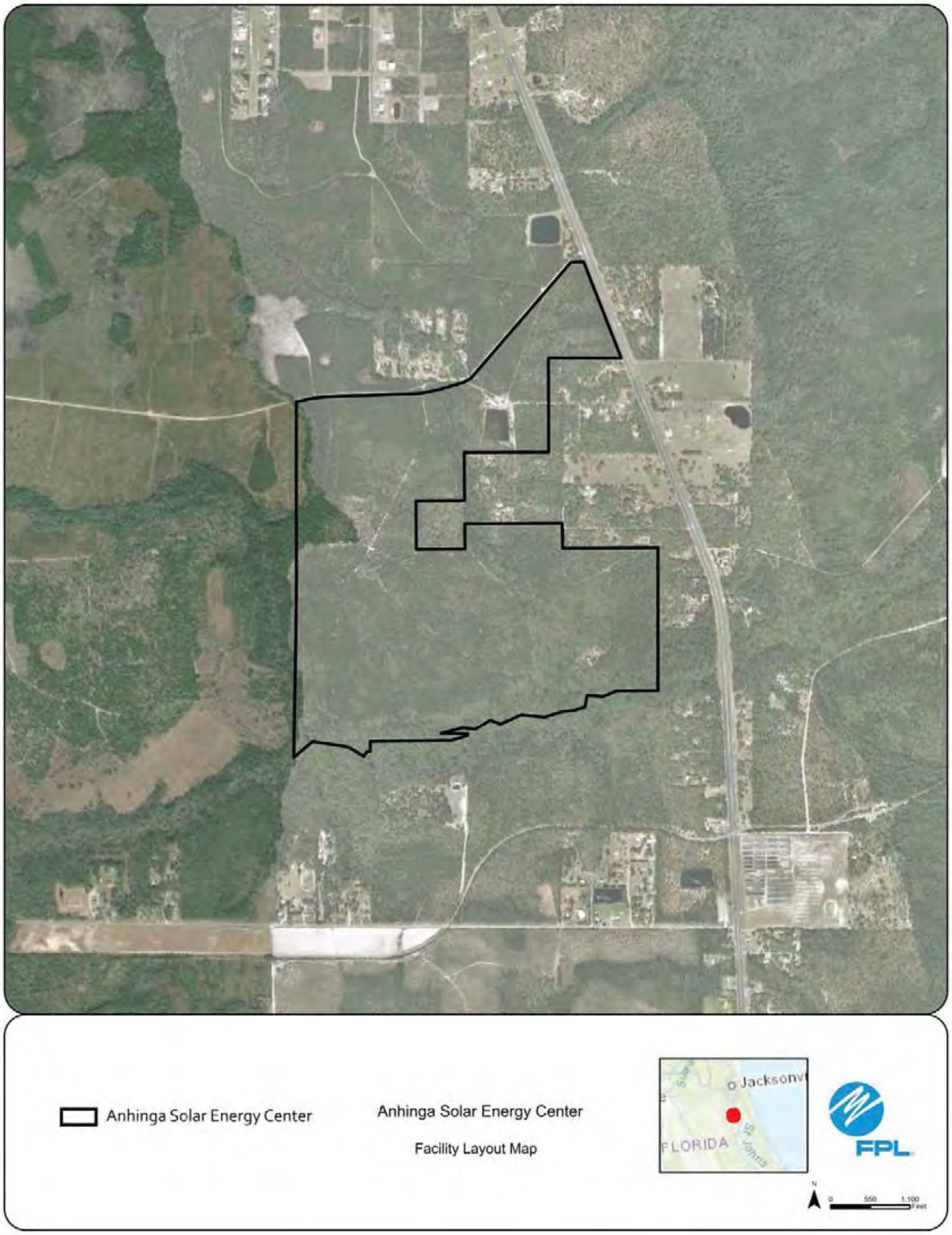

Cavendish Solar Energy Center
Cavendish Solar Energy Center
Facility Layout Map
Orlando
Tampa
FPL
N
0
840
1,680
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 23: Anhinga Solar Energy Center, Jackson County


LENO ROAD
WARNER ROAD
Clarkes Creek
15
14
13
22
23
24
Anhinga Solar Energy Center
Anhinga Solar Energy Center
USGS Topography Map
Jacksonville
FLORIDA
FPL
0
550
1,100
Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Anhinga Solar Energy Center
Anhinga Solar Energy Center
Land Use / Land Cover Map
Jacksonv
FLORIDA
FPL


Anhinga Solar Energy Center
Anhinga Solar Energy Center
Facility Layout Map
Jacksonv
FLORIDA
0 550 1,100
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 24: Blackwater River Solar Energy Center, Santa Rosa County

Blackwater River Solar Energy Center

Blackwater River
Solar Energy Center

USGS Topography Map

Gulf Power

0 580 1,160 Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Blackwater River Solar Energy Center
Blackwater River Solar Energy Center
Land Use / Land Cover Map
Gulf Power
N
0
580
1,160
Feet


Blackwater River Solar Energy Center
Blackwater River
Solar Energy Center
Facility Layout Map
Gulf Power
N
0
580
1,160
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 25: Chipola River Solar Energy Center, Calhoun County

Chipola River Solar Energy Center

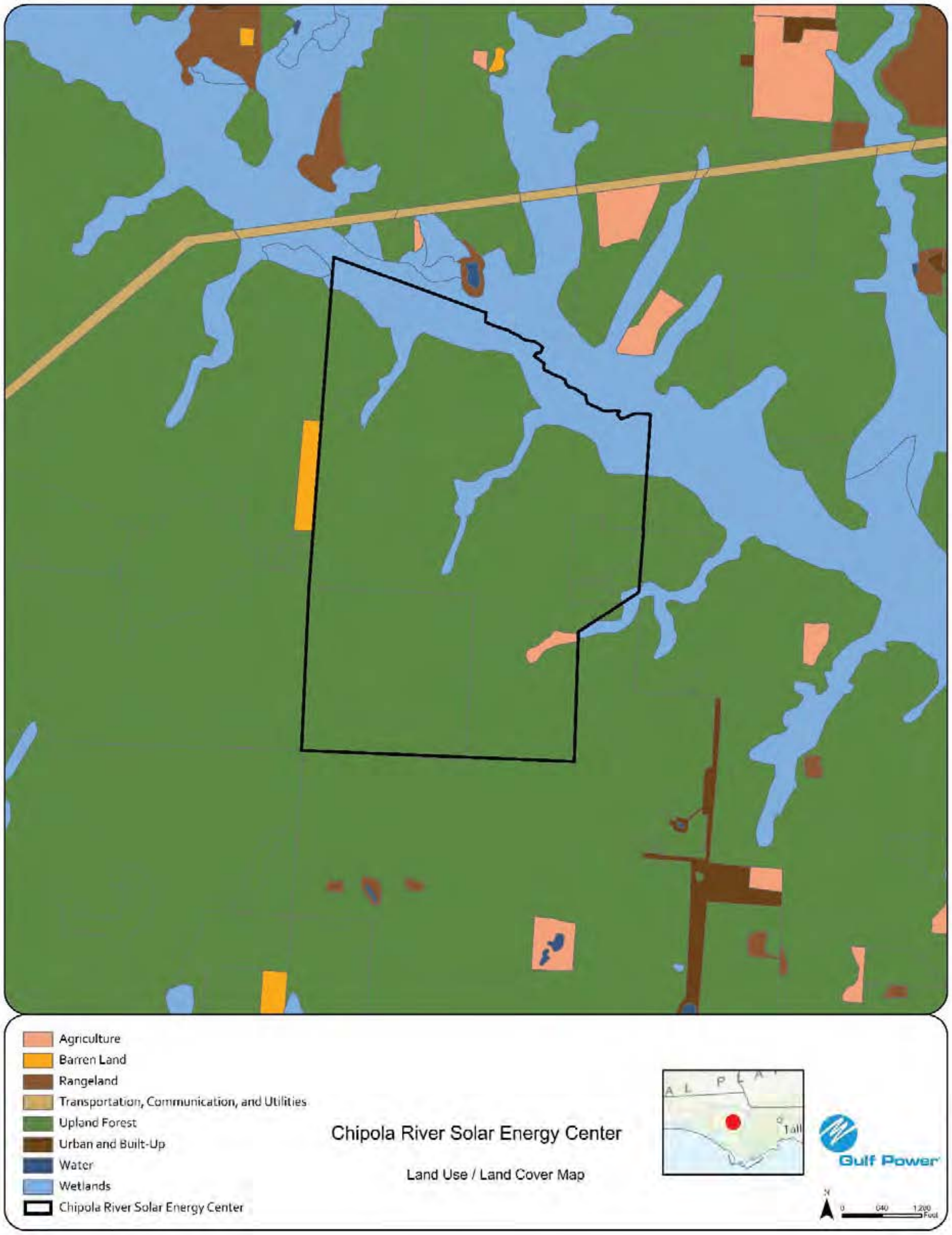
Chipola River Solar Energy Center

USGS Topography Map

Gulf Power

N

0 640 1,280 Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Chipola River Solar Energy Center
Chipola River Solar Energy Center
Land Use / Land Cover Map
Gulf Power
N
0
1,200
Feet

Chipola River Solar Energy Center

Chipola River Solar Energy Center

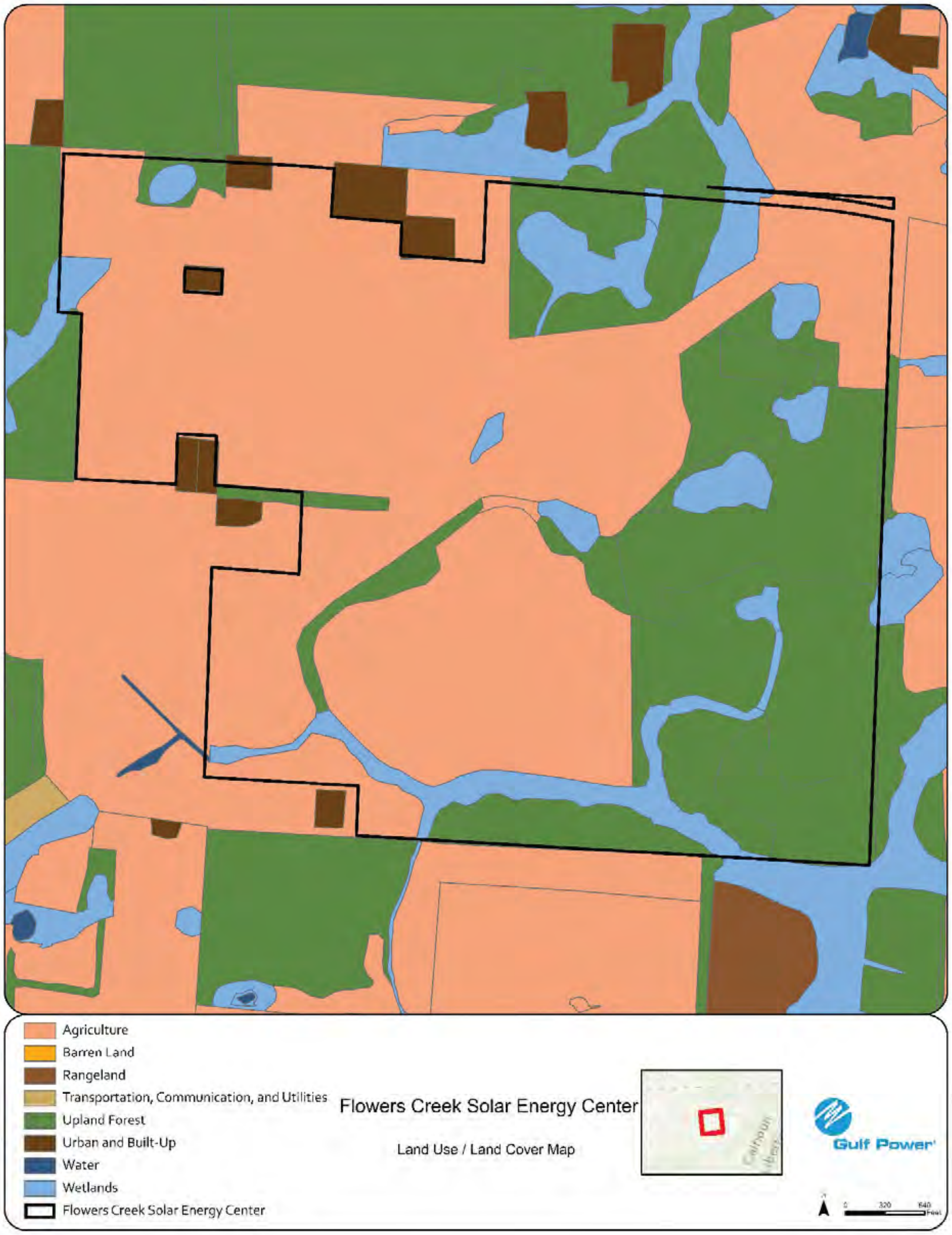
Facility Layout Map

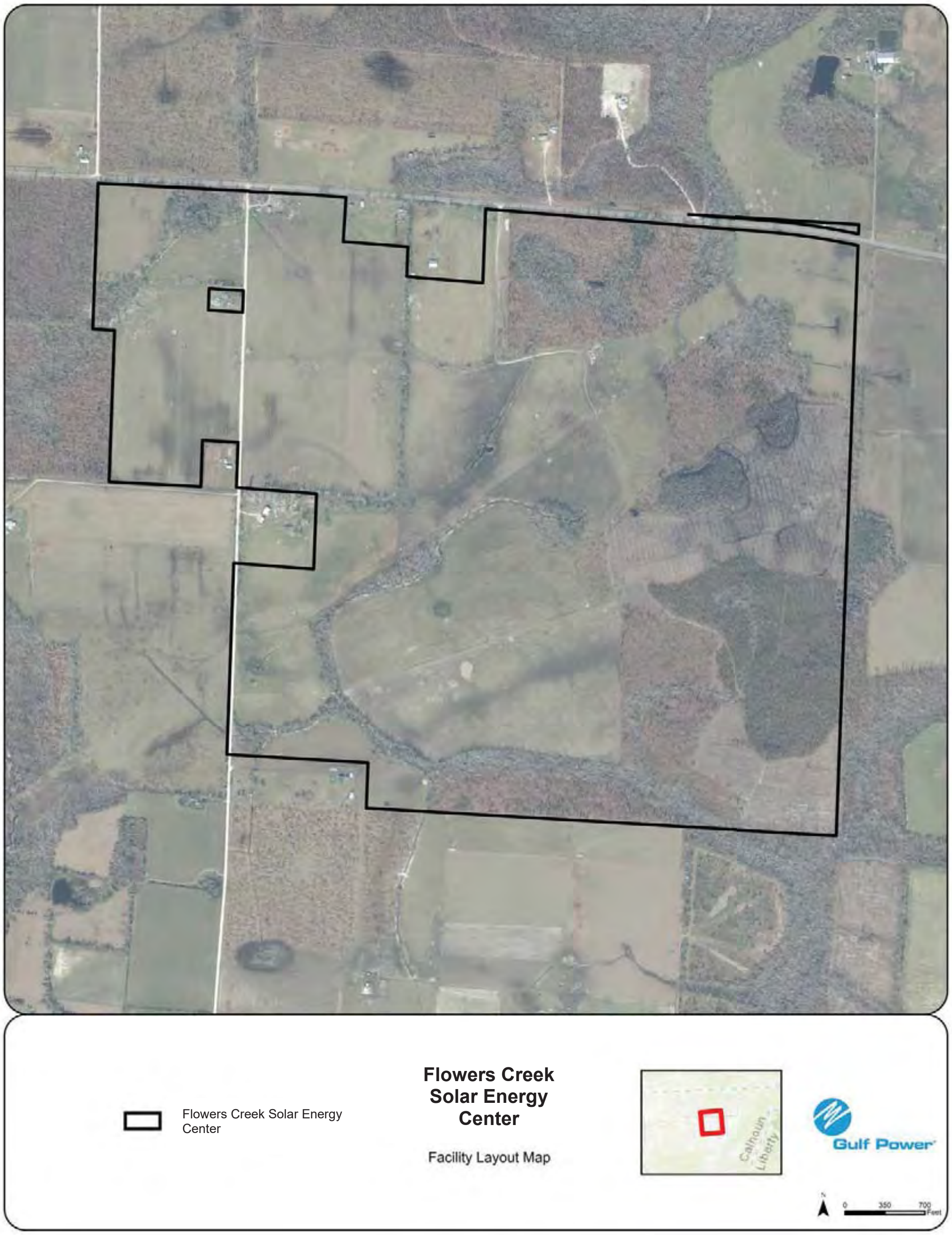
Gulf Power

Environmental and Land Use Information: Supplemental Information

Preferred Site # 26: Flowers Creek Solar Energy Center, Calhoun County

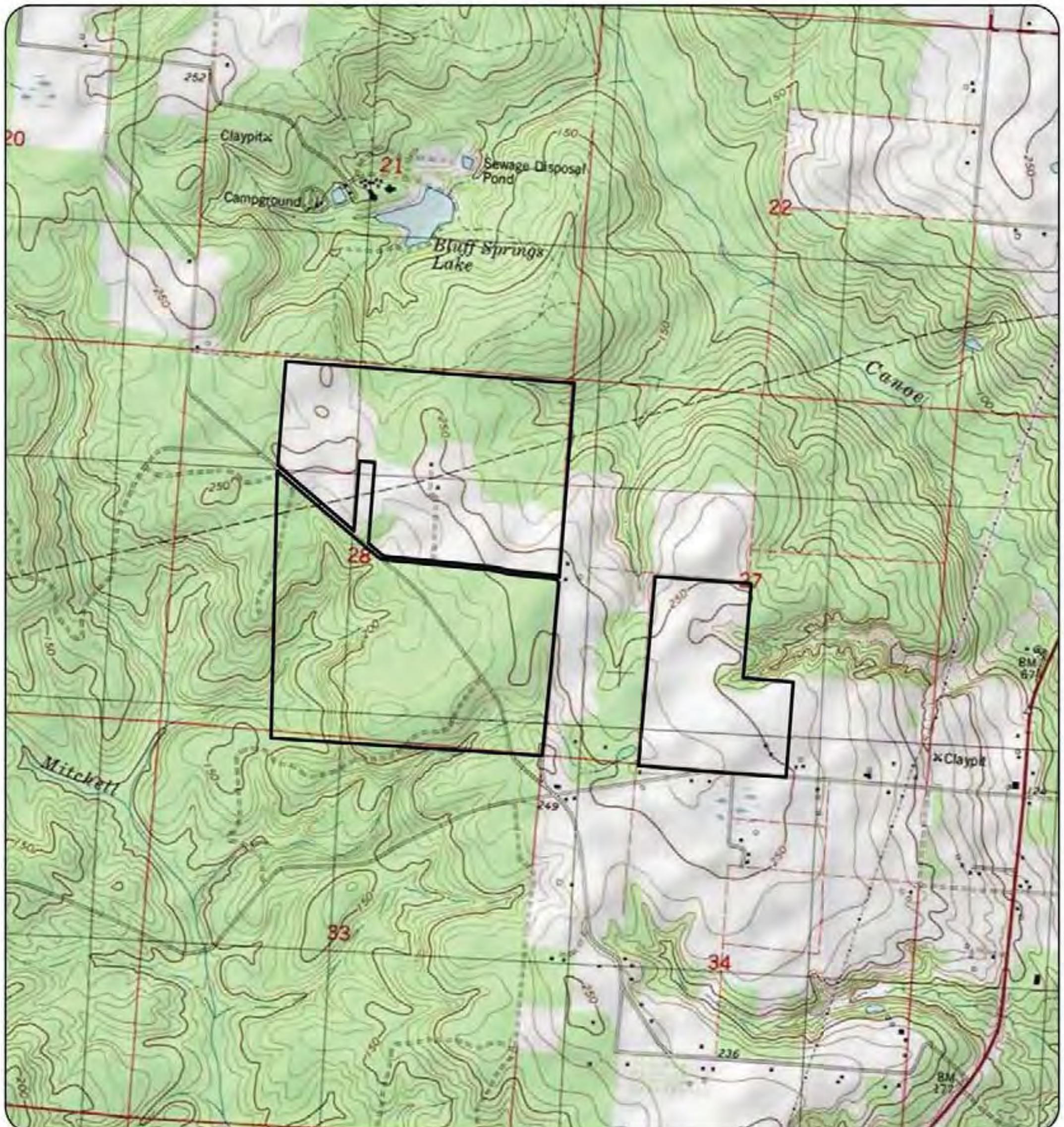

139
110
130
130
16
120
124
120
Flowers Creek Solar Energy Center
Flowers Creek Solar Energy Center
USGS Topography Map
Calhoun
Liberty
Gulf Power
0
350
700
Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Flowers Creek Solar Energy Center
Flowers Creek Solar Energy Center
Land Use / Land Cover Map
Gulf Power


Flowers Creek Solar Energy Center
Flowers Creek
Solar Energy
Center
Facility Layout Map
Calhoun
Liberty
Gulf Power
0
350
700
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 27: First City Solar Energy Center, Escambia County

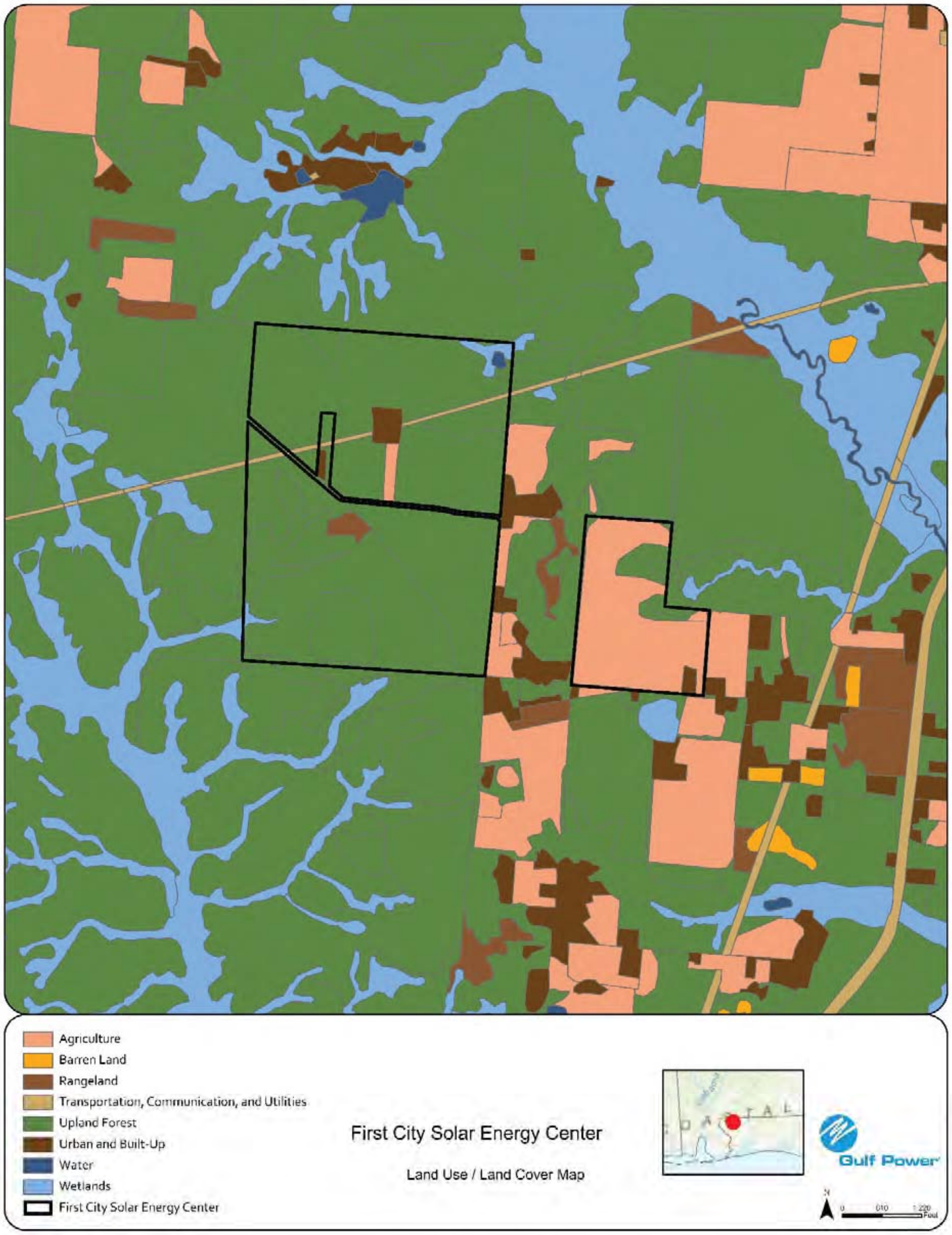


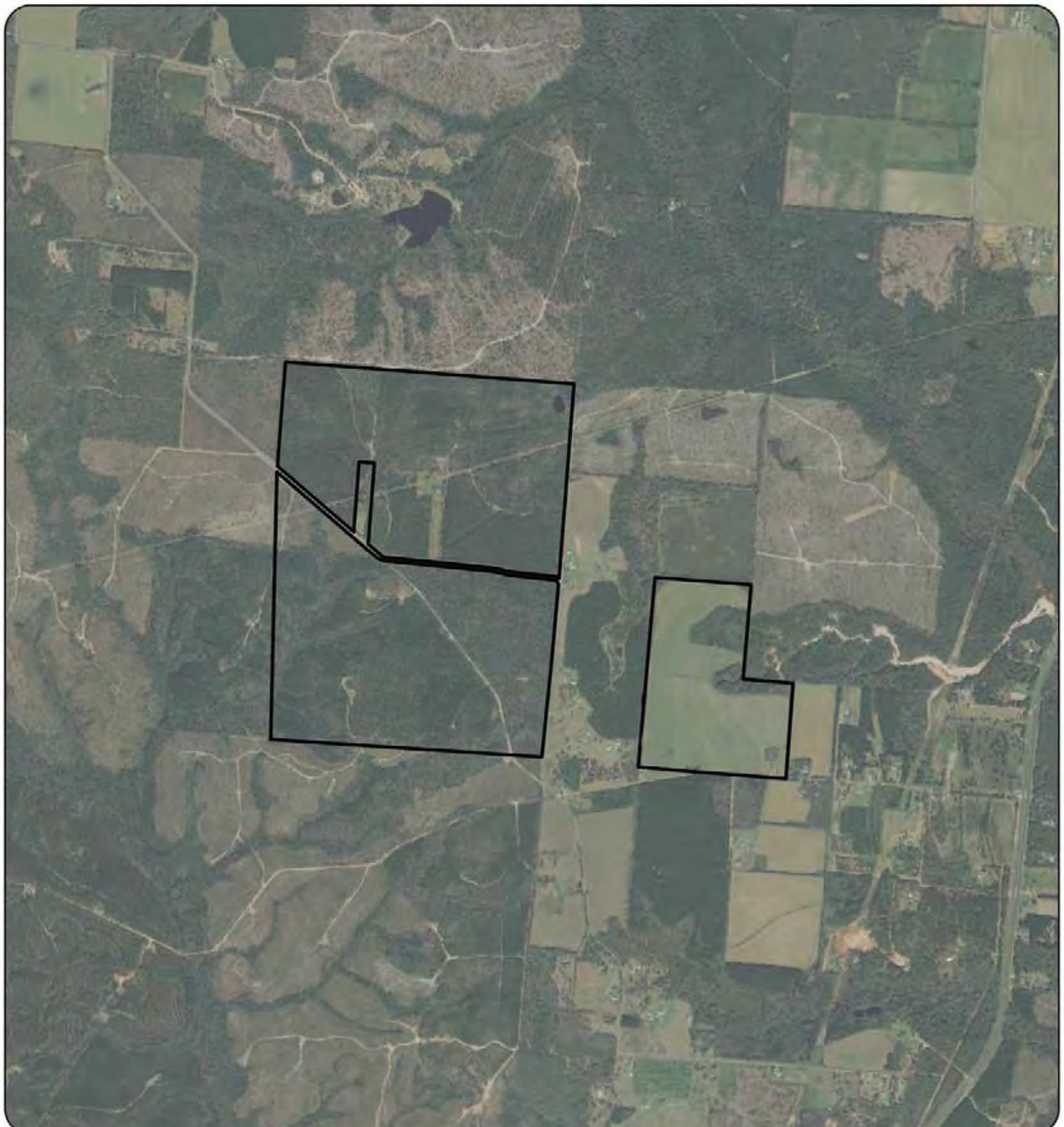
First City Solar Energy Center

First City Solar Energy Center

USGS Topography Map

Gulf Power


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
First City Solar Energy Center
First City Solar Energy Center
Land Use / Land Cover Map
Gulf Power



First City Solar Energy Center

First City Solar Energy Center

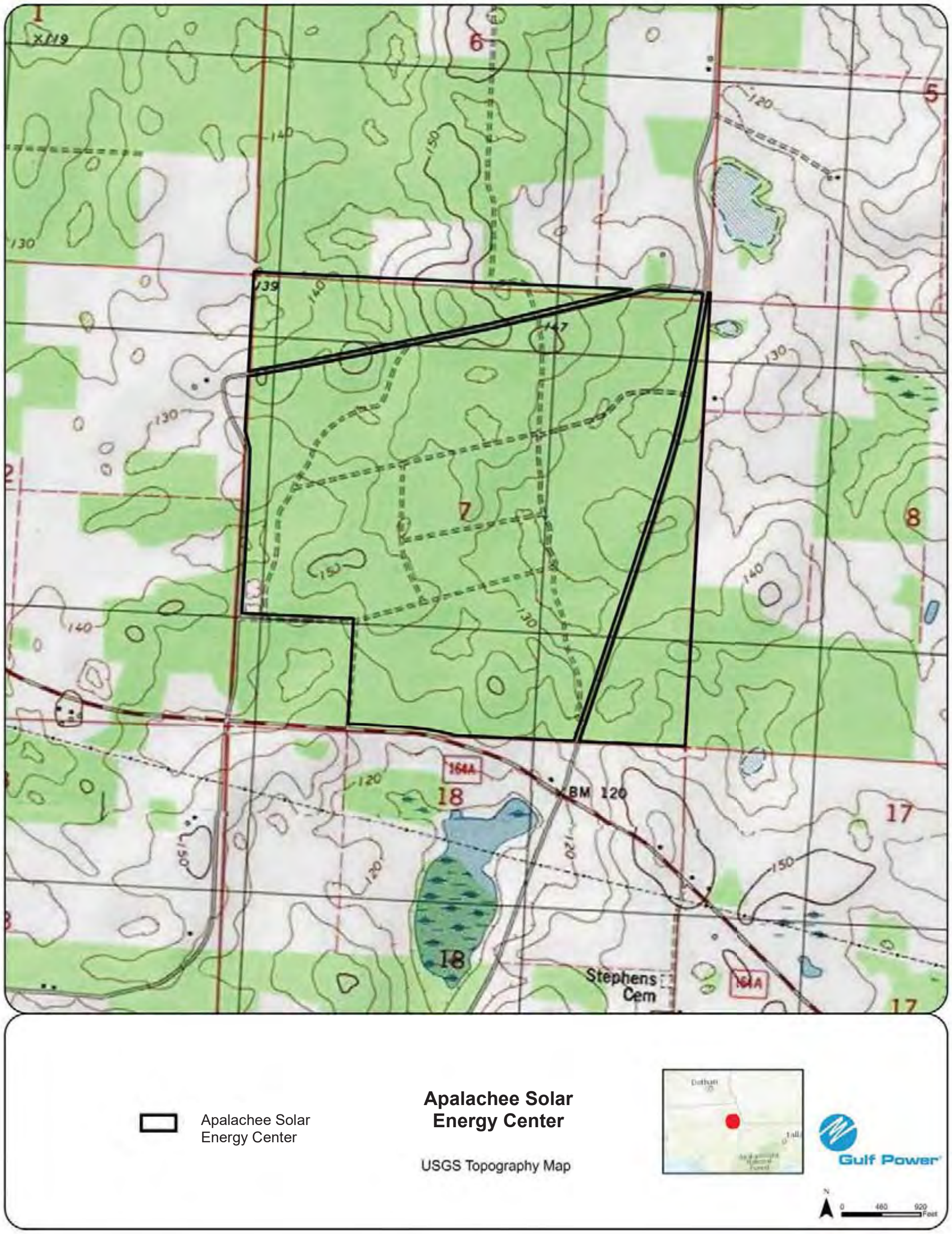
Facility Layout Map

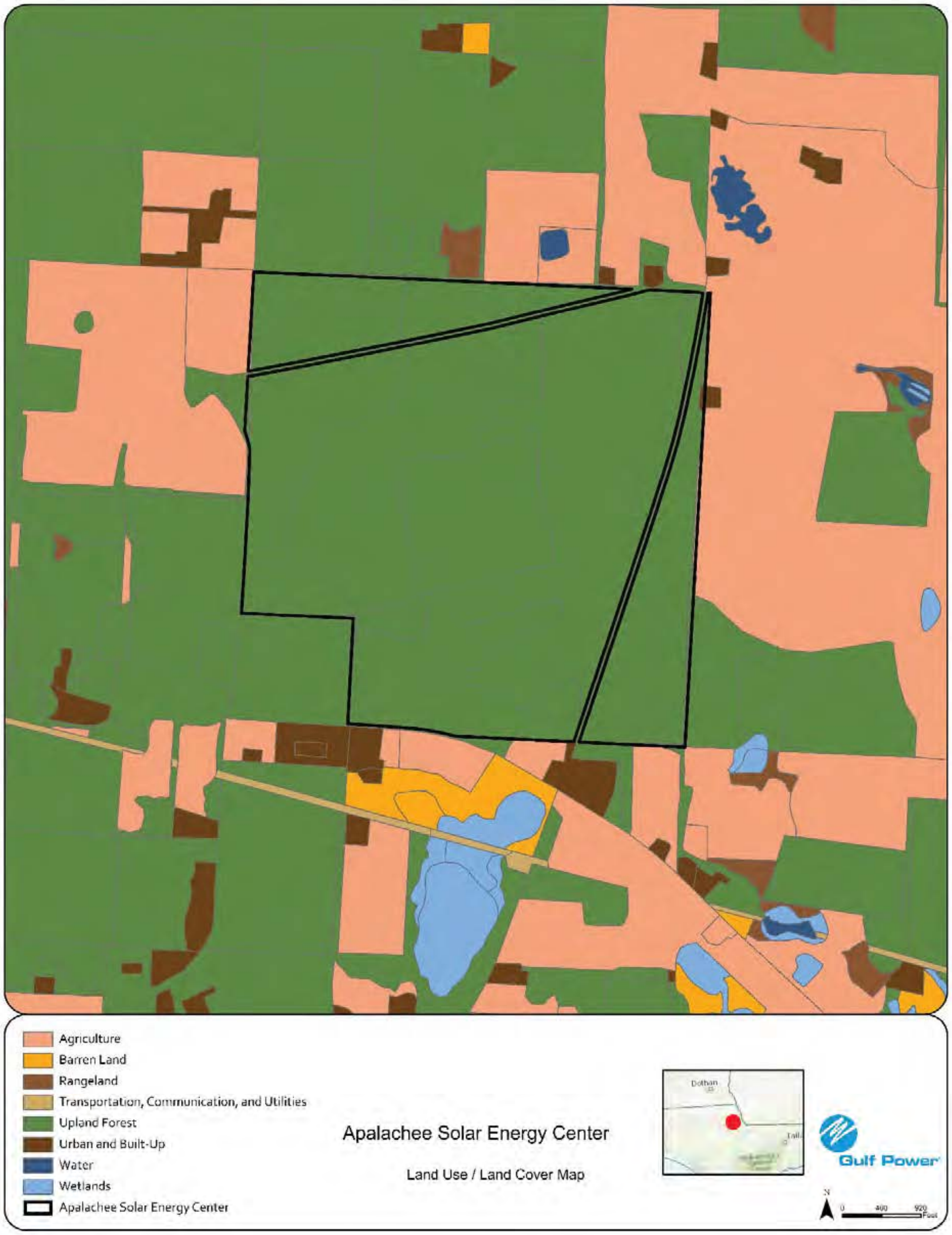
Gulf Power

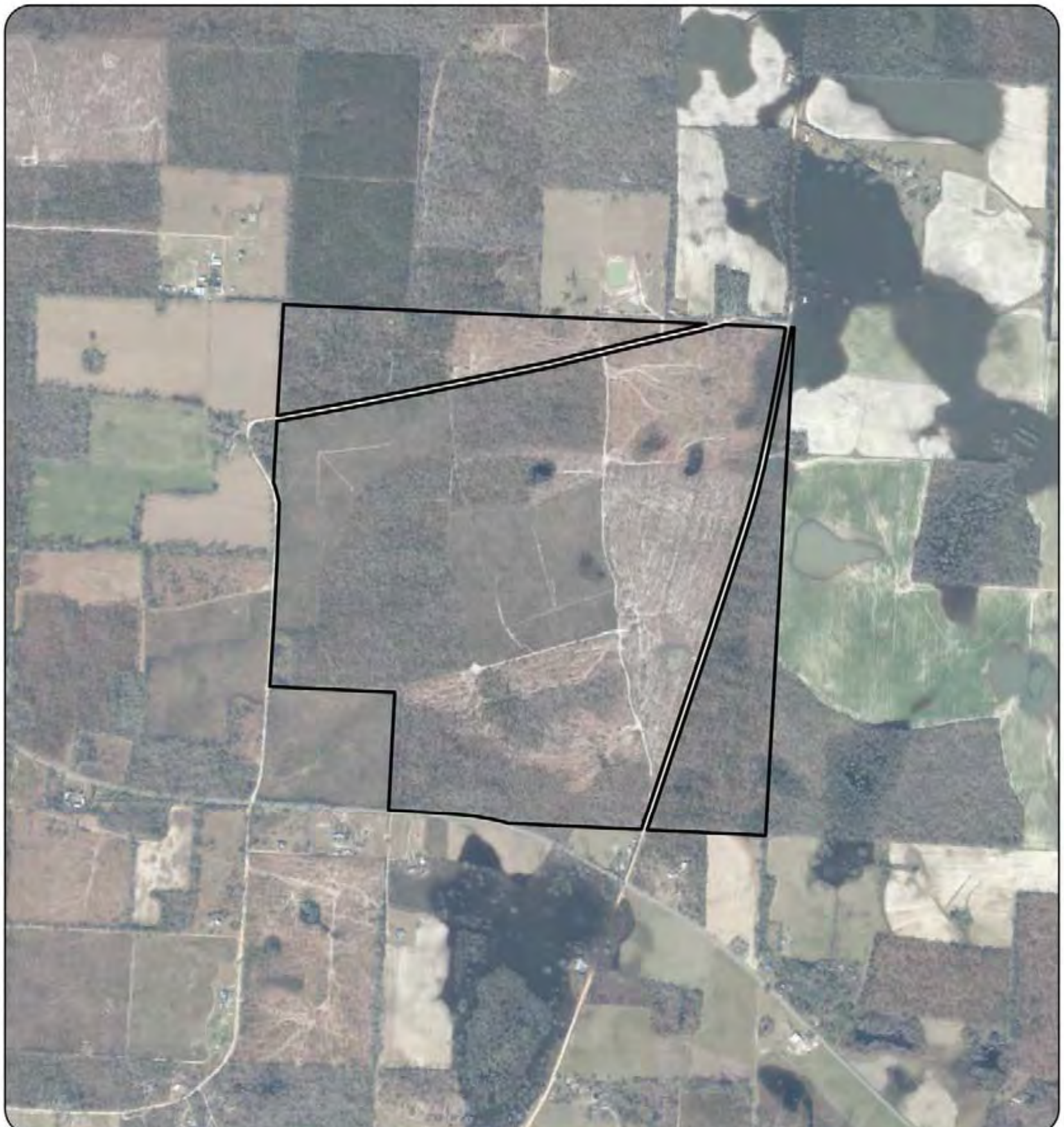
N 0 610 1,220 Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 28: Apalachee Solar Energy Center, Jackson County


Apalachee Solar Energy Center
Apalachee Solar Energy Center
USGS Topography Map
Gulf Power
Stephens Cem
BM 120
164A
0
460
920
Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Apalachee Solar Energy Center
Apalachee Solar Energy Center
Land Use / Land Cover Map
Dothan
Gulf Power
N
0
400
920
Feet



Apalachee Solar Energy Center

Apalachee Solar Energy Center

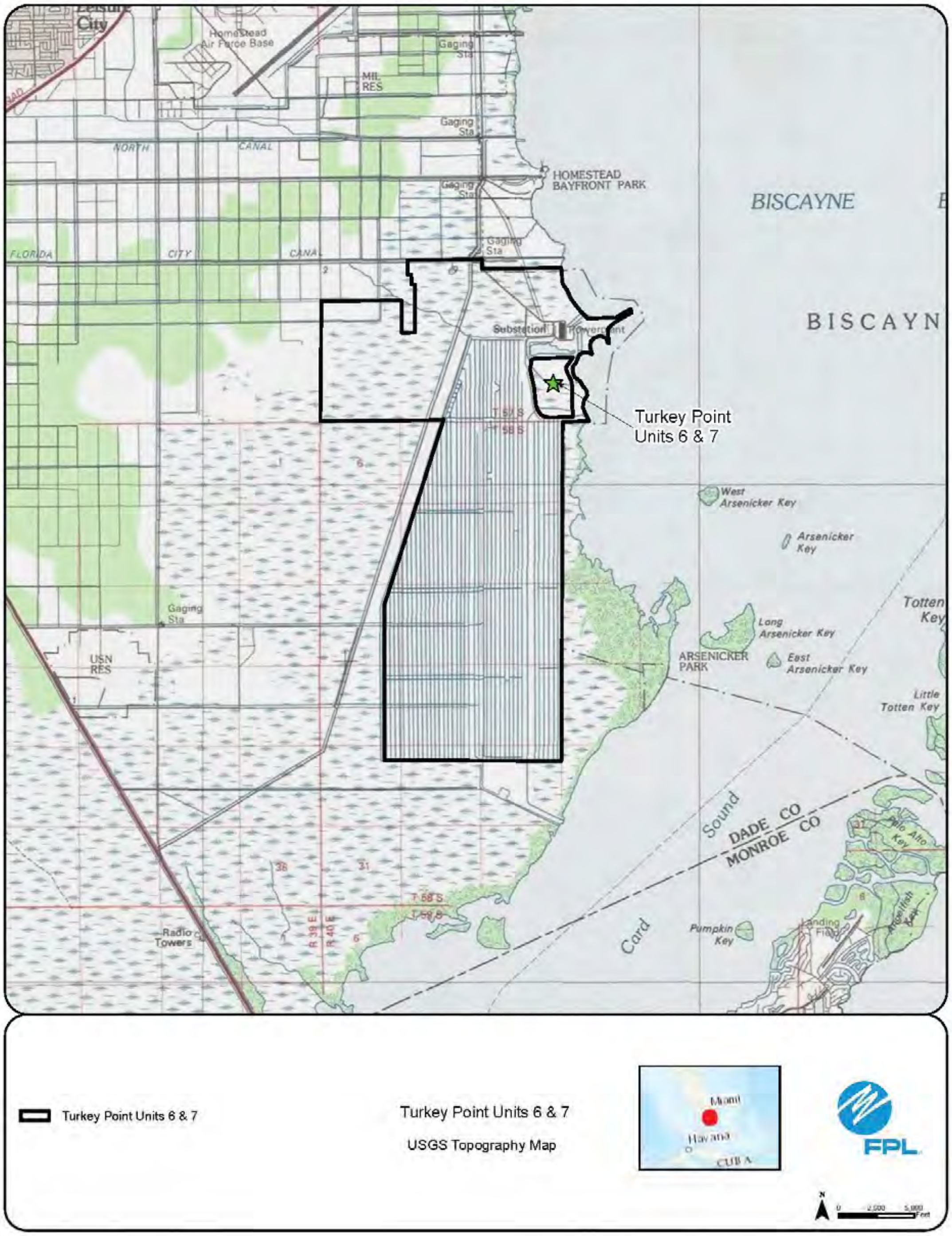
Facility Layout Map

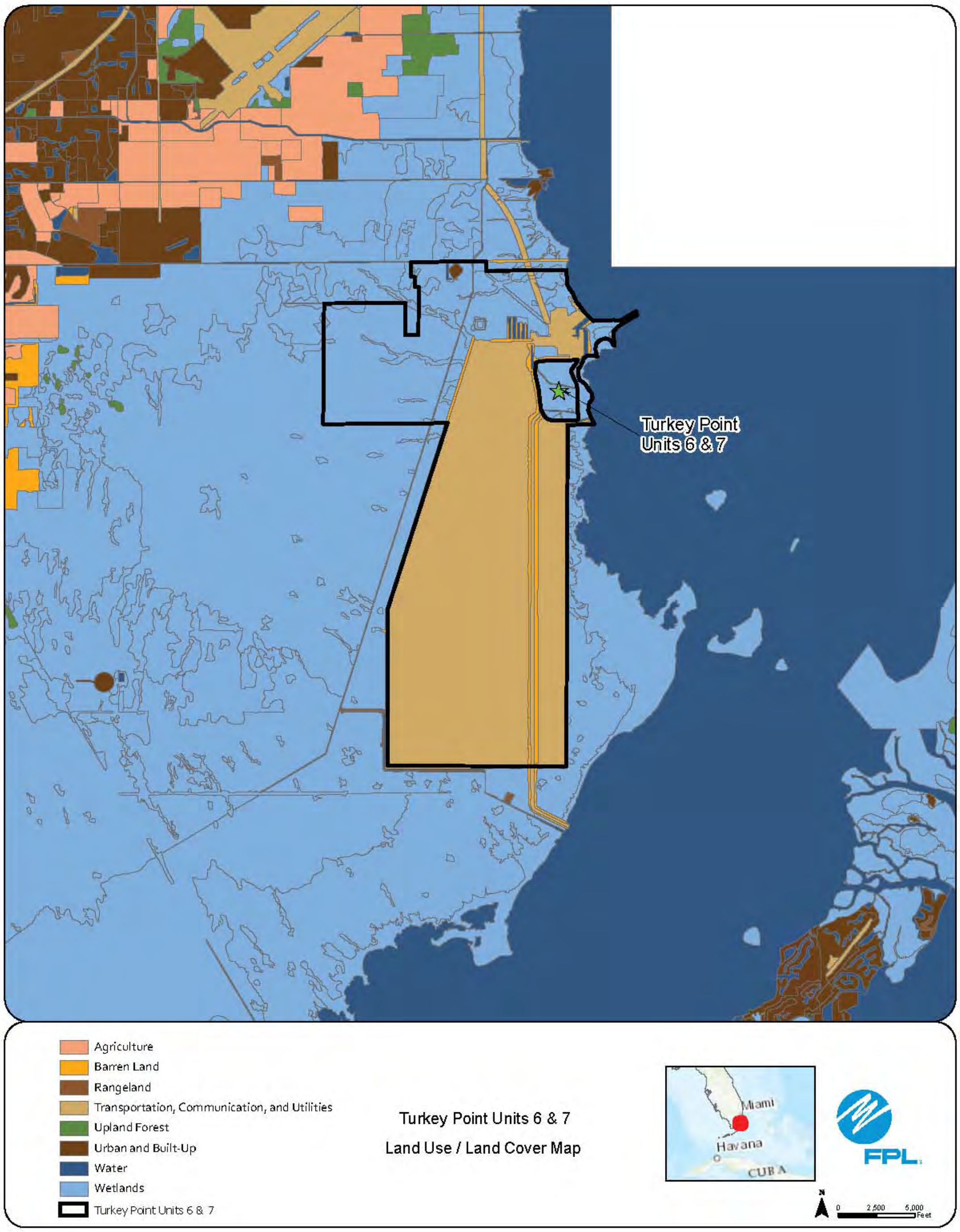
Gulf Power

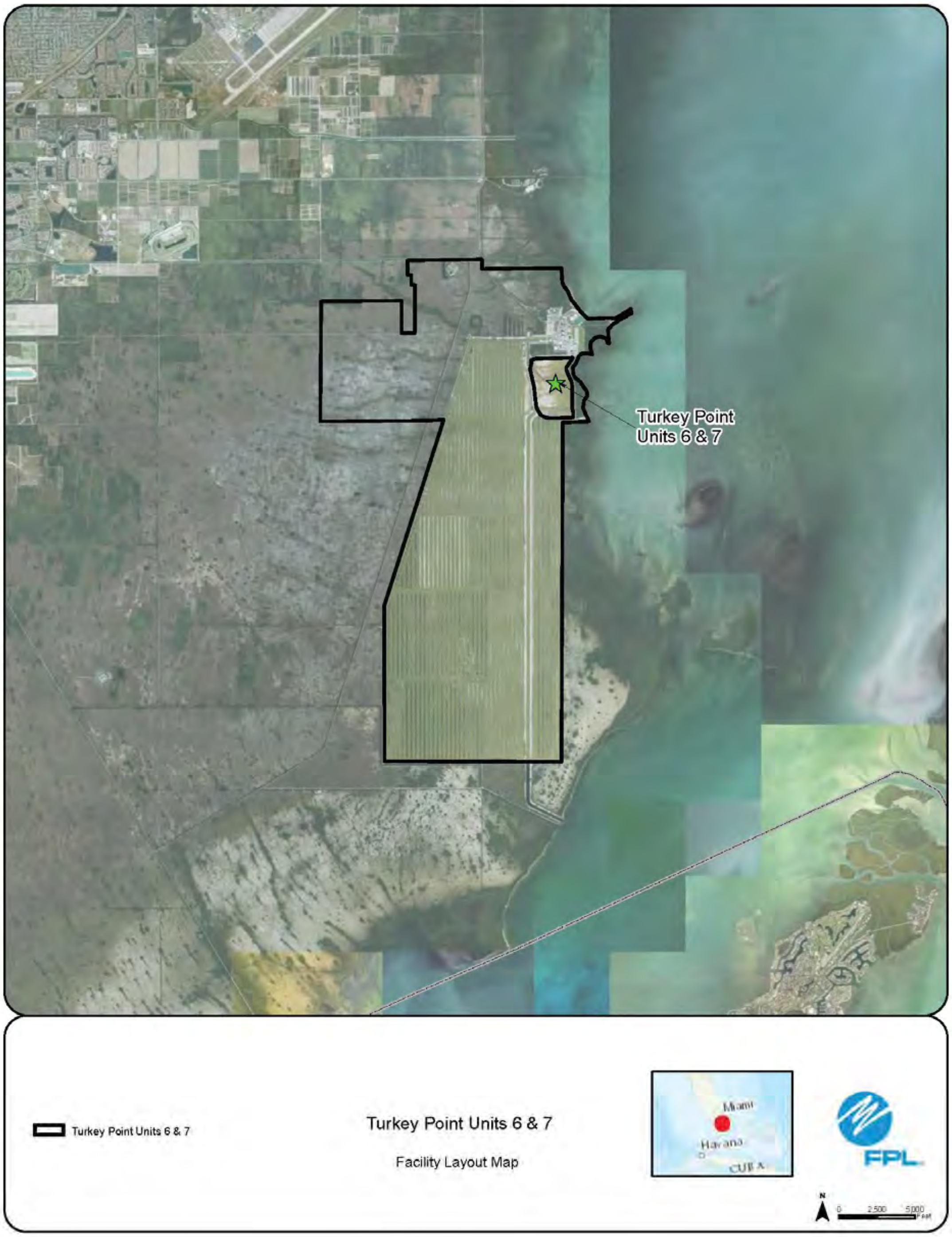
0 460 920 Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 29: Turkey Point Units 6&7, Miami-Dade County

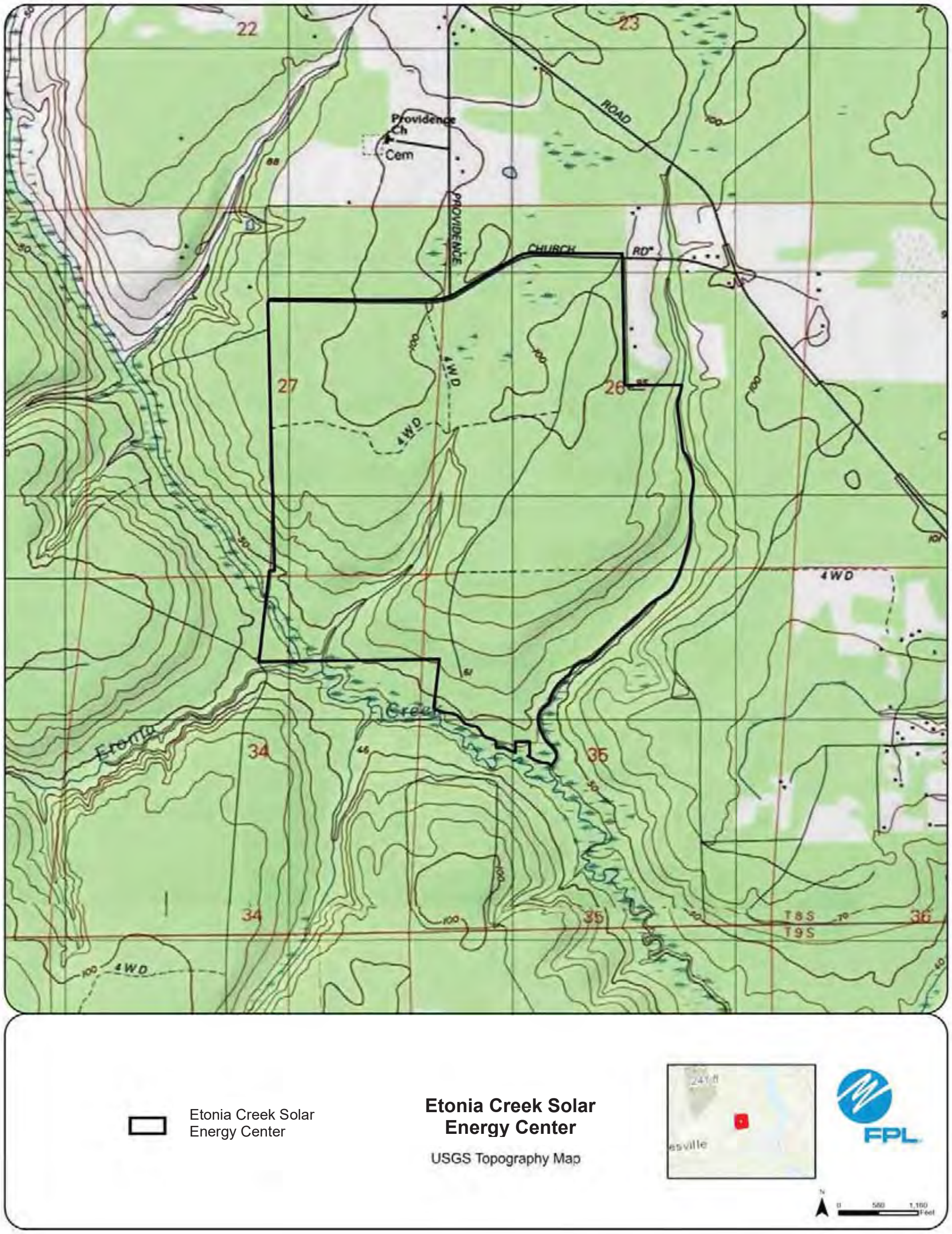

Leisure City
Homestead Air Force Base
MIL RES
Gaging Sta
NORTH CANAL
FLORIDA CITY CANAL
HOMESTEAD BAYFRONT PARK
BISCAYNE
BISCAYN
Substation
Powerplant
Turkey Point Units 6 & 7
West Arsenicker Key
Arsenicker Key
Totten Key
Long Arsenicker Key
ARSENICKER PARK
East Arsenicker Key
Little Totten Key
USN RES
Sound
DADE CO
MONROE CO
Card
Pumpkin Key
Radio Towers
Turkey Point Units 6 & 7
Turkey Point Units 6 & 7
USGS Topography Map
Miami
Havana
CUBA
FPL

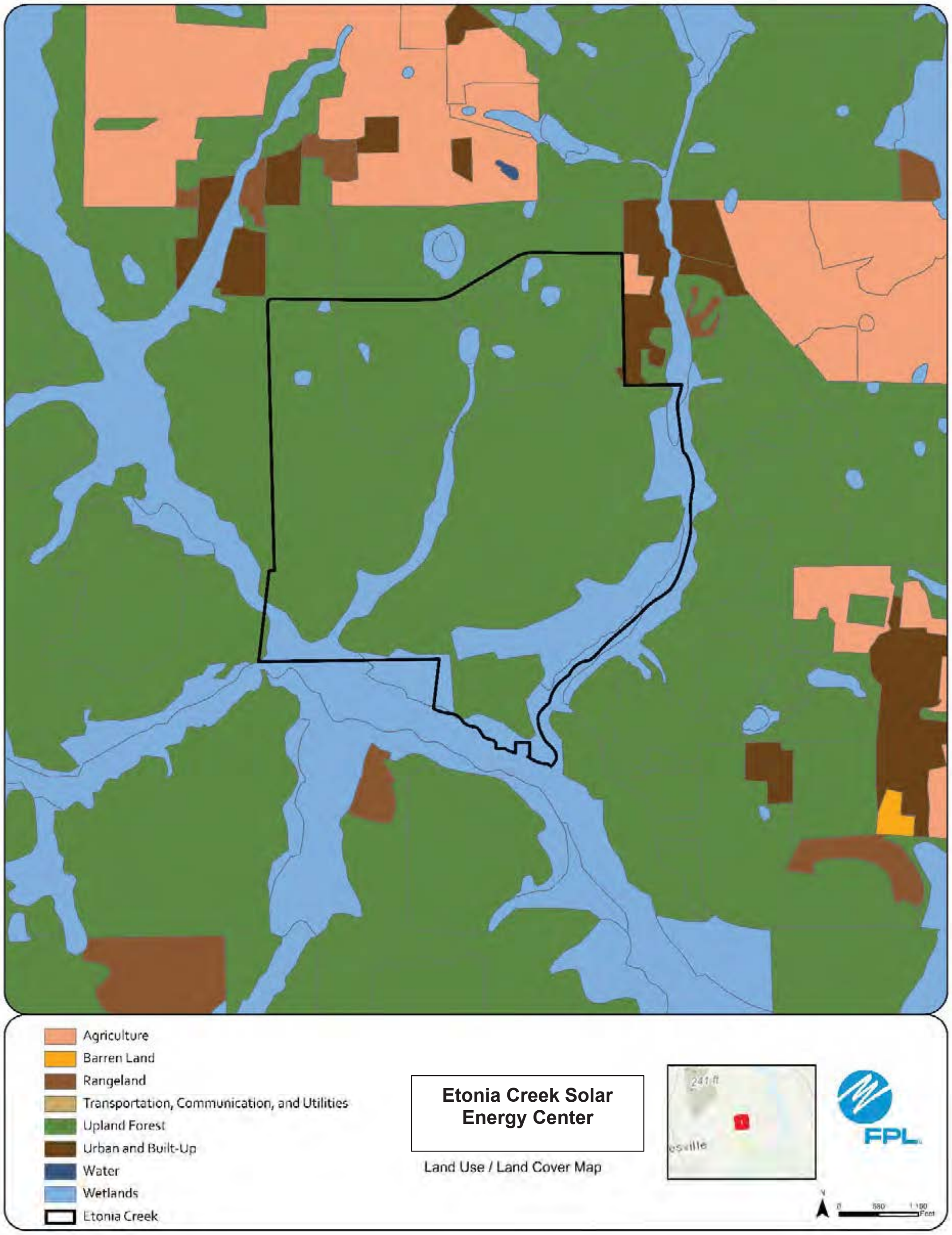

Turkey Point
Units 6 & 7
Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Turkey Point Units 6 & 7
Turkey Point Units 6 & 7
Land Use / Land Cover Map
Miami
Havana
CUBA
FPL

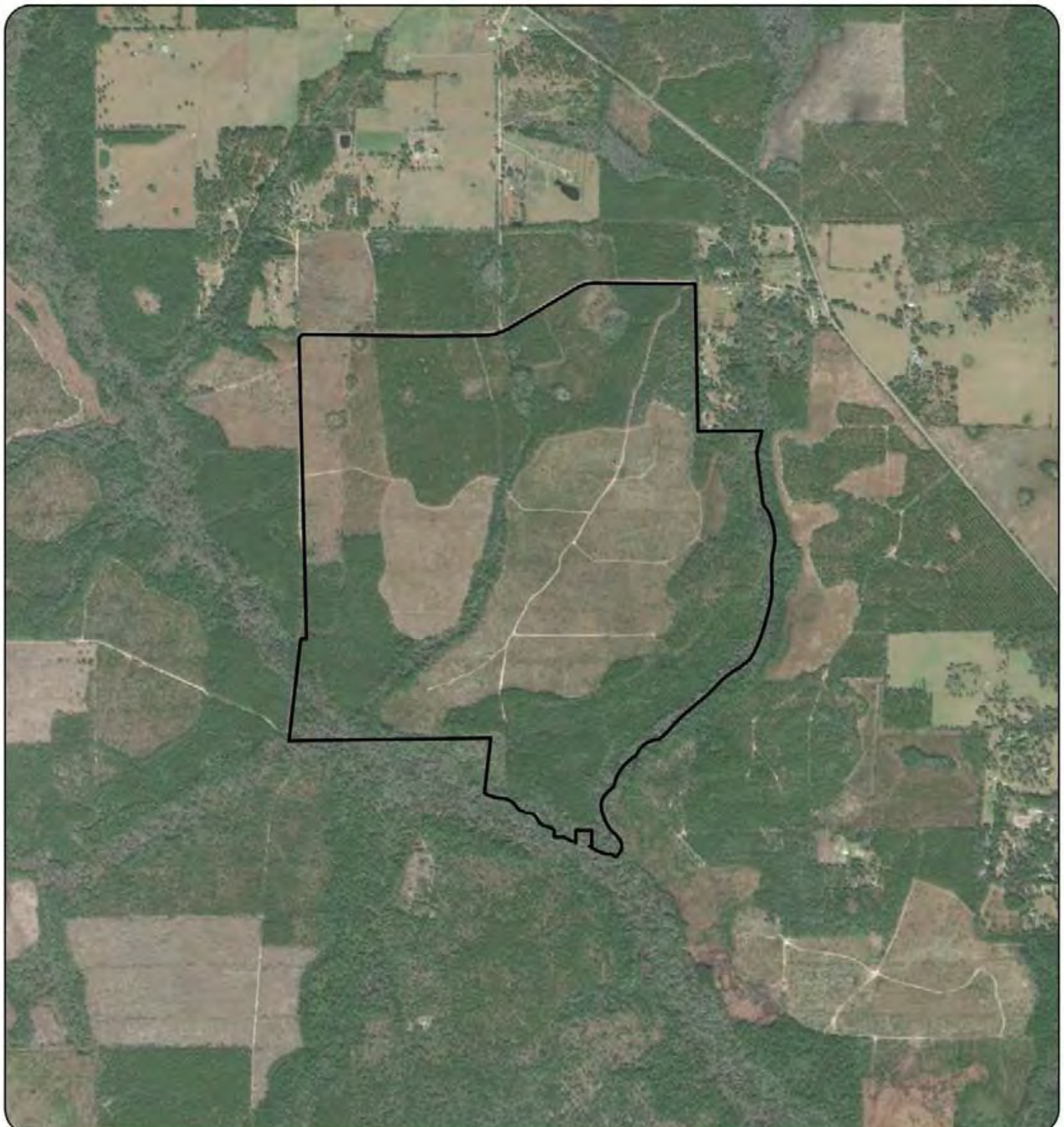

Turkey Point
Units 6 & 7
Turkey Point Units 6 & 7
Turkey Point Units 6 & 7
Facility Layout Map
Miami
Havana
CUBA
FPL
N
0
2,500
5,000
Feet

Environmental and Land Use Information: Supplemental Information

FPL Area Potential Site # 1: Etonia Creek Solar Energy Center, Putnam County


22
23
Providence Ch
Cem
ROAD
PROVIDENCE
CHURCH
RD
27
26
4WD
34
35
36
T8S
T9S
Etonia Creek
Etonia Creek Solar Energy Center
Etonia Creek Solar Energy Center
USGS Topography Map
FPL


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Etonia Creek
Etonia Creek Solar Energy Center
Land Use / Land Cover Map
FPL



Etonia Creek Solar Energy Center

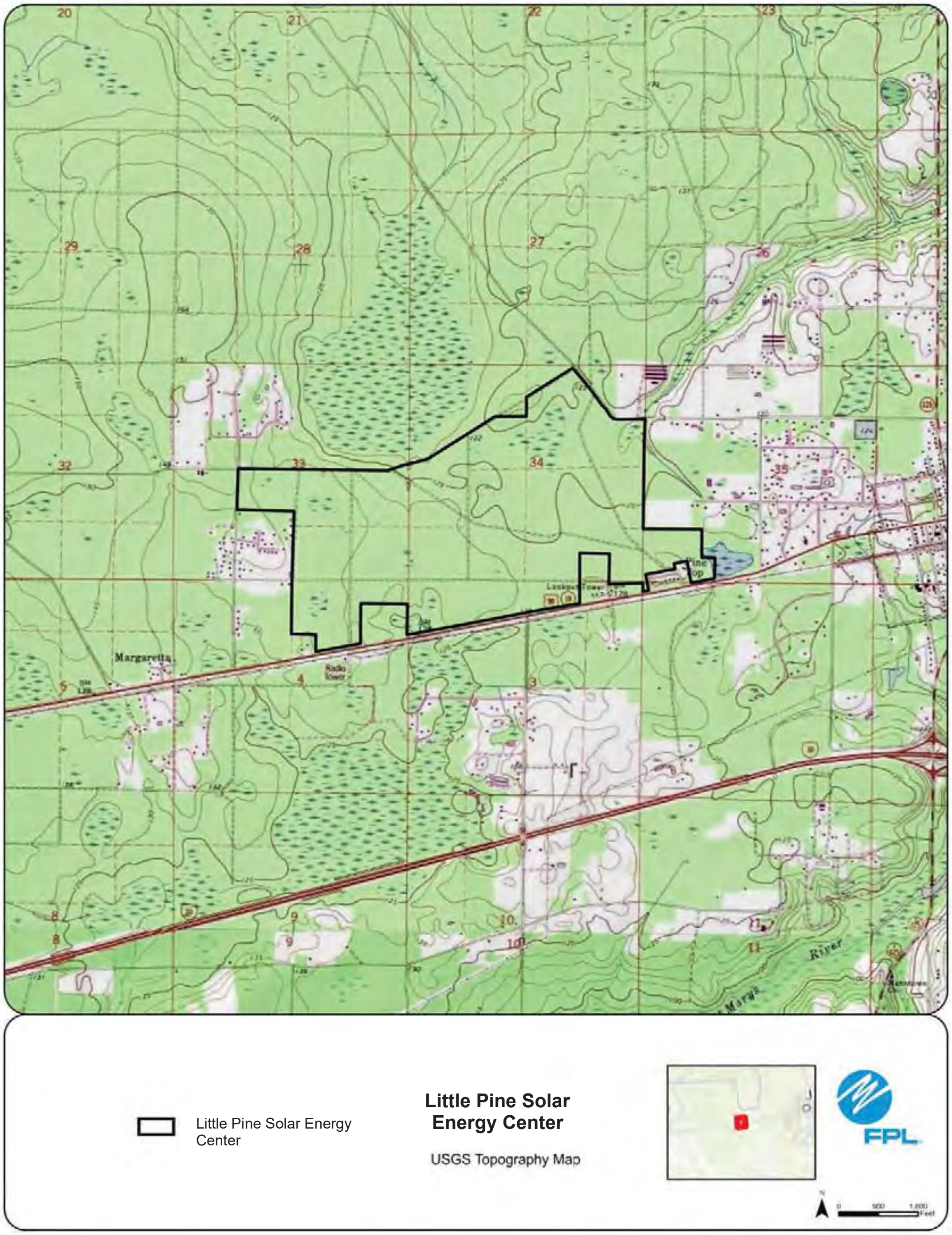
Etonia Creek Solar Energy Center

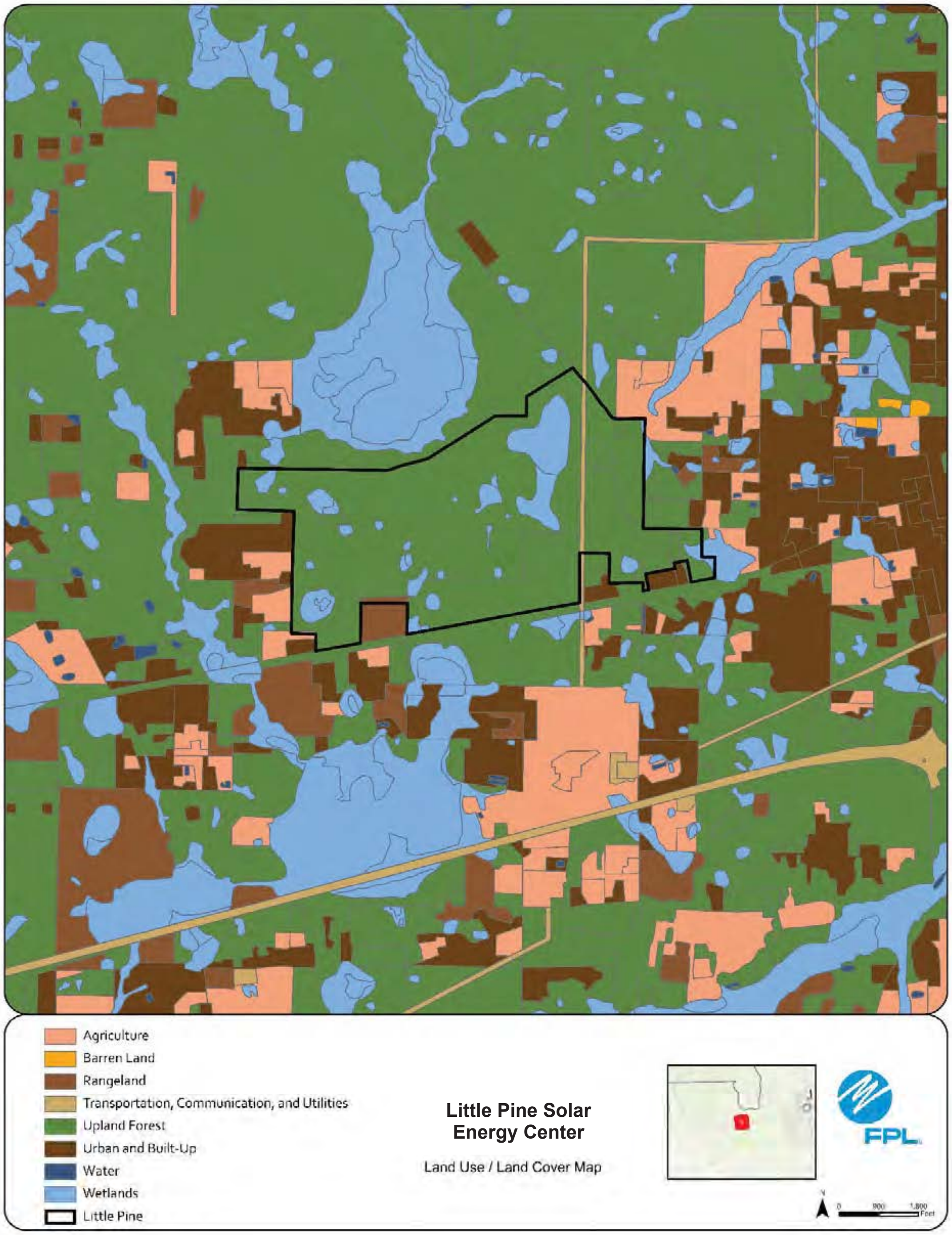
Facility Layout Map

FPL

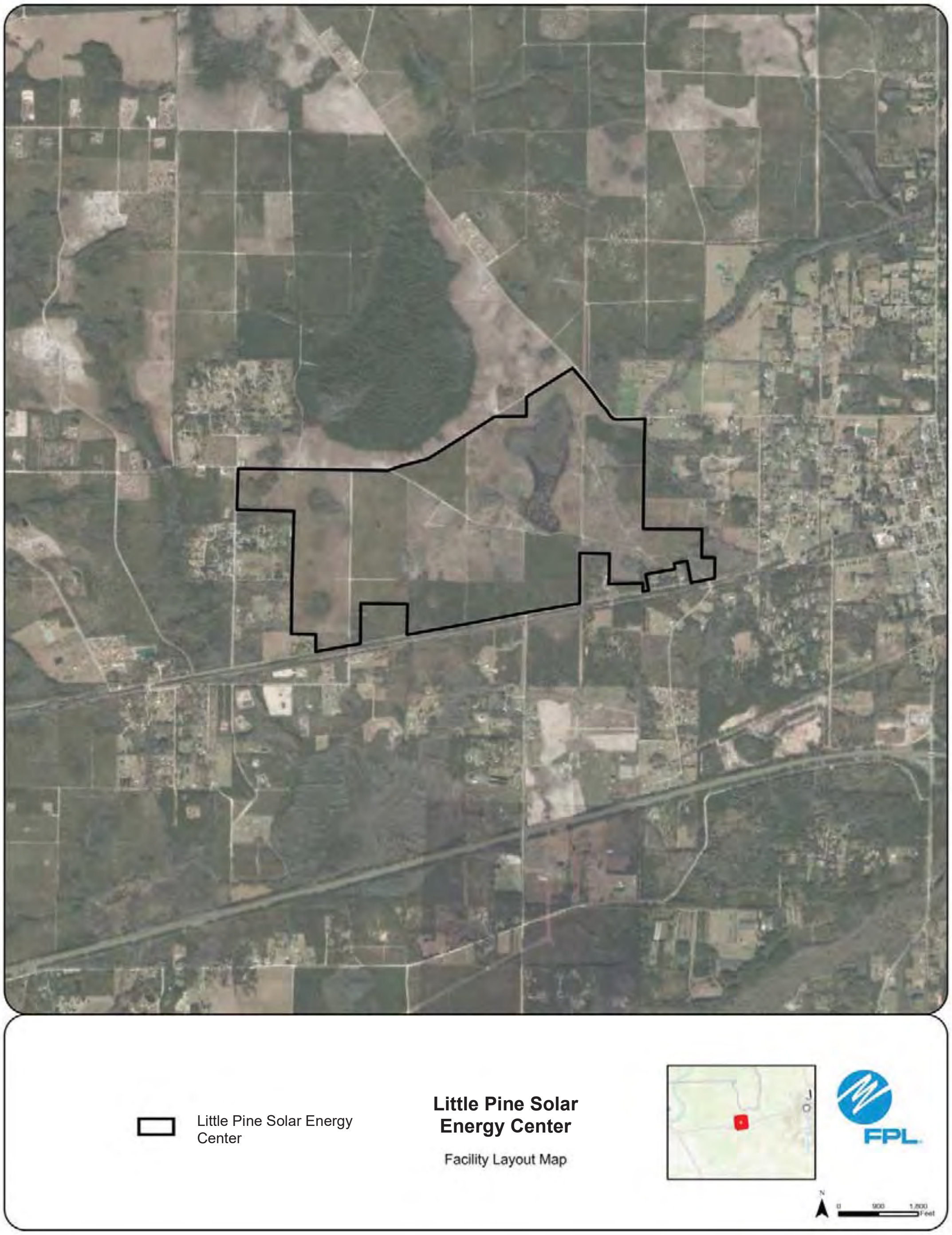
Environmental and Land Use Information: Supplemental Information

FPL Area Potential Site # 2: Little Pine Solar Energy Center, Baker County


Margaretta
Radio Tower
Lookout Tower
River
Little Pine Solar Energy Center
Little Pine Solar Energy Center
USGS Topography Map
FPL

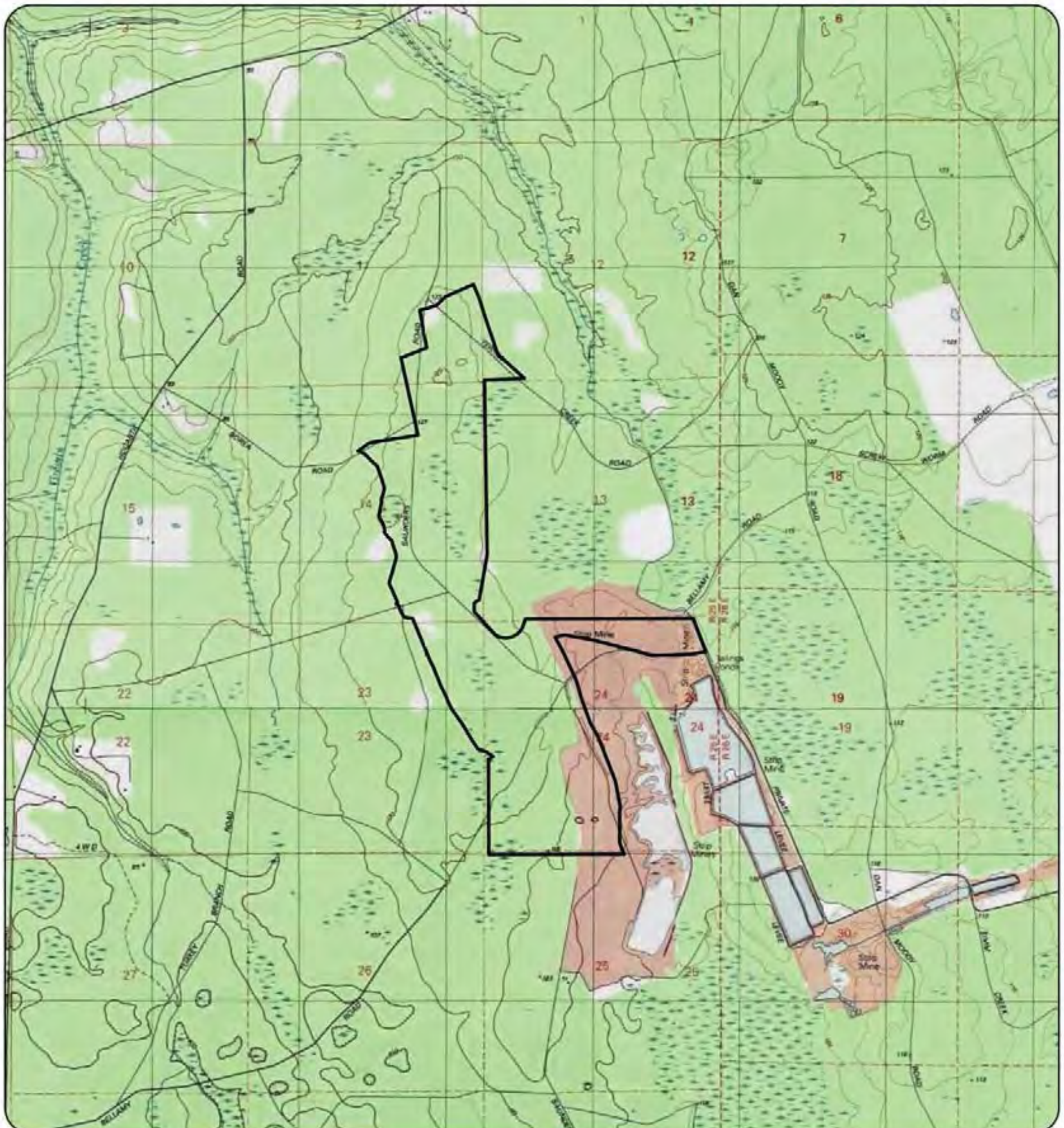


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Little Pine
Little Pine Solar Energy Center
Land Use / Land Cover Map
FPL


Little Pine Solar Energy Center
Little Pine Solar Energy Center
Facility Layout Map
FPL
0
900
1,800
Feet

Environmental and Land Use Information: Supplemental Information

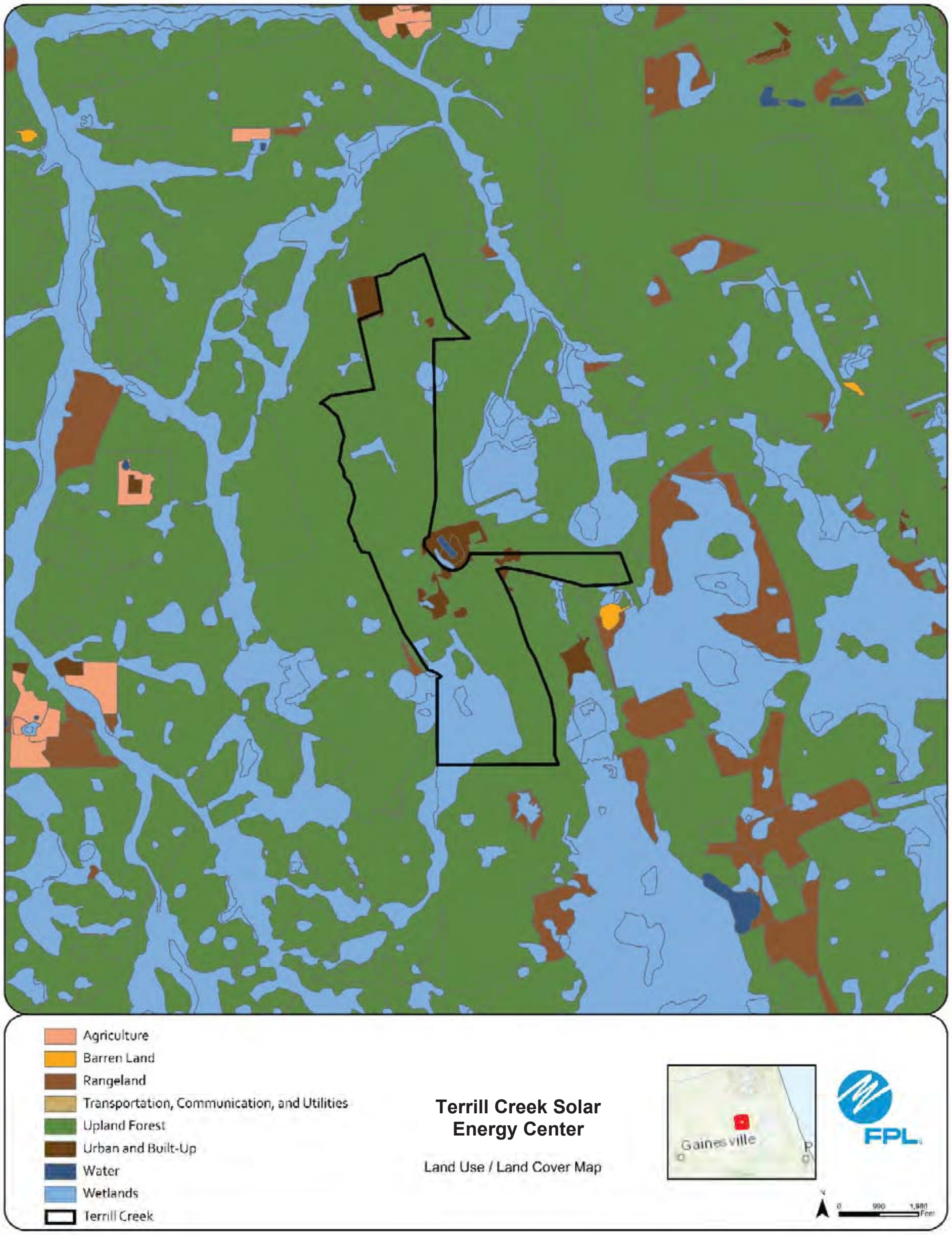
FPL Area Potential Site # 3: Terrill Creek Solar Energy Center, Clay County



Terrill Creek Solar Energy Center

Terrill Creek Solar Energy Center

USGS Topography Map


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Terrill Creek
Terrill Creek Solar Energy Center
Land Use / Land Cover Map
Gainesville
0
990
1,980
Feet
FPL

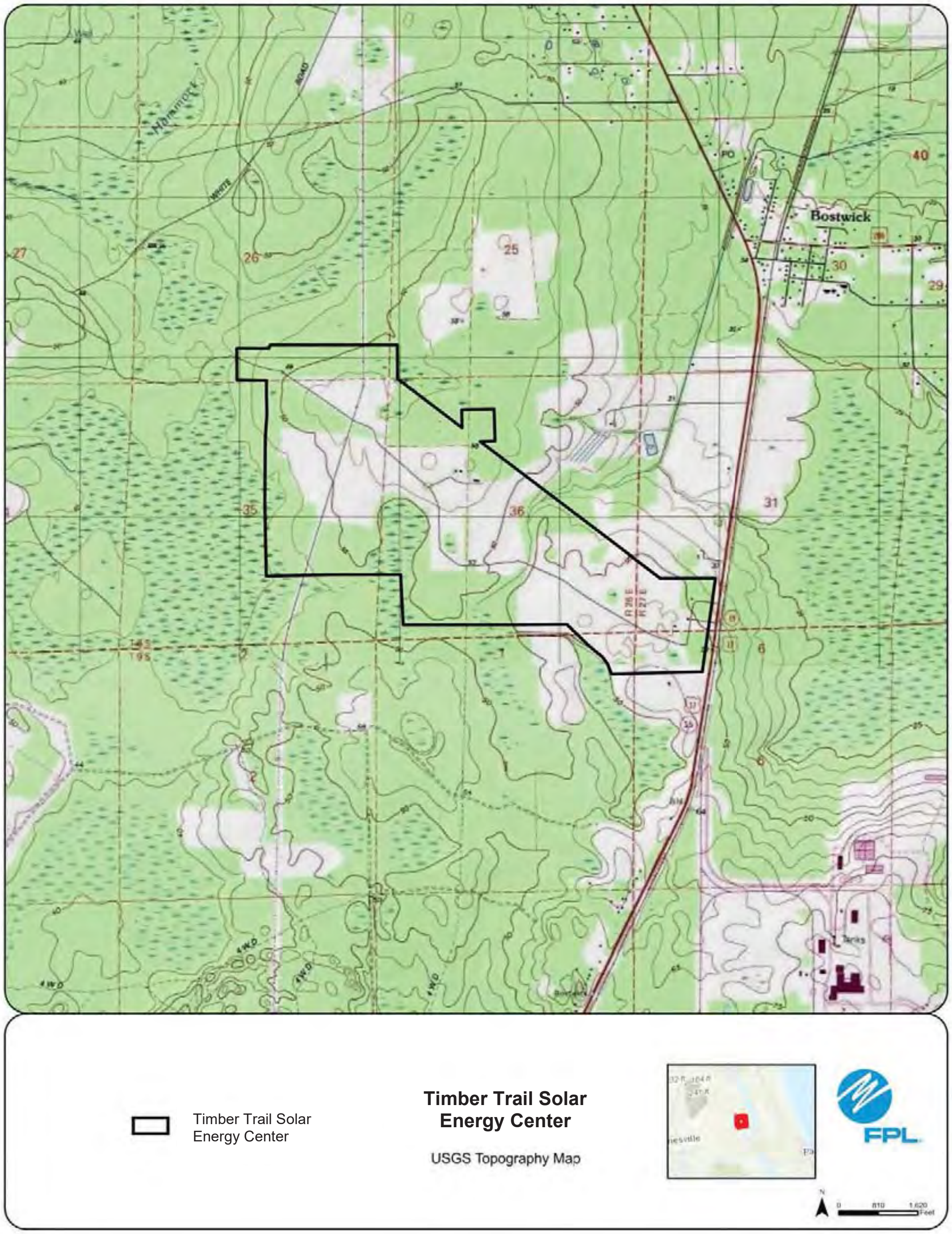
Terrill Creek Solar Energy Center

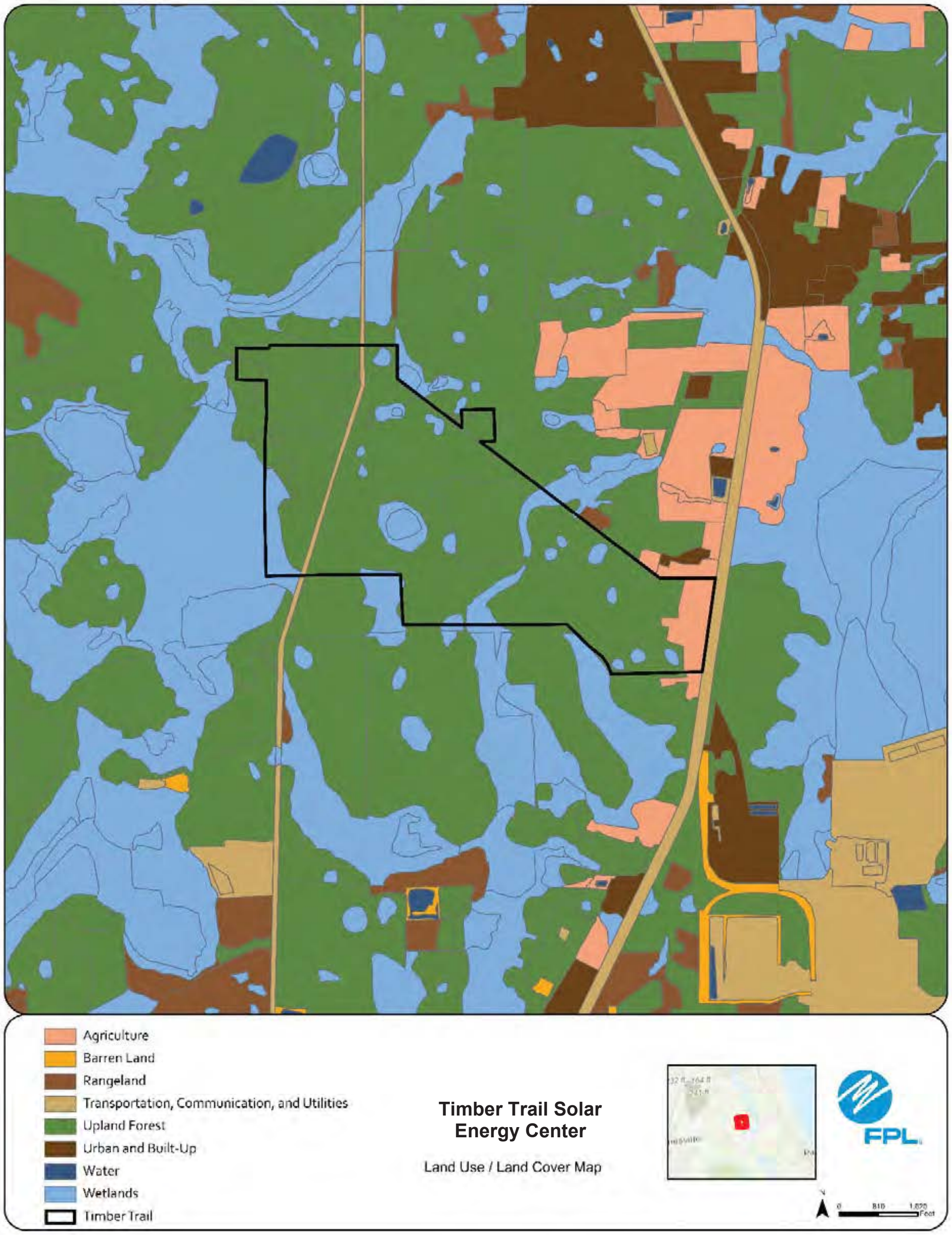
Terrill Creek Solar Energy Center

Facility Layout Map

Environmental and Land Use Information: Supplemental Information

FPL Area Potential Site # 4: Timber Trail Solar Energy Center, Putnam County


Bostwick
Timber Trail Solar Energy Center
Timber Trail Solar Energy Center
USGS Topography Map
FPL
N
0
810
1,620
Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Timber Trail
Timber Trail Solar
Energy Center
Land Use / Land Cover Map
FPL

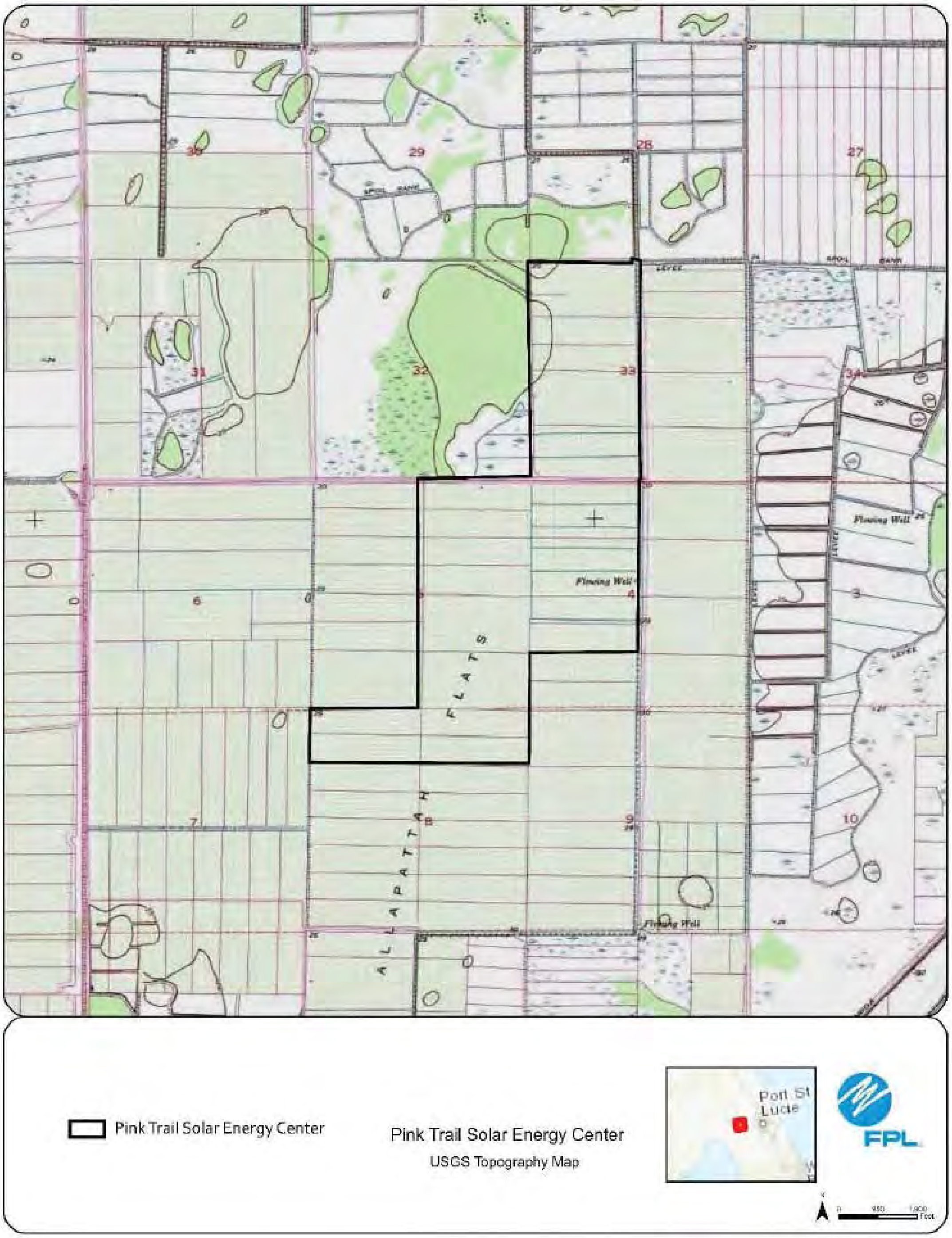
Timber Trail Solar Energy Center

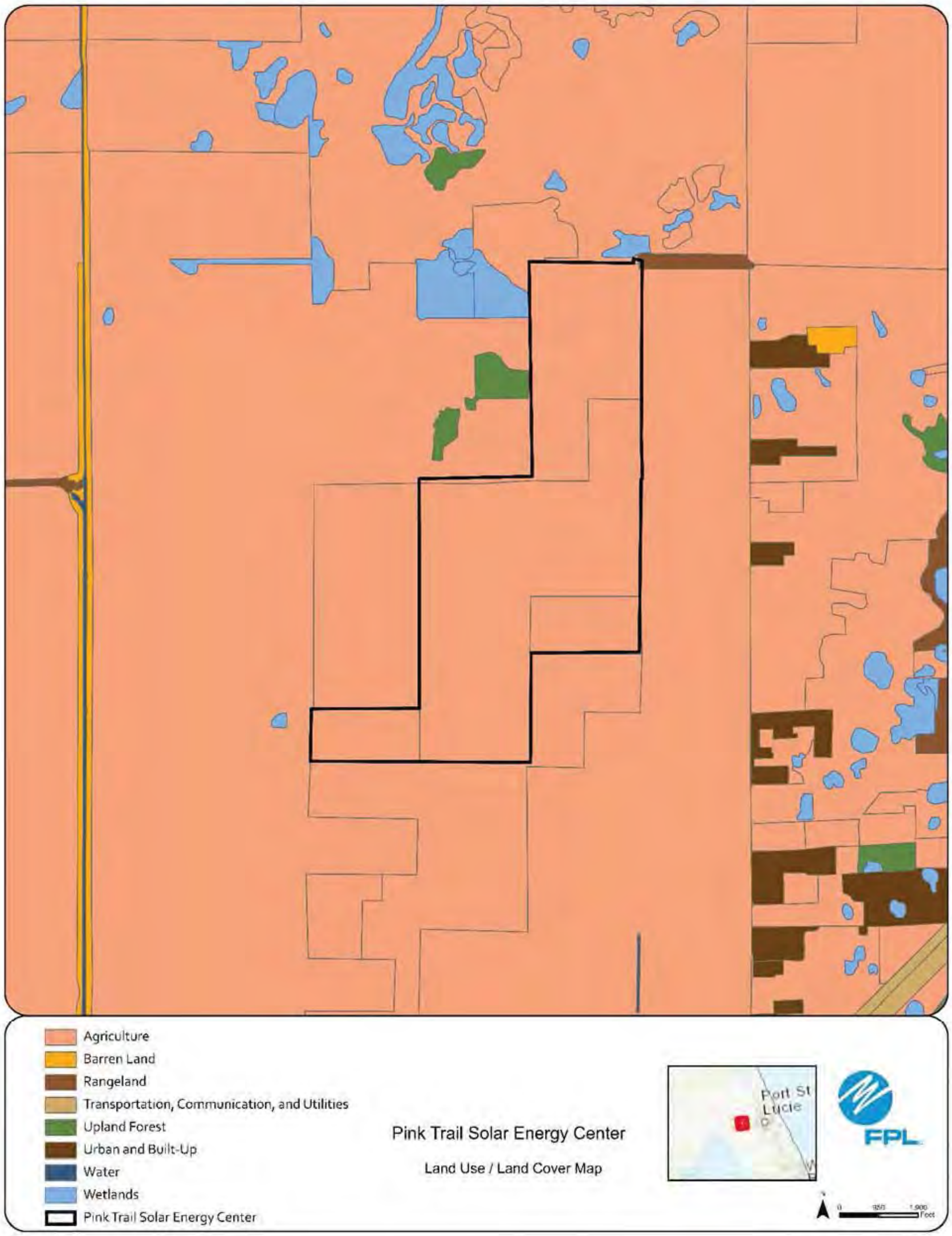
Timber Trail Solar Energy Center

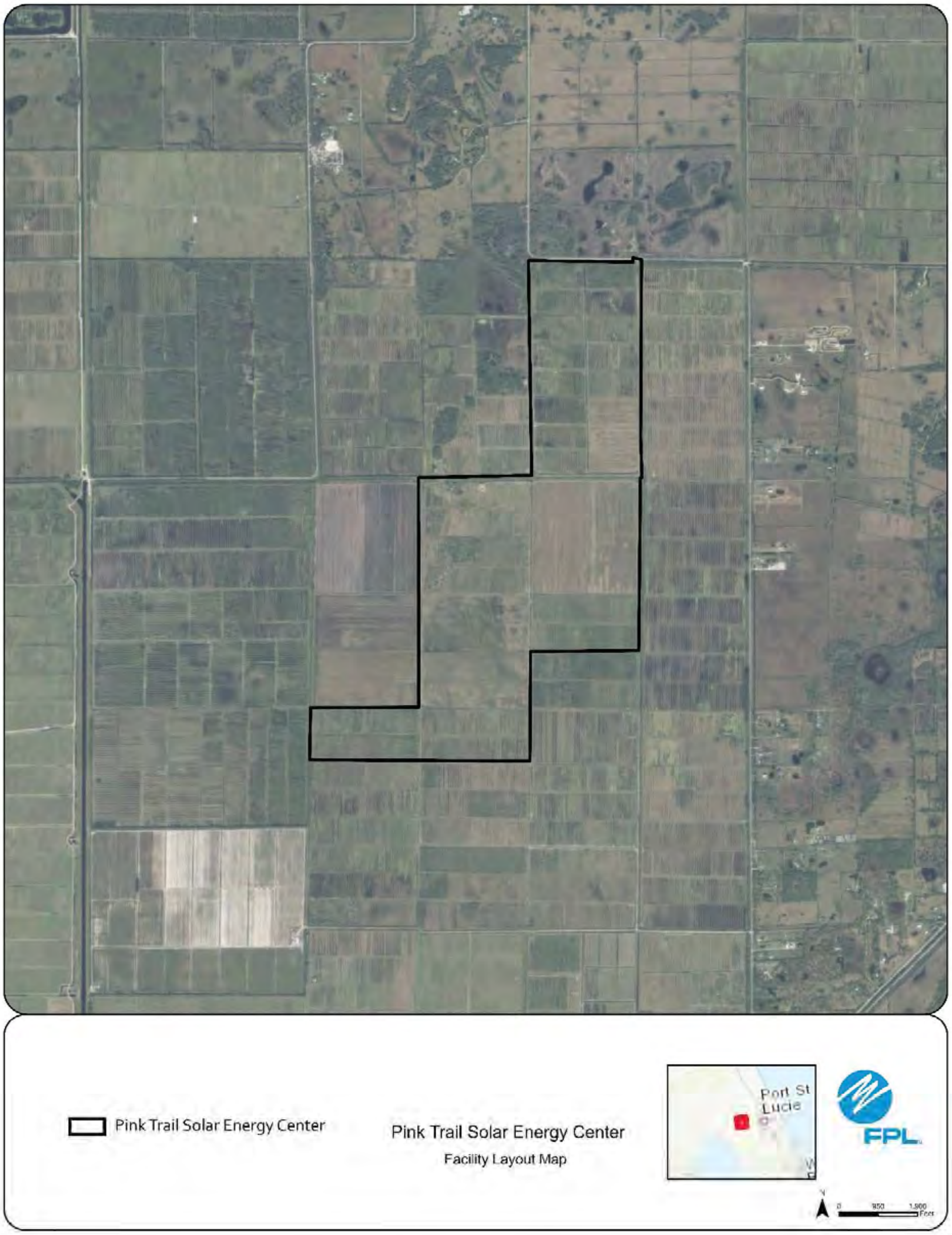
Facility Layout Map

Environmental and Land Use Information: Supplemental Information

FPL Area Potential Site # 5: Pink Trail Solar Energy Center, St. Lucie County

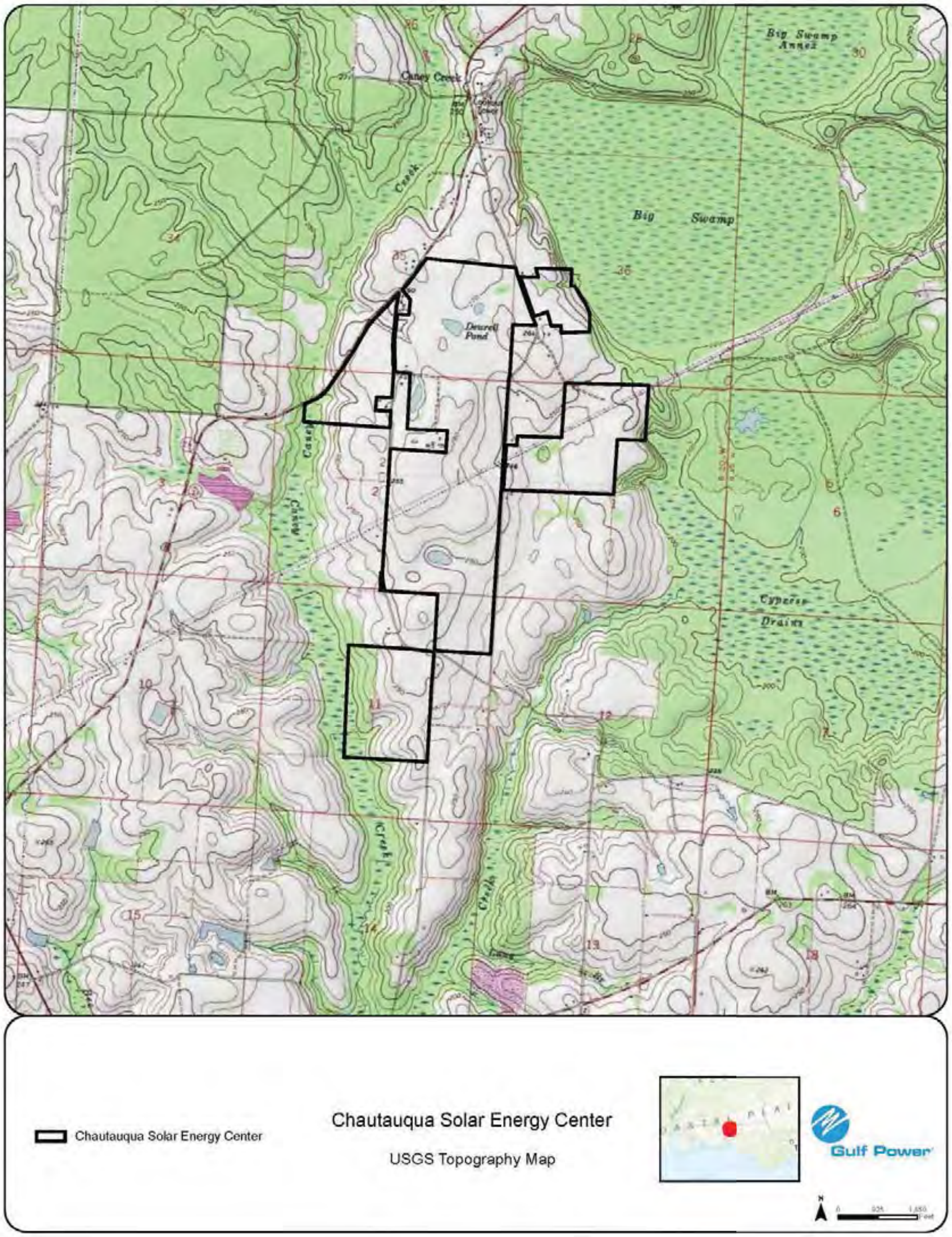

ALLAPATTAH FLATS
Flowing Well
Pink Trail Solar Energy Center
Pink Trail Solar Energy Center
USGS Topography Map
Port St Lucie
FPL

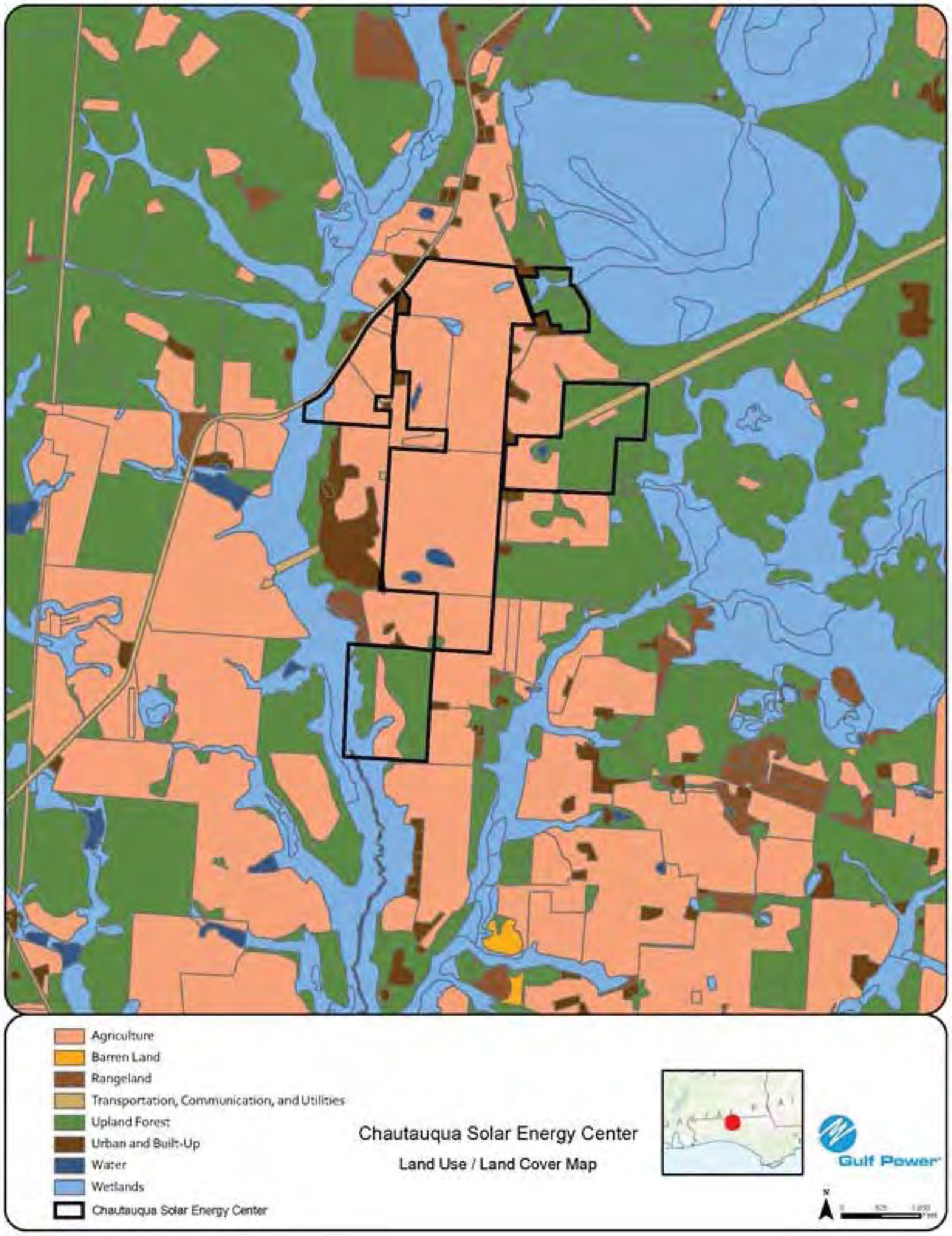

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Pink Trail Solar Energy Center
Pink Trail Solar Energy Center
Land Use / Land Cover Map
Port St Lucie
FPL


Pink Trail Solar Energy Center
Pink Trail Solar Energy Center
Facility Layout Map
Port St Lucie
FPL

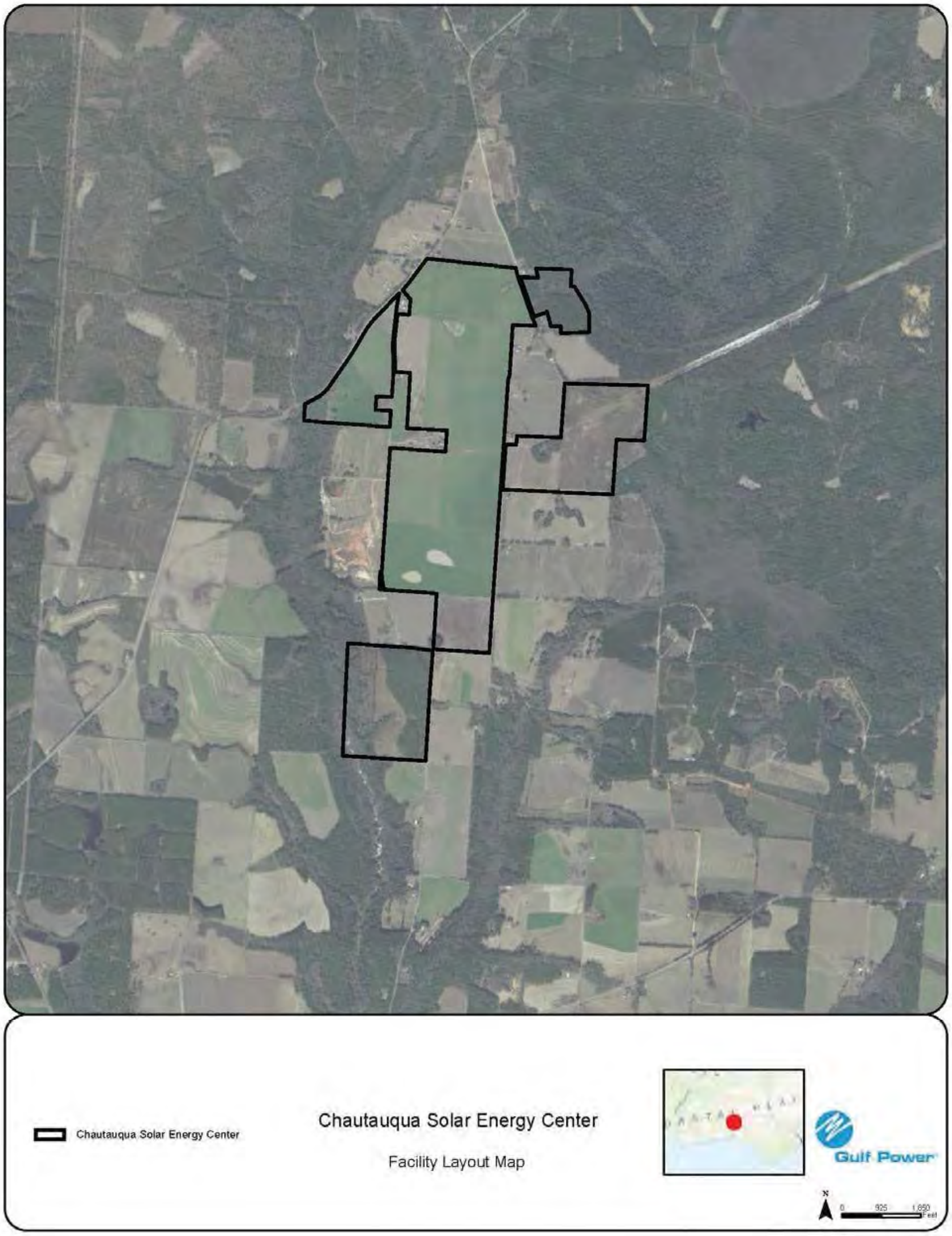
Environmental and Land Use Information: Supplemental Information

Gulf Area Potential Site # 1: Chautauqua Solar Energy Center, Walton County


Chautauqua Solar Energy Center
Chautauqua Solar Energy Center
USGS Topography Map
Gulf Power
Big Swamp
Big Swamp Annex
Caney Creek
Dewrell Pond
Cypress Drains

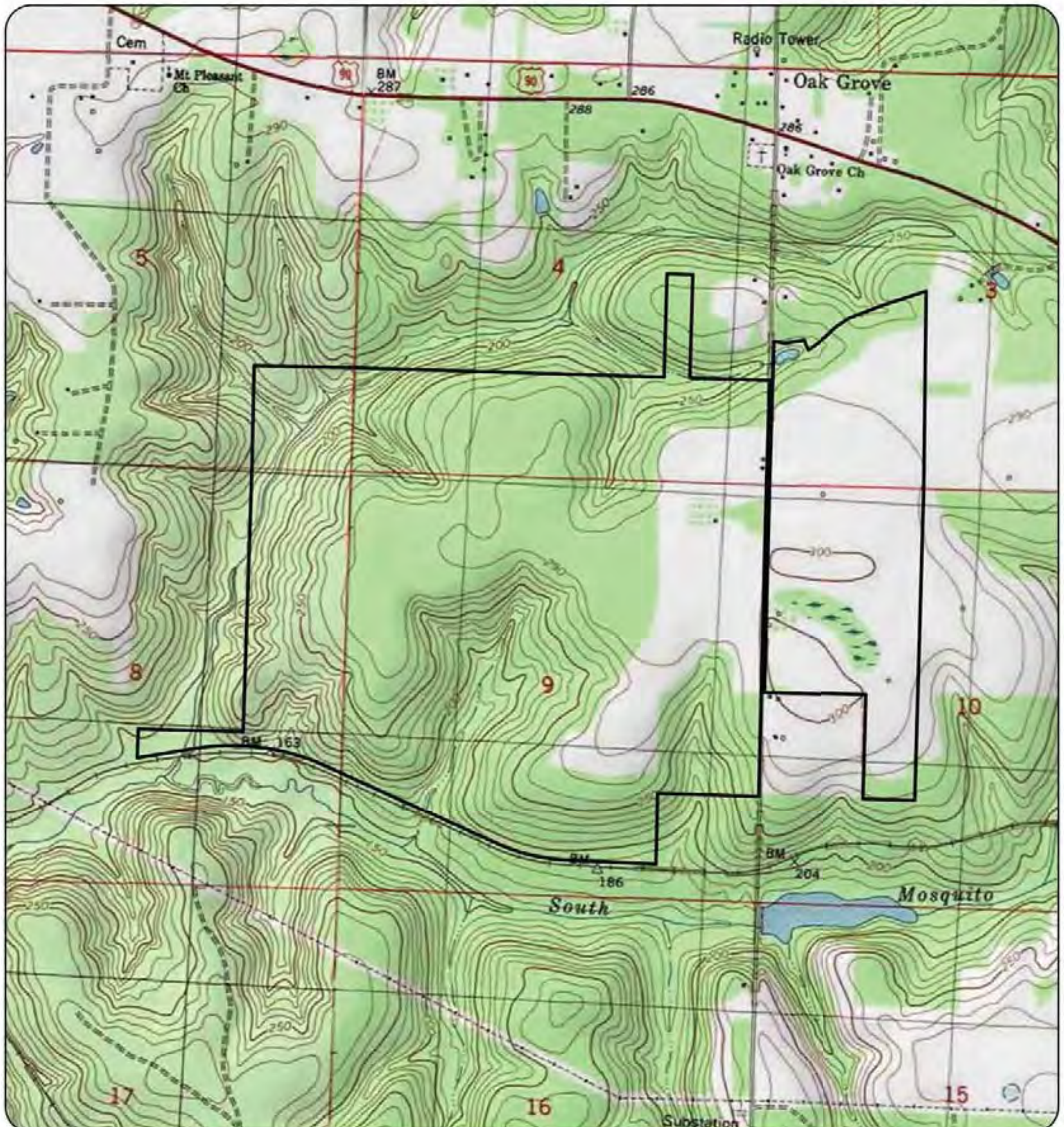

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Chautauqua Solar Energy Center
Chautauqua Solar Energy Center
Land Use / Land Cover Map
Gulf Power

Florida Power & Light Company
Gulf Power Company
Docket No. 20210000-OT
Staff's First Data Request
Request No. 1
Attachment No. 1



Environmental and Land Use Information:
Supplemental Information

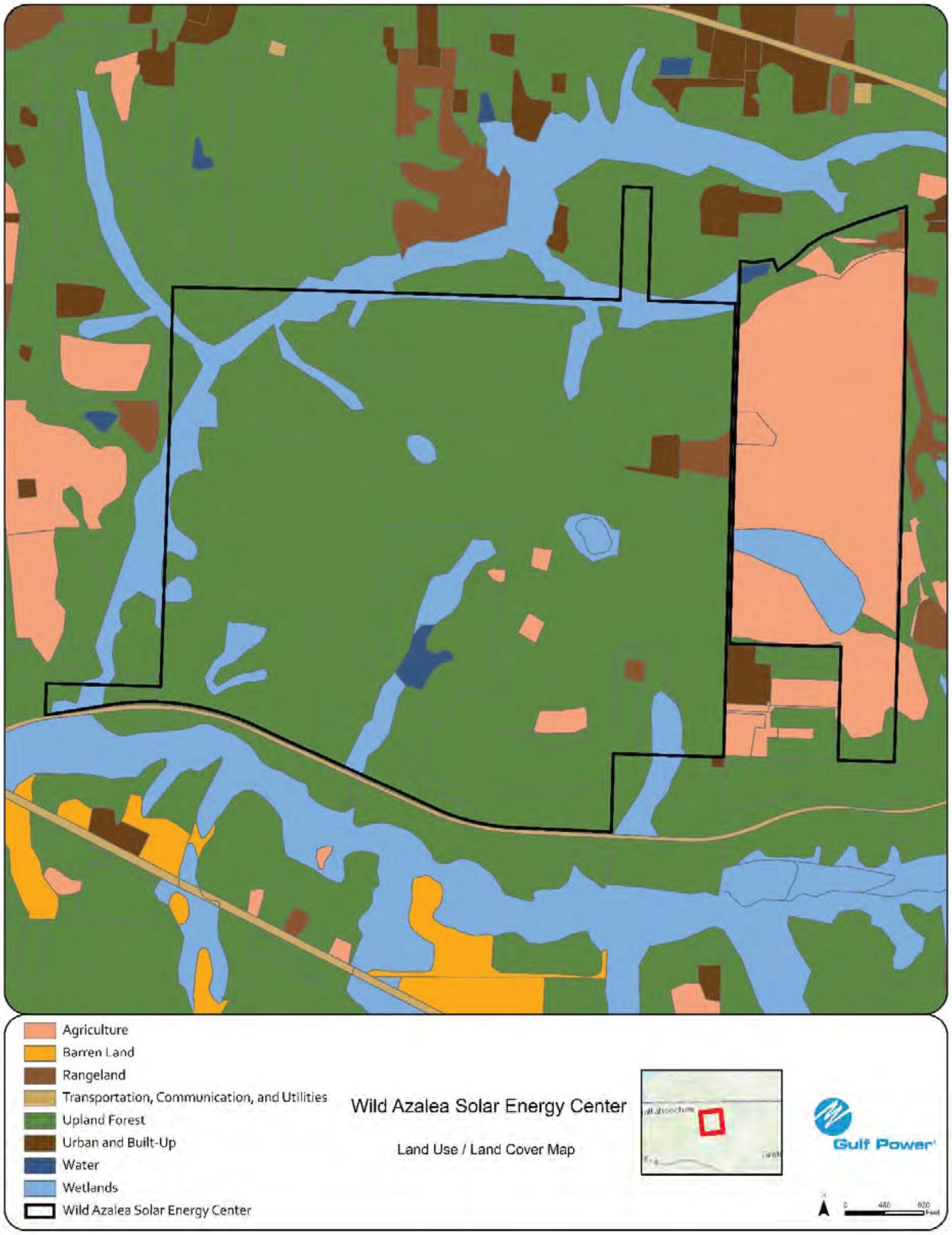
Gulf Area Potential Site # 2: Wild Azalea Solar Energy Center, Gadsden County

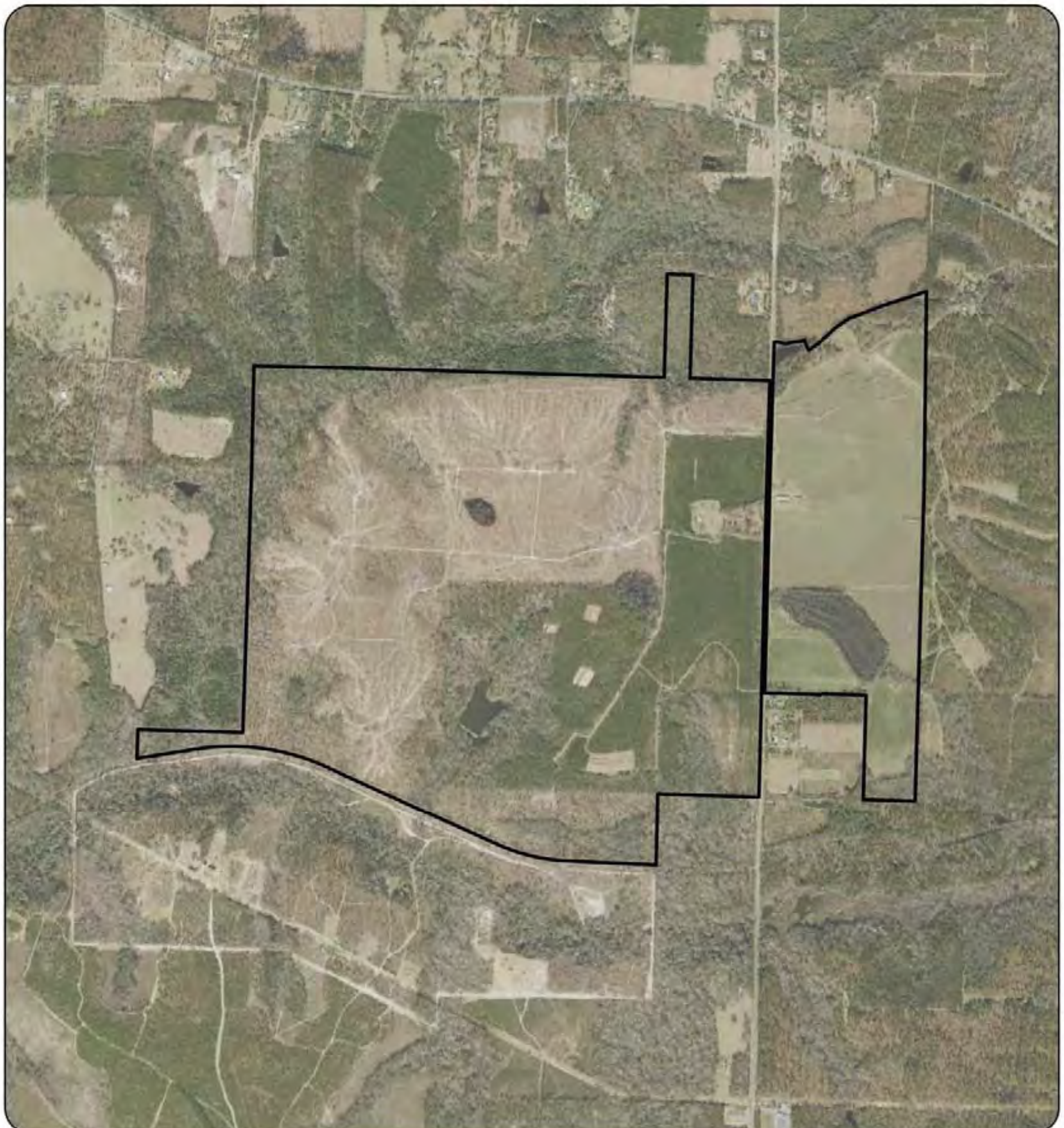


Wild Azalea Solar Energy Center

Wild Azalea Solar Energy Center

USGS Topography Map


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Wild Azalea Solar Energy Center
Wild Azalea Solar Energy Center
Land Use / Land Cover Map
Gulf Power
0
460
920
Feet



Wild Azalea Solar Energy Center

Wild Azalea Solar Energy Center

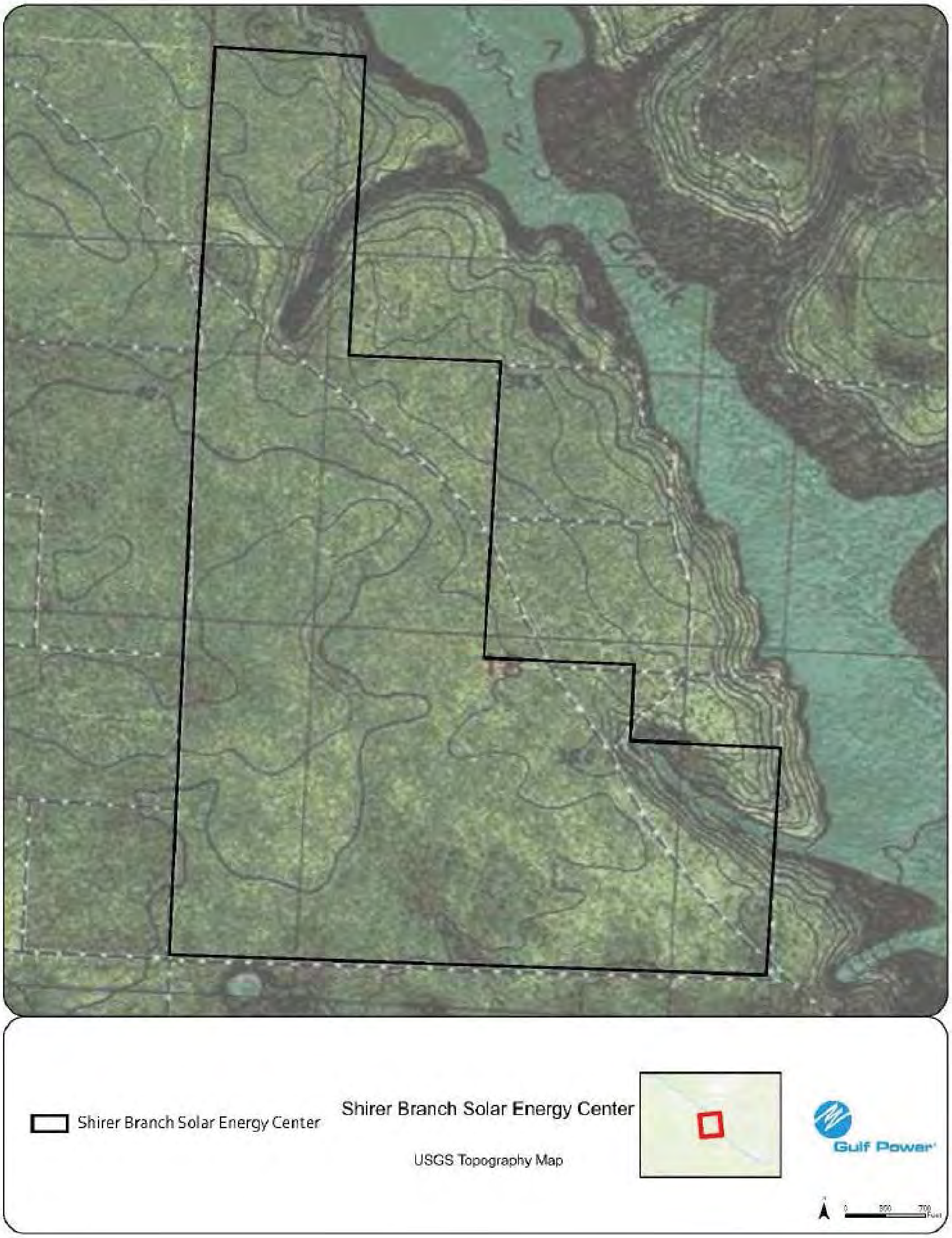
Facility Layout Map

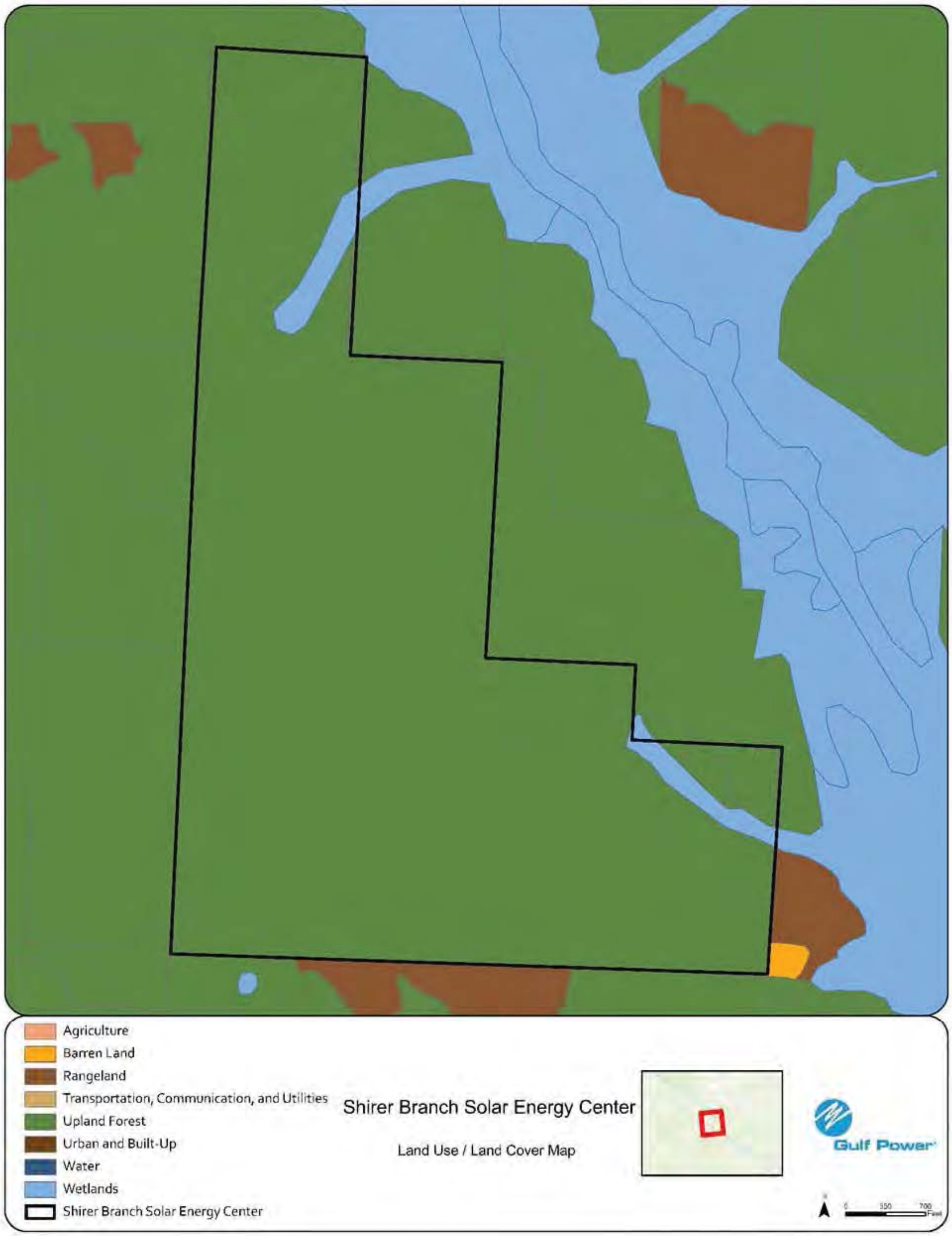
Gulf Power

0 560 1,120 Feet

Environmental and Land Use Information: Supplemental Information

Gulf Area Potential Site # 3: Shirer Branch Solar Energy Center, Calhoun County

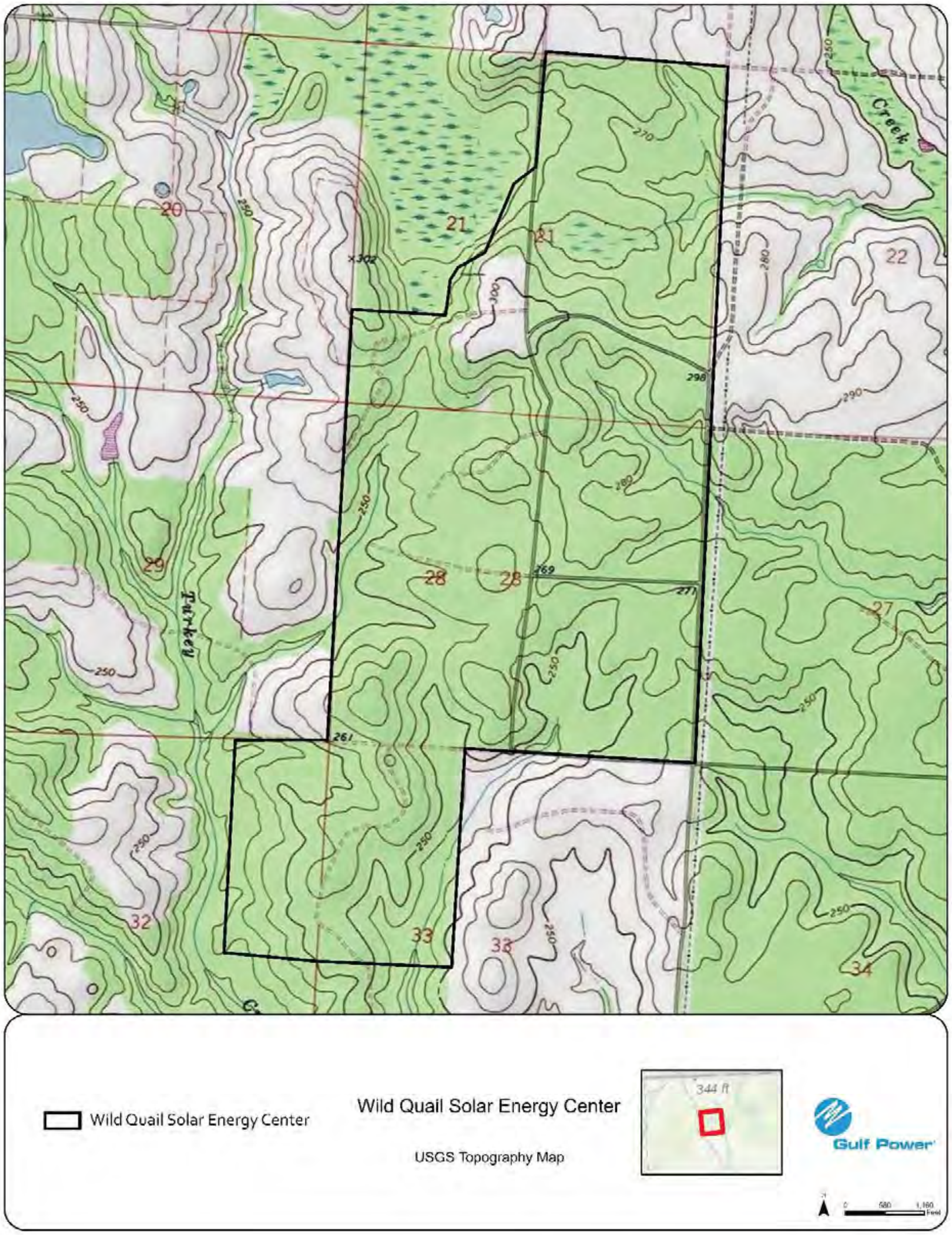

Creek
Shirer Branch Solar Energy Center
Shirer Branch Solar Energy Center
USGS Topography Map
Gulf Power

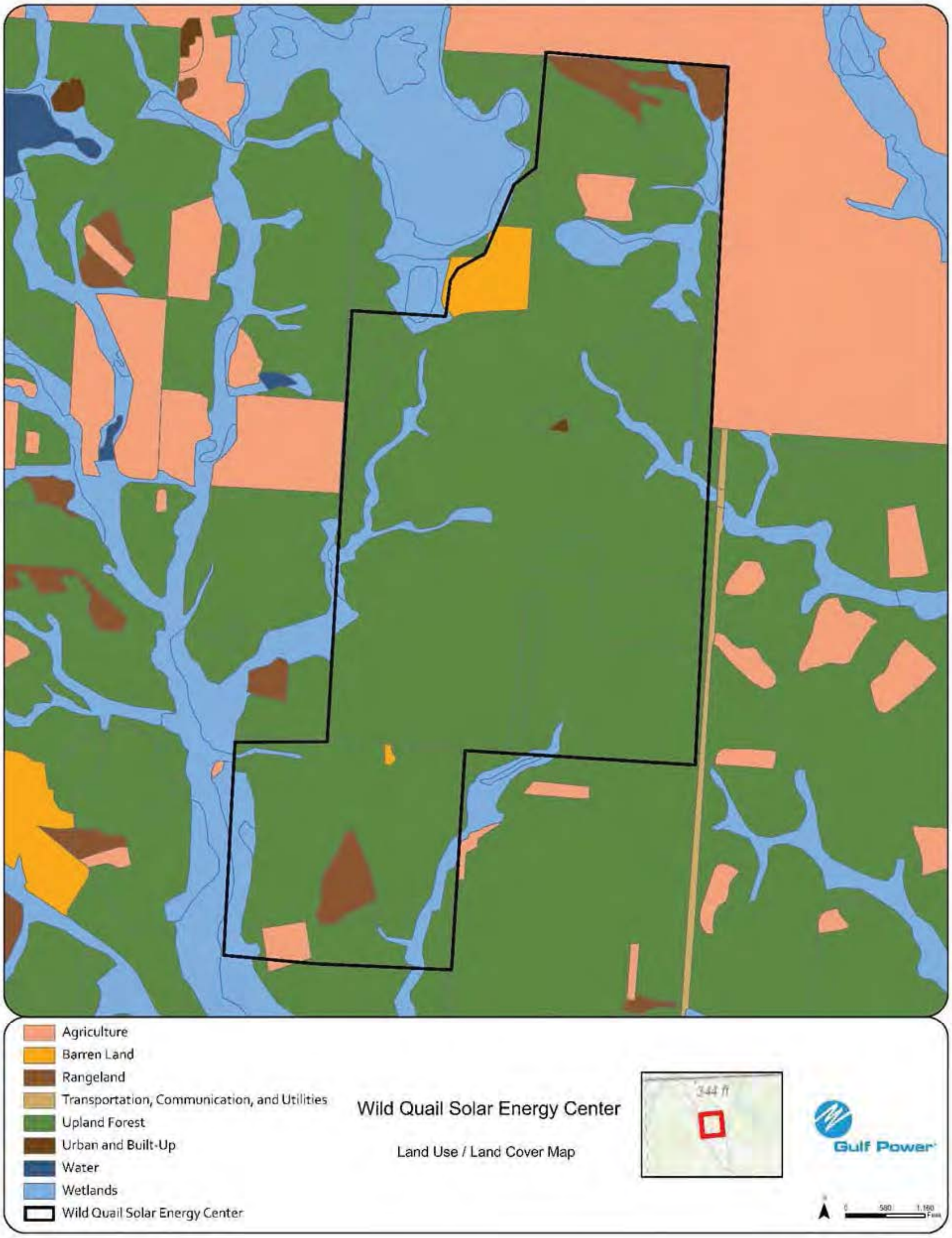

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Shirer Branch Solar Energy Center
Shirer Branch Solar Energy Center
Land Use / Land Cover Map
Gulf Power

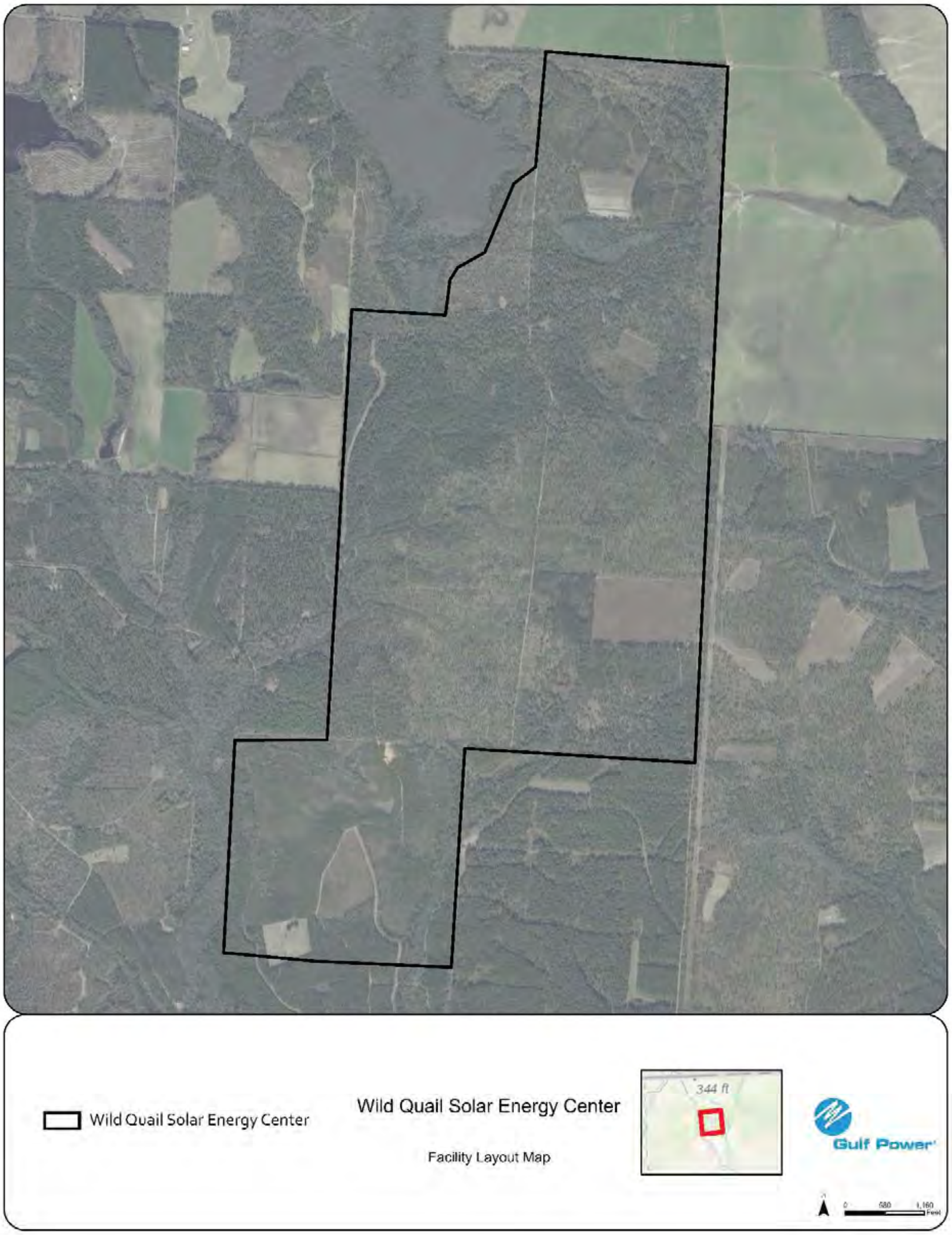

Shirer Branch Solar Energy Center
Shirer Branch Solar Energy Center
Facility Layout Map
Gulf Power

Environmental and Land Use Information: Supplemental Information

Gulf Area Potential Site # 4: Wild Quail Solar Energy Center, Walton County

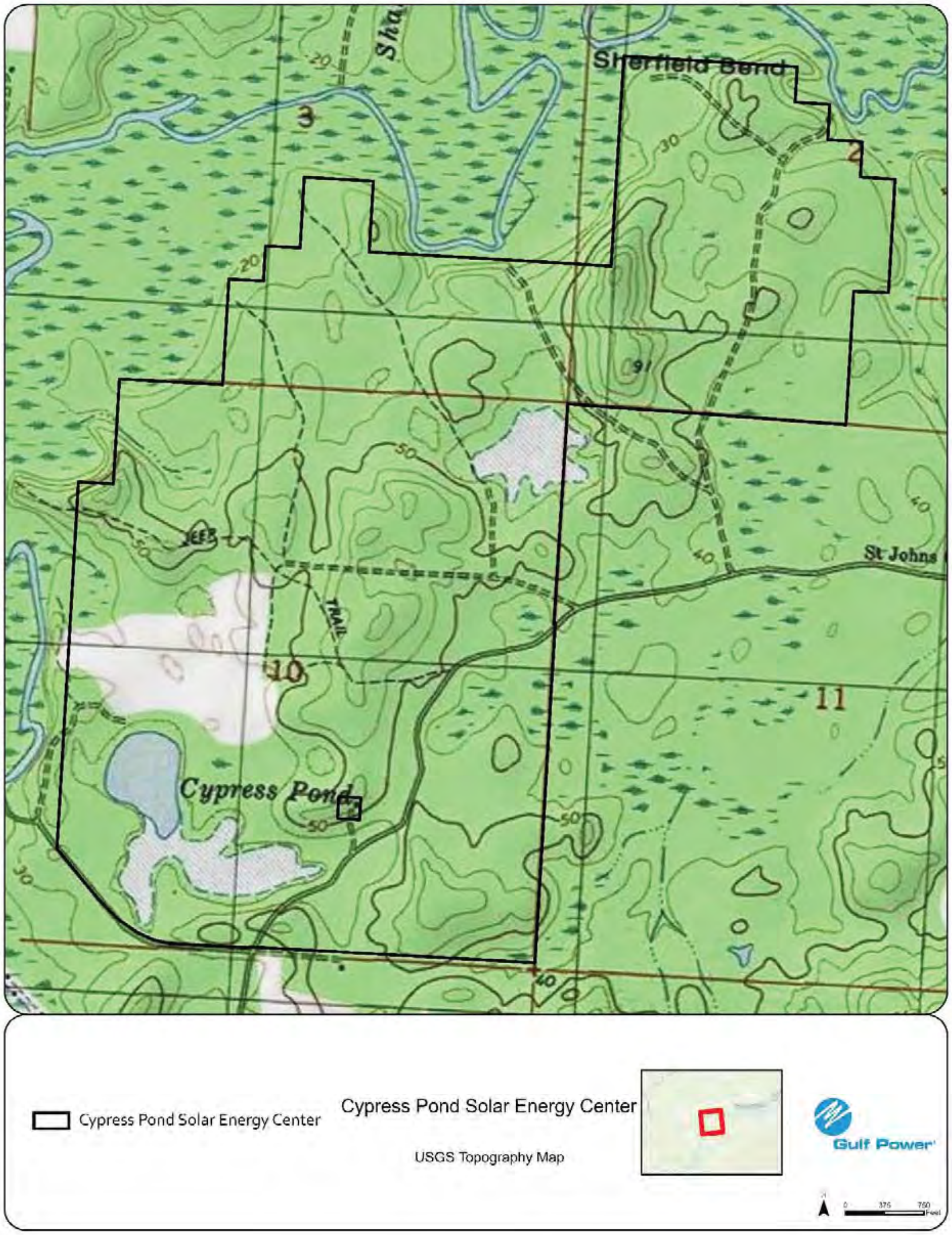

Creek
Turkey
20
21
21
22
29
28
28
27
32
33
33
34
Wild Quail Solar Energy Center
Wild Quail Solar Energy Center
USGS Topography Map
344 ft
Gulf Power

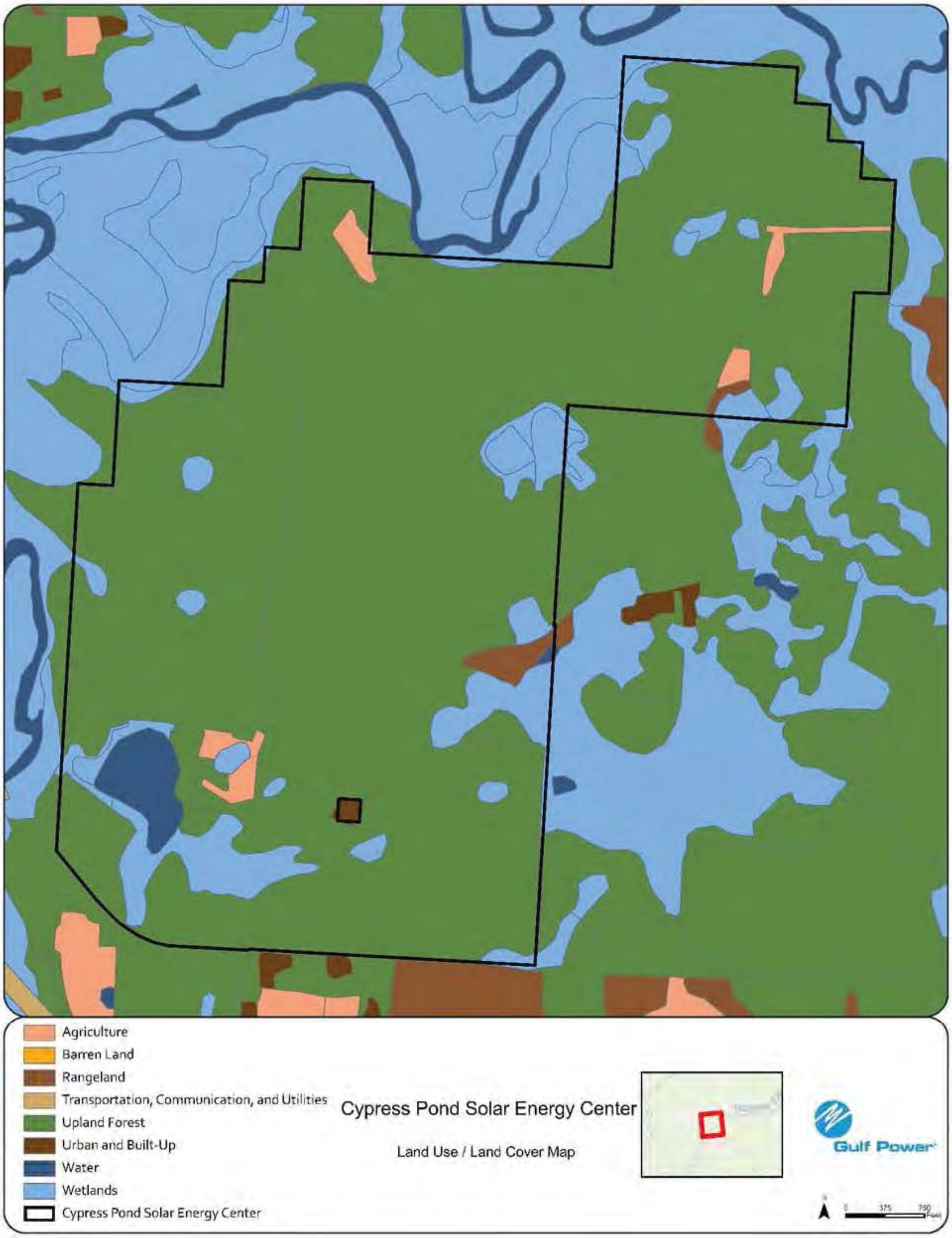

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Wild Quail Solar Energy Center
Wild Quail Solar Energy Center
Land Use / Land Cover Map
344 ft
Gulf Power
0
580
1,160

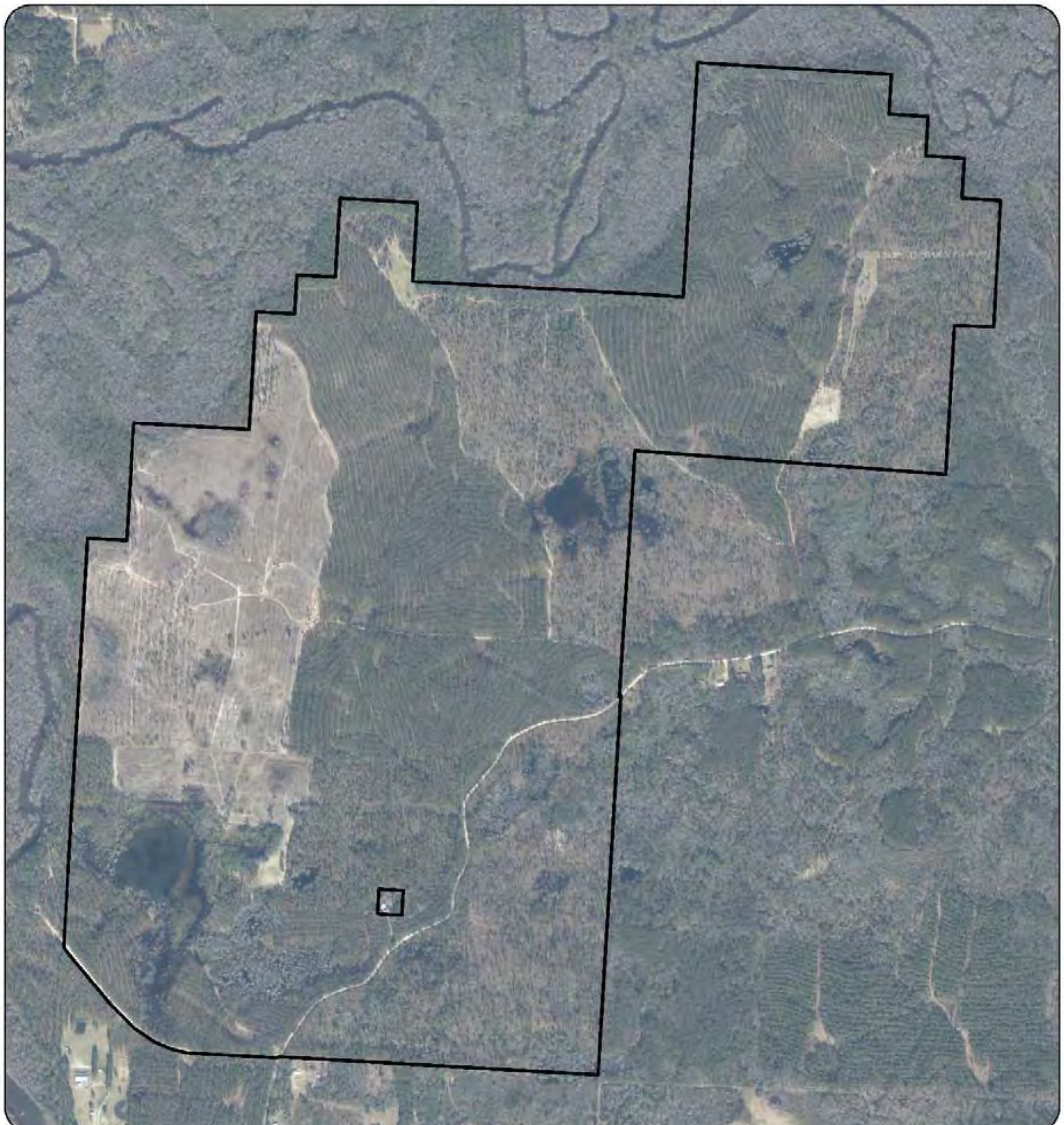

Wild Quail Solar Energy Center
Wild Quail Solar Energy Center
Facility Layout Map
344 ft
Gulf Power

Environmental and Land Use Information: Supplemental Information

Gulf Area Potential Site # 5: Cypress Pond Solar Energy Center, Washington County


Sherfield Bend
3
2
20
30
91
50
40
JEFF
TRAIL
St Johns
10
11
Cypress Pond
Cypress Pond Solar Energy Center
Cypress Pond Solar Energy Center
USGS Topography Map
Gulf Power
0
375
750
Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Cypress Pond Solar Energy Center
Cypress Pond Solar Energy Center
Land Use / Land Cover Map
Gulf Power
0
375
750
Feet



Cypress Pond Solar Energy Center

Cypress Pond Solar Energy Center

Facility Layout Map

Gulf Power

CHAPTER V

Other Planning Assumptions & Information

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Introduction

The Florida Public Service Commission (FPSC), in Docket No. 960111-EU, specified certain information to be included in an electric utility's Ten Year Power Plant Site Plan filing. This specified information includes 12 items listed under a heading entitled "Other Planning Assumptions and Information." These 12 items concern specific aspects of a utility's resource planning work. The FPSC requested a discussion or a description of each of these items.

These 12 items are addressed individually below as separate "Discussion Items".

Discussion Item # 1: Describe how any transmission constraints were modeled and explain the impacts on the plan. Discuss any plans for alleviating any transmission constraints.

FPL and Gulf Power Company's resource planning work considers two types of transmission limitations/constraints: external limitations and internal limitations. External limitations involve FPL's and Gulf's ties to its neighboring electric systems. Internal limitations involve the flow of electricity within the FPL system.

The external limitations are important because they affect the development of assumptions for the amount of external assistance that is available to the FPL and Gulf areas as well as the amount and price of economy energy purchases. Therefore, these external limitations are incorporated both in the reliability analysis and economic analysis aspects of resource planning. The amount of external assistance that is assumed to be available is based on the projected transfer capability to the FPL and Gulf areas from outside entities as well as historical levels of available assistance. In the loss of load probability (LOLP) portion of its reliability analyses, FPL's resource planning group models the amount of external assistance as an additional generator(s) within the system that provides capacity in all but the peak load months. The assumed amount and price of economy energy are based on historical values and projections from production costing models.

Internal transmission limitations are addressed in economic analyses by identifying potential geographic locations for potential new generating units that minimize adverse impacts to the flow of electricity within the system. The internal transmission limitations are also addressed by: 1) developing the direct costs for siting potential new units at different locations, 2) evaluating the cost impacts created by the new unit/unit location combination on the operation of existing generating units in the system, and/or 3) evaluating the costs of transmission and/or generation additions that may be needed to address regional concerns regarding an imbalance between load and generation in a given region. Costs for these site, region, and system factors are developed for use in economic analyses. These factors are also considered in both system and regional reliability analyses. When analyzing DSM portfolios, such as for a DSM Goals docket, the potential to avoid or defer regional transmission additions that might otherwise be needed is typically analyzed. In addition, transfer limits for capacity and energy that can be imported into the Southeastern Florida region of FPL's area (Miami-Dade and Broward Counties), or transferred between FPL and Gulf once the two systems are interconnected by the planned North Florida Resiliency Connection transmission line project, are also developed, as applicable, for use in reliability analyses and production costing analyses. (The need to maintain a regional balance between generation and transmission in Southeastern Florida is also discussed in the Executive Summary and in Chapter III.)

Annual transmission planning work determines transmission additions needed to address limitations and maintain/enhance system and regional reliability. Planned transmission facilities to interconnect and integrate generating units in the resource plan, including those transmission facilities that must be certified under the Transmission Line Siting Act, are presented in Chapter III.

Discussion Item # 2: Discuss the extent to which the overall economics of the plan were analyzed. Discuss how the plan is determined to be cost-effective. Discuss any changes in the generation expansion plan as a result of sensitivity tests to the base case load forecast.

FPL's resource planning group typically performs economic analyses of competing resource plans using levelized system average electric rates (*i.e.*, a Rate Impact Measure or RIM approach) as an economic criterion. In addition, for analyses in which DSM levels are not changed and only supply options are analyzed, the equivalent criterion of the cumulative present value of revenue requirements (CPVRR) may also be used. [15]

The only load forecast sensitivities analyzed during 2020 and/or early 2021 were developed in late 2020. These included extreme-weather sensitivity forecasts developed to analyze potential near-term operational scenarios and a higher load forecast scenario that was used to examine the projected future need for natural gas for the FPL system. These load forecast sensitivities and scenarios did not result in a change in the resource plan.

[15] FPL's basic approach in its resource planning work is to base decisions on a lowest electric rate basis. However, when DSM levels are considered a "given" in the analysis (*i.e.*, when only new generating options are considered), the lowest electric rate basis approach and the lowest system cumulative present value of revenue requirements (CPVRR) basis approach yield identical results in terms of which resource options are more economic. In such cases, resource options can be evaluated on the simpler-to-calculate (but equivalent) lowest CPVRR basis.

Discussion Item # 3: Explain and discuss the assumptions used to derive the base case fuel forecast. Explain the extent to which the utility tested the sensitivity of the base case plan to high and low fuel price scenarios. If high and low fuel price sensitivities were performed, explain the changes made to the base case fuel price forecast to generate the sensitivities. If high and low fuel price scenarios were performed as part of the planning process, discuss the resulting changes, if any, in the generation expansion plan under the high and low fuel price scenarios. If high and low fuel price sensitivities were not evaluated, describe how the base case plan is tested for sensitivity to varying fuel prices.

The basic assumptions used to derive fuel price forecasts are discussed in Chapter III of this document. FPL's resource planning group may use a single fuel cost forecast, or multiple fuel cost forecasts (Low, Medium, and High), in its analyses as appropriate.

In cases where multiple fuel cost forecasts are used, a Medium fuel cost forecast is developed first. Then the approach has been to adjust the Medium fuel cost forecast upward (for the High fuel cost forecast) or downward (for the Low fuel cost forecast) by multiplying the annual cost values from the Medium fuel cost forecast by a factor of (1 + the historical volatility of the 12-month forward price, one year ahead) for the High fuel cost forecast, or by a factor of (1 – the historical volatility of the 12-month forward price, one year ahead) for the Low fuel cost forecast.

The resource plan presented in this Site Plan is based on an updated fuel cost forecast developed in October 2020. Based on the facts that this fuel cost forecast is projecting natural gas prices that are already low by historical standards, and that the resource plan consists predominantly of solar additions, there was not a need to utilize different fuel cost forecasts to test the resource plan.

Discussion Item # 4: Describe how the sensitivity of the plan was tested with respect to holding the differential between oil/gas and coal constant over the planning horizon.

In its 2020 and early 2021 resource planning work, a forecast scenario in which the differential between oil/gas and coal was held constant was not utilized. This is, in part, because FPL is currently using, and is projected to use, very little oil or coal. In addition, system improvements on the Gulf system are now being made that will result in significantly less coal usage both in the years before integrating the two systems and after that integration has been completed. These trends are shown on Schedules 5, 6.1, and 6.2 in Chapter III.

Discussion Item # 5: Describe how generating unit performance was modeled in the planning process.

The performance of existing generating units both the FPL and Gulf areas are modeled using current projections for scheduled outages, unplanned outages, capacity output ratings, and heat rate information. Schedule 1 in Chapter I and Schedule 8 in Chapter III present the current and projected capacity output ratings of the existing generating units. The values used for outages and heat rates are generally consistent with the values that have been used in planning studies in recent years for both the FPL and Gulf areas.

In regard to new unit performance, FPL utilized current projections for the capital costs, fixed and variable operating and maintenance costs, capital replacement costs, construction schedules, heat rates, and capacity ratings for all construction options in its resource planning work. A summary of this information for the new capacity options that FPL currently projects to add over the reporting horizon for this document is presented on the Schedule 9 forms in Chapter III.

Discussion Item # 6: Describe and discuss the financial assumptions used in the planning process. Discuss how the sensitivity of the plan was tested with respect to varying financial assumptions.

The financial assumptions used in the late 2020 and early 2021 resource planning analyses for FPL's area were: (i) an incremental capital structure of 40.40% debt and 59.60% equity; (ii) a 4.10% cost of debt; (iii) a 10.55% return on equity; and (iv) an after-tax discount rate of 7.52%. For Gulf's area, the values assumed in the vast majority of the resource planning work conducted during late 2020 and early 2021 were: (i) an incremental capital structure of 46.50% debt and 53.50% equity; (ii) a 4.22% cost of debt; (iii) a 10.25% return on equity; and (iv) an after-tax discount rate of 6.95%.

The financial assumptions used in the resource planning analyses that led to the resource plan for a fully integrated FPL and Gulf system that is presented in this 2021 Ten Year Site Plan were: an incremental capital structure of 40.40% debt and 59.60% equity; (ii) a 4.10% cost of debt; (iii) a 10.55% return on equity; and (iv) an after-tax discount rate of 7.52%. No other financial assumptions were used in the 2020/early 2021 resource planning work.

Discussion Item # 7: Describe in detail the electric utility's Integrated Resource Planning process. Discuss whether the optimization was based on revenue requirements, rates, or total resource cost.

FPL's integrated resource planning (IRP) process is described in detail in Chapter III of this document.

The standard basis for comparing the economics of competing resource plans in FPL's basic IRP process is the impact of the plans on electricity rate levels, with the objective generally being to minimize the projected levelized system average electric rate (*i.e.*, a Rate Impact Measure or RIM approach). As discussed in response to Discussion Item # 2, both the electricity rate perspective and the cumulative present value of revenue requirement (CPVRR) perspective for the system yield identical results in terms of which resource options are more economical when DSM levels are unchanged between competing resource plans. Therefore, in planning work in which DSM levels were unchanged, FPL's resource planning group utilizes the equivalent, but simpler-to-calculate CPVRR perspective.

Discussion Item # 8: Define and discuss the electric utility's generation and transmission reliability criteria.

FPL's resource planning group uses three system reliability criteria in its resource planning work for both the FPL and Gulf areas that address various resource options including: utility generation, power purchases, and DSM options. One criterion is a minimum 20% Summer and Winter total reserve margin. Another reliability criterion is a maximum of 0.1 days per-year loss-of-load-probability (LOLP). The third criterion is a minimum 10% generation-only reserve margin (GRM). These three reliability criteria are discussed in Chapter III of this document.

In regard to transmission reliability analysis, transmission planning criteria have been adopted that are consistent with those established by the Florida Reliability Coordinating Council (FRCC) and the SERC Reliability Corporation (SERC). The FRCC and SERC have adopted transmission planning criteria that are consistent with the Reliability Standards established by the North American Electric Reliability Corporation (NERC). The *NERC Reliability Standards* are available on the NERC internet site (http://www.nerc.com/).

In addition, *Facility Interconnection Requirements* (FIR) documents for both FPL and Gulf systems/areas have been developed. The document for FPL is available on FPL's Open Access Same-time Information System (OASIS) website, https://www.oatioasis.com/FPL/index.html, under the "Interconnection Request Information" directory. The document for Gulf is available on Gulf's Open Access Same-time Information System (OASIS) website, https://www.oatioasis.com/gulf/index.html, also under the "Interconnection Request Information" directory. Furthermore, all new transmission facilities within the FPL and Gulf service territories that are used to meet FPL and Gulf load are planned to comply with Extreme Wind Loading Criteria as implemented in FPL and Gulf Design Guidelines.

FPL and Gulf Power Company's transmission planning group generally limits planned flows on its transmission facilities to no more than 100% of the applicable thermal rating. There may be isolated cases for which it is acceptable to deviate from the general criteria stated below. There are several factors that could influence these criteria, such as the overall number of potential customers that may be impacted, the probability of an outage actually occurring, transmission system performance, and other factors.

The normal and contingency voltage criteria for FPL stations are provided below:

Normal/Contingency [16]

Voltage Level (kV)	Vmin (p.u.)	Vmax (p.u.)
69, 115, 138	0.95/0.95	1.05/1.07
230	0.95/0.95	1.06/1.07
500	0.95/0.95	1.07/1.10
Turkey Point (*)	1.013/1.013	1.06/1.06
St. Lucie (*)	1.00/1.00	1.06/1.06

(*) Voltage range criteria for FPL's Nuclear Power Plants

In regards to the normal and contingency voltage criteria for Gulf Power Company stations, Gulf adopts the Southern Company Voltage Schedule Procedures as provided in the link below to the Southern Company OASIS document:

- Voltage Schedule Procedures
  https://www.oasis.oati.com/woa/docs/SOCO/SOCOdocs/BPO-01_(Voltage_Schedules).pdf

Discussion Item # 9: Discuss how the electric utility verifies the durability of energy savings for its DSM programs.

FPL and Gulf periodically revise the projected impacts of its DSM programs on demand and energy consumption. Engineering models, calibrated with current field-metered data, are updated at regular intervals. Participation trends are tracked for all of FPL's and Gulf's DSM programs in order to adjust impacts each year for changes in the mix of efficiency measures being installed by program participants. For its load management programs, FPL conducts periodic tests of its load management equipment to

[16] Immediately following a contingency, steady-state voltages may deviate from the normal voltage range if there are known automatic or manual operating actions to adjust the voltage to within the contingency voltage range. However, the steady-state voltage must never exceed voltage System Operating Limits (SOLs), which have a lower limit of 0.90pu and a higher limit of 1.10pu for all transmission facilities, excluding nuclear plant switchyards for which the SOLS are equal to the normal/contingency limits.

ensure it is functioning correctly. These tests, plus actual load management events, also allow FPL to gauge the MW reduction capabilities of its load management programs on an ongoing basis.

Discussion Item # 10: Discuss how strategic concerns are incorporated in the planning process.

The Executive Summary and Chapter III provide a discussion of a variety of system concerns/issues that influence FPL's resource planning process. Please see those chapters for a discussion of those concerns/issues.

In addition to these system concerns/issues, there are other strategic factors that FPL's resource planning group typically considers when choosing among resource options. These include: (1) technology risk; (2) environmental risk, and (3) site feasibility. The consideration of these factors may include both economic and non-economic aspects. Technology risk is an assessment of the relative maturity of competing technologies. For example, a prototype technology that has not achieved general commercial acceptance has a higher risk than a technology in wide use and, therefore, assuming all else is equal, is less desirable.

Environmental risk is an assessment of the relative environmental acceptability of different generating technologies and their associated environmental impacts on the utility system, including projected environmental compliance costs. Technologies regarded as more acceptable from an environmental perspective for a prospective resource plan are those that minimize environmental impacts for the utility system as a whole through highly efficient fuel use, state-of-the-art environmental controls, and generating technologies that do not utilize fossil fuels (such as nuclear and solar).

Site feasibility assesses a wide range of economic, regulatory, and environmental factors related to successfully developing and operating the specified technology at the site in question. Projects that are more acceptable have sites with fewer barriers to successful development.

All of these factors play a part in resource planning and decision-making, including decisions to construct capacity or purchase power.

Discussion Item # 11: Describe the procurement process the electric utility intends to utilize to acquire the additional supply-side resources identified in the electric utility's ten-year site plan.

As shown in this 2021 Site Plan, the current resource plan reflects the following major supply-side or generation resource additions in FPL's area: combustion turbine (CT) component upgrades at various existing CCs, addition of new PV facilities, addition of new battery storage facilities, and addition of new CC capacity from the Dania Beach Energy Center Unit 7 through the modernization of FPL's existing Lauderdale plant site. The current resource plan also reflects the following major supply-side or generation resource additions and/or changes in Gulf's area: the addition of CT generation, addition of new PV facilities, and the addition of new battery storage facilities.

CT upgrades are planned to take place at various CC units throughout the FPL and Gulf areas. The original equipment manufacturers (OEM) of the CTs approached FPL and Gulf regarding the possibility of upgrading these units. Following negotiations with the OEMs and economic analyses that showed upgrading was cost-effective for customers, FPL and Gulf decided to proceed with the CT upgrades and the supporting balance of plant modifications.

For new solar facilities for both FPL's and Gulf's areas, the selection of equipment and installation contractors has been, and will continue to be, done via competitive bidding. FPL's Engineering & Construction (E&C) group seek bids from multiple suppliers for major components such as PV panels, inverters, and step-up transformers. Where possible, this group aggregates and executes component purchases as a portfolio to achieve cost synergies. However, this must be balanced against rapid technology changes and potential future cost reductions. Therefore, any bundling of purchases over the planned construction horizon is strategically managed. The remaining balance-of-system (BOS) purchases, such as racking and cabling, as well as engineering and construction services, are typically bid out to a number of contractors to determine the best value.

The selection of equipment and installation contractors for the projected battery storage facilities is being done in a manner similar to that described above for the projected solar facilities.

The modernization project at FPL's existing Lauderdale site received an FPSC waiver from the Bid Rule due to attributes specific to modernization projects (such as the ability to use existing gas and/or transmission infrastructure, ability to use land at an existing plant site, no incremental water requirements, etc.). In addition to these attributes, the Lauderdale modernization project, which will result in the addition of a new combined cycle unit (FPL Dania Beach Clean Energy Center Unit 7) is also projected to result in significant economic benefits for FPL's customers. Additionally, the new unit is projected to lower natural gas usage in the FPL system, and lower system emissions of SO_2, NO_x, and CO_2 compared to continuing to operate the existing Lauderdale generating units. The waiver from the Bid Rule was granted in Consummating Order No. PSC-2017-0431-CO-EI. On March 19, 2018, the FPSC issued a final order granting an affirmative need determination for the planned new Dania Beach Unit 7 (Order No. PSC-2018-0150-FOF-EI). FPL utilized a competitive bidding process to select equipment suppliers and installation contractors based on its assessment of price and supplier capability to realize the best generation option for its customers.

The selection of equipment and installation contractors for the four new Gulf Clean Energy Center Unit 8 CTs projected in the current resource plan for Gulf's area in late 2021 was also performed via competitive bidding.

Discussion Item # 12: Provide the transmission construction and upgrade plans for electric utility system lines that must be certified under the Transmission Line Siting Act (403.52 – 403.536, F. S.) during the planning horizon. Also, provide the rationale for any new or upgraded line.

In the current resource plan, there are no new transmission lines planned in the Gulf area that require certification under the Transmission Line Siting Act (TLSA). There is, however, a planned transmission project interconnecting the Gulf and FPL areas known as the North Florida Resiliency Connection (NFRC). This 176 mile, 161 kV transmission project will utilize a newly acquired corridor and is expected to be placed in service by mid-year 2022.

FPL has one transmission line project that requires TLSA certification. This project is planned for 2030 or later and will utilize the remaining portion of the Levee-Midway corridor to bring a second 500 kV line to feed Conservation substation in Broward County, Florida (as is shown on Table III.E.1 in Chapter III).

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QUESTION:
Please provide an electronic copy of all schedules and tables in the Company's current planning period TYSP in Microsoft Excel format.

RESPONSE:
Please see Attachment No. 1 to this response.