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April 2, 2018

-VIA ELECTRONIC FILING-

Ms. Carlotta S. Stauffer
Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Blvd.
Tallahassee, FL 32399-0850

RE: Florida Power & Light Company's 2018 Ten-Year Power Plant Site Plan

Dear Ms. Stauffer:

Please find enclosed for electronic filing Florida Power & Light Company's 2018-2027 Ten-Year Power Plant Site Plan. Per Commission Staff's request, five (5) hard copies also will be provided to your office.

If there are any questions regarding this transmittal, please contact me at (561)304-5170.

Sincerely,

/s/ Kevin I.C. Donaldson
Kevin I.C. Donaldson
Fla. Bar No. 0833401

Enclosure

Ten Year Power Plant Site Plan
2018 – 2027

FPL

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Ten Year Power Plant Site Plan

2018-2027

Submitted To:

Florida Public
Service Commission

April 2018

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Table of Contents

List of Figures, Tables, and Maps

List of Schedules

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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 is based on Florida Power & Light Company's (FPL's) integrated resource planning (IRP) analyses that were carried out in 2017 and that were on-going in the first Quarter of 2018. The forecasted information presented in this plan addresses the years 2018 through 2027.

This document is organized in the following manner:

Chapter I – Description of Existing Resources

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

Chapter II – Forecast of Electric Power Demand

FPL's load forecasting methodology, and the resulting forecast of seasonal peaks and annual energy usage, is 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 FPL's integrated resource planning (IRP) process and outlines FPL's

projected resource additions, especially new power plants, based on FPL's IRP work in 2017 and early 2018. 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 discusses FPL's previous and planned DSM efforts, the projected significant impact of the combined effects of FPL's DSM plans and state/federal energy-efficiency codes and standards, FPL's previous and planned renewable energy efforts, projected transmission planning additions, and FPL's 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.

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.

FPL
List of Abbreviations
Used in FPL Forms

Reference	*Abbreviation*	*Definition*
Unit Type	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
	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

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Executive Summary

Florida Power & Light Company's (FPL's) 2018 Ten Year Power Plant Site Plan (Site Plan) presents the company's current plans to augment and enhance its electric generation capability as part of its efforts to reliably, cleanly, and cost-effectively meet FPL's projected incremental resource needs for the 2018 through 2027 time period. FPL already has one of the cleanest emission profiles of any electric utility in the U.S., and with the resource additions presented in this Site Plan, FPL is projected to become even cleaner. In 2017, FPL delivered approximately 95% of its energy from a combination of low-emission natural gas, zero-emission nuclear and zero-emission solar. During the 10-year reporting period of this Site Plan, this clean energy percentage is projected to increase to approximately 97%.

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 FPL's extensive demand side management (DSM) resource capabilities and additions and/or that result in significant economic savings for FPL's customers. FPL's DSM Goals for the time period 2015 through 2024 were established in December 2014 by the Florida Public Service Commission (FPSC). Consequently, the level of DSM additions reflected in FPL's 2018 Site Plan is consistent with these DSM Goals through the year 2024 and includes a projected continuation of the same annual level of DSM during the years 2025 through 2027. DSM is discussed in more detail in Chapters I, II, and III.

In addition, FPL's load forecast accounts for a significant amount of energy efficiency that results from federal and state energy-efficiency codes and standards. The projected impacts of these codes and standards are discussed later in this summary and in Chapters II and III.

There are a number of similarities between the resource plan presented in this 2018 Site Plan and the resource plan presented in FPL's 2017 Site Plan. In addition, there are a number of factors that either have influenced, or may influence, FPL's ongoing resource planning efforts. These factors could result in significantly different resources being added in the future. The similarities, and one of the influencing factors, are discussed below in Section I. Section II presents a discussion of other factors that have influenced, and which may further influence, the resources that FPL actually implements in the future. Additional information regarding these topics is presented in Chapters II and III.

I. Similarities Between the 2018 and 2017 Site Plans:

As mentioned above, the resource plan that is presented in this 2018 Site Plan is similar in a number of respects to the resource plan that was presented in FPL's 2017 Site Plan. These similarities are discussed below.

Similarity # 1: FPL continues to pursue new solar generation cost-effectively through continued investments in solar energy

FPL's 2017 Site Plan projected that the near-term increase in solar generation would enable the company to, for the first time in its history, produce more energy (megawatt-hours) from solar than from coal and oil combined in the year 2020. In its 2018 Site Plan, FPL now projects to achieve this historic milestone in the year 2019.

FPL's 2017 Site Plan featured the planned cost-effective addition of eight new universal solar photovoltaic (PV) facilities of approximately 74.5 MW[1] each by early 2018. These additions were contemplated under the Solar Base Rate Adjustment (SoBRA) mechanism approved as part of the settlement agreement in FPL's 2017 base rate proceeding in Docket No. 160021-EI. The eight solar additions were approved formally by the FPSC on January 8, 2018 (Order No. PSC-2018-0028-FOF-EI).

All eight additions have now been completed. The first four of these eight new solar facilities went into commercial operation on January 1, 2018, followed by the second four on March 1, 2018. These recent solar additions represent approximately 596 MW and bring FPL's total current level of solar generation to approximately 930 MW. Of that amount, approximately 855 MW is from PV and 75 MW is from solar thermal.

Furthermore, FPL's 2018 Site Plan continues to show the addition of 298 MW of PV in 2019 under SoBRA. FPL filed for FPSC approval of these solar facilities on March 2, 2018 based on analyses which project that FPL can implement this additional solar cost-effectively. Information regarding the siting of the 2019 solar additions is presented in Chapter IV.

However, FPL's 2018 Site Plan differs in two ways from its 2017 Site Plan in regard to solar for the years 2020 and beyond. First, FPL is contemplating solar additions in more years compared to what was presented in the 2017 Site Plan. In its 2017 Site Plan, FPL showed annual PV additions through the year 2023. In this 2018 Site Plan, FPL shows annual PV additions through the year 2027. As a result, this 2018 Site Plan shows FPL adding more solar; approximately 4,134 MW by the end of 2027, consisting of

[1] Each reference to PV capacity in this Site Plan reflects the nameplate rating, AC, unless noted otherwise.

approximately 4,059 MW of PV and 75 MW of solar thermal. The annual solar additions shown in this 2018 Site Plan assume, for planning purposes, that these additions will be found to be cost-effective for FPL's customers. FPL hopes that this will be the case.

Conversely, the second way in which this 2018 Site Plan differs from FPL's 2017 Site Plan is that there is currently a higher level of uncertainty regarding the projected longer-term economics of solar versus gas-fired generation. This increased uncertainty is due in large part to the recent introduction of tariffs on imported solar photovoltaic (PV) equipment.

FPL currently has acquired sufficient PV panels and related equipment for its planned PV additions in 2019 and 2020. Thus costs for PV additions in those two years are well understood. However, there is significant uncertainty regarding costs for additional PV facilities that FPL would like to implement in 2021 and beyond. Partially as a result of this uncertainty regarding PV costs, there is increased uncertainty regarding the potential system economics of solar over that time period.[2]

FPL's resource planning work in 2018 and beyond will continue to analyze the projected system economics of solar and all other resource options.

Similarity # 2: FPL continues to reduce coal-fired generation

As a result of commercial transactions that the FPSC approved, FPL acquired the rights to two coal-fired power plants and the related power purchase contracts, under which FPL received firm capacity and energy. The purpose of the transactions was to cancel the contracts that were no longer cost-effective for FPL's customers and close the two facilities, which were not projected to be economical on FPL's system. The two units are the Cedar Bay facility (250 MW) and the Indiantown Cogeneration (ICL) facility (330 MW). In 2017, FPL closed the Cedar Bay facility. In regard to ICL, FPL plans to take no capacity or energy after year-end 2018 and then terminate the PPA by the end of the 1st Quarter of 2020.

Additionally, based on an arrangement between FPL and JEA, and with approval from the FPSC, the St. John's River Power Park (SJRPP) coal-fired generating Units 1 & 2 were retired on January 4, 2018. Thus, FPL no longer receives the 636 MW firm capacity that was previously delivered by the SJRPP units from both FPL's ownership portion of the two units and from the associated PPA.

[2] System economics of future solar and gas-fired generation will depend upon a number of factors other than future PV costs, including, but not necessarily limited to: natural gas costs, environmental compliance costs, potential technology improvements regarding cost and/or efficiency of both solar and gas-fired generation, and potential system impacts of increasing amounts of solar.

Similarity # 3: FPL continues to modernize its fleet of fossil-fueled generating units, making the system cleaner, more fuel-efficient, and more economical for customers

FPL has an ongoing program to modernize its fossil fuel generating units based on cost-effectiveness. These efforts are substantially improving system fuel efficiency and increasing capacity while also reducing system air emission rates (including greenhouse gas emission rates) and reducing fuel costs for FPL customers. FPL continues its investments to further improve the efficiency and capabilities of its fossil-fueled generation fleet in 2018 and beyond through three principal initiatives described below.

First, FPL plans to retire two large (approximately 800 MW each) generating units at its Martin plant site in late 4th Quarter of 2018 or early 1st Quarter of 2019. These units, Martin Units 1 & 2, are steam-type generating units. Both units have been in commercial operation for approximately 38 years and are now relatively inefficient units in regard to converting natural gas or oil into electricity. The almost 1,600 MW of generating capacity that will be removed by the retirement of these two Martin units will be partially replaced by upgrading the CT components at various existing CC units.

Second, as noted above, FPL will be upgrading the CT components in more of its CC units through the year 2020. These upgrades are projected to result in increased Summer capacity of approximately 1,124 MW by the end of that year. Information regarding the specific units, timing, and magnitude of these upgrades is presented in Schedule 8 in Chapter III.

Third, FPL will be modernizing its existing Lauderdale power plant site. The site currently contains two 442 MW CC units (for a total capacity of approximately 884 MW) that resulted from a repowering project approximately 25 years ago – but which contain certain now-outdated plant components, including the steam turbine, that date back to the 1950s. FPL plans to retire these units in the 4th Quarter of 2018 and replace them with a new, modern 1,163 MW 2x1 CC unit by mid-2022. The new, high-efficiency CC unit will be named the FPL Dania Beach Clean Energy Center Unit 7. The FPSC voted unanimously to approve this modernization on March 1, 2018. The FPSC based its approval on projections of significant economic savings for FPL's customers; enhanced reliability for both the FPL system and the Southeastern Florida region (Miami-Dade and Broward counties) of FPL's service territory; reduced use of natural gas system-wide; and reduced system emissions of sulfur dioxide (SO_2), nitrogen oxides (NO_x), and carbon dioxide (CO_2).

Similarity # 4: FPL continues to pursue licensing for new/continuing nuclear energy generating capacity

Nuclear capacity remains an important factor in FPL's resource planning. Since June 2009, FPL has

worked to secure federal Combined Operating Licenses (COL) 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). At the time this 2018 Site Plan is being prepared, FPL projects that it will receive a decision on its COL applications in the 2nd Quarter of 2018. Once COLs have been issued, FPL will pause before deciding whether to seek Commission approval to move forward with construction of the new nuclear units. FPL intends to incorporate into that decision 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, similar to FPL's 2017 Site Plan, the earliest possible in-service dates for Turkey Point 6 & 7 are beyond the 10-year time period addressed in this Site Plan.

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 requests approval to extend the operating licenses by 20 years to 2052 and 2053, respectively. For these reasons, this Site Plan continues to present the Turkey Point location as a Preferred Site for nuclear generation.

Similarity # 5: Projected compliance costs for carbon dioxide (CO_2) emissions continue to decrease

Since 2007, FPL has evaluated potential CO_2 regulation and/or legislation and has incorporated projected compliance costs for CO_2 emissions 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. The forecast of potential CO_2 compliance costs that FPL used in its 2017 resource planning work was lower than forecasts that had been used in prior years. In 2018, the forecasted compliance costs have decreased again. This further reduction is due to a number of factors projected for the Southeastern region of the U.S. including Florida. These factors include: lower forecasted growth rates in electricity usage; lower forecasted costs of natural gas; retirements of existing coal units; projected extension of operating licenses for existing nuclear generation; and increasing implementation of renewable energy sources.

II. Other Factors That Have Influenced, or Could Further Influence, FPL's Resource Additions:

In addition to the impact that future PV costs may have on FPL's resource additions, there are a number of other factors that have influenced, or may influence, FPL's resource additions. Six such factors, some of which have been mentioned above, 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 Lauderdale modernization 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 PV generation in 2019 which enhances fuel diversity. At the same time, FPL is retiring coal generation because it is no longer cost-effective for FPL's customers. In addition, FPL also seeks to further enhance the efficiency with which it uses fuel to generate electricity.

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 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, from a year-end 2017 starting point through the year 2027, are projected to have significant impacts, reducing FPL's forecasted Summer peak load by approximately 1,736 MW and its annual energy consumption by approximately 9,148 GWh. In addition, energy-efficiency codes and standards significantly reduce the potential for cost-effective energy efficiency that might otherwise have been obtained through FPL's DSM programs.

Factor # 5: The continuing decline in costs for battery storage. Although battery storage is not currently projected to be cost-effective on FPL's system, costs for battery technology are projected to continue to decline. Therefore, FPL is now evaluating the future potential for cost-effectively utilizing battery storage on its system. Further detail regarding these efforts is provided in Chapter III.

Factor # 6: Projected changes in CO_2 regulation and related compliance costs. Projected CO_2-related compliance costs can have a large impact in utility resource planning work. Current projections show that CO_2 compliance costs are lower than in previous projections. If the compliance cost projections

significantly change in the future, it is possible that the resource plan presented in this 2018 Site Plan may also change.

FPL will continue to examine each of these six factors in its ongoing resource planning work in 2018 and future years.

III. A Summary of FPL's Projected Resource Changes:

FPL's current projection of major changes in its resources, including both utility-owned generation and PPAs, for the years 2018 through 2027 is summarized in Table ES-1. 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 FPL's resource needs and resource plan, the company's projected DSM additions are consistent with its DSM Goals through 2024, and annual DSM additions have been extended for planning purposes at that same level through 2027. Thus, DSM impacts are fully accounted for in the resource plan in this Site Plan.

The generation additions include, in approximate chronological order: (i) the FPL Okeechobee Clean Energy Center CC unit in Okeechobee County in 2019; (ii) SoBRA PV additions in 2019 and 2020; (iii) capacity upgrades at a number of FPL's existing CC units through 2020; (iv) the planned modernization of the existing Lauderdale power plant site in mid-2022 with the new DBEC CC Unit 7; (iv) additional annual PV generation in the 2020 through 2027 time period; and (v) some unspecified short-term (Summer months only) purchases in several years.

FPL notes that, with the exception of the 2019 Okeechobee CC, the 2019 and 2020 PV, the CC capacity upgrades, and the 2022 Dania Beach Clean Energy Center (DBEC) Unit 7, the remaining generation additions shown in Table ES-1 are essentially placeholders and no final decision regarding these additions has been or needs to be made at this time.

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

Year [1/]	Projected Capacity & Firm Purchase Power Changes	Summer MW (Approx.)	Date	Summer Reserve Margin [2/]
2018	St. Johns River Power Park	(127)	January-18	
	St. Johns River Power Park	(127)	January-18	
	SoBRA PV Sited [3/]	322	January and March 2018	
	Manatee 3	(21)	April-18	
	Martin 8	(2)	April-18	
	Cape Canaveral Energy Center 3	(7)	April-18	
	Ft. Myers - 2 CT	26	April-18	
	Sanford 4	6	April-18	
	Sanford 5	6	April-18	
	Turkey Point 5	26	March-18	
	West County 1	14	May-18	
	West County 3	14	May-18	
	Exelon Generation Company, LLC (PPA)	200	May-18	
	Total of MW changes to Summer firm capacity:	**329**		**21.1%**
2019	West County 3	14	July-18	
	Cape Canaveral Energy Center 3	33	September-18	
	Exelon Generation Company, LLC (PPA)	(200)	September-18	
	Turkey Point 3	20	October-18	
	Lauderdale 4	(442)	October-18	
	Lauderdale 5	(442)	October-18	
	OUC / FMPA (PPA)	100	October-18	
	Sanford 5	162	November-18	
	Martin 1	(823)	Fourth Quarter 2018	
	Martin 2	(803)	Fourth Quarter 2018	
	Turkey Point 4	20	December-18	
	West County 1	27	December-18	
	SoBRA PV Sited [3/]	164	First Quarter 2019	
	Riviera Beach Energy Center 5	78	February-19	
	Unspecified Purchase (2019 Summer Only)	325	May-19	
	Fort Myers 2	288	May-19	
	Martin 8	101	June-19	
	Manatee 3	116	June-19	
	Okeechobee Energy Center	1,778	June-19	
	Total of MW changes to Summer firm capacity:	**516**		**20.0%**
2020	Unspecified Purchase (2020 Summer Only)	55	May-20	
	West County 3	42	August-19	
	Sanford 4	162	December-19	
	Turkey Point 5	12	December-19	
	SoBRA PV Unsited [3/]	165	First Quarter 2020	
	Unsited Solar PV [3/]	124	First Quarter 2020	
	Total of MW changes to Summer firm capacity:	**560**		**20.0%**
2021	OUC / FMPA (PPA)	(100)	December-20	
	Unsited Solar PV [3/]	331	First Quarter 2021	
	West County 3	14	June-21	
	Total of MW changes to Summer firm capacity:	**245**		**20.1%**
2022	Unsited Solar PV [3/]	165	First Quarter 2022	
	Lauderdale Modernization (Dania Beach Clean Energy Center Unit 7)	1,163	June 2022	
	Total of MW changes to Summer firm capacity:	**1,328**		**24.6%**
2023	Unsited Solar PV [3/]	165	First Quarter 2023	
	Total of MW changes to Summer firm capacity:	**165**		**23.6%**
2024	Unsited Solar PV [3/]	165	First Quarter 2024	
	Total of MW changes to Summer firm capacity:	**165**		**22.5%**
2025	Unsited Solar PV [3/]	155	First Quarter 2025	
	Total of MW changes to Summer firm capacity:	**155**		**21.7%**
2026	Unsited Solar PV [3/]	131	First Quarter 2026	
	Total of MW changes to Summer firm capacity:	**131**		**20.4%**
2027	Unsited Solar PV [3/]	116	First Quarter 2027	
	Unspecified Purchase (2027 Summer Only)	262	May-27	
	Total of MW changes to Summer firm capacity:	**378**		**20.2%**

[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 firm capacity assumptions for the PV facilities and FPL currently assumes 0.3% degradation annually for PV output.

CHAPTER I

Description of Existing Resources

I. 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 4,901,886 customer accounts in 35 counties during 2017. These customers were served by a variety of resources including: FPL-owned fossil-fuel, renewable, and nuclear generating units; non-utility owned generation; demand side management (DSM); and interchange/purchased power.

I.A. FPL-Owned Resources

As of December 31, 2017, FPL owned electric generating resources located at 17 sites distributed geographically throughout its service territory, plus one site in Georgia (partial FPL ownership of one unit) and another site in Jacksonville, Florida (partial FPL ownership of two units). These generating facilities consisted of: four nuclear units, three coal units, 16 combined-cycle (CC) units, four fossil steam units, four combustion gas turbines (GTs), nine simple-cycle combustion turbines (CTs), and five solar photovoltaic (PV) facilities.[3] The locations of these 45 generating units are shown on Figure I.A.1 and in Table I.A.1.

FPL notes that there have been some significant changes to its generation fleet since December 31, 2017. First, St. John's River Power Park (SJRPP) Units 1 & 2 were retired on January 4, 2018. Second, 8 new PV facilities began service in the first Quarter of 2018.

FPL's bulk transmission system, including both overhead and underground lines, is comprised of 6,962 circuit miles of transmission lines. Integration of the generation, transmission, and distribution systems is achieved through FPL's 622 substations in Florida.

The existing FPL system, including generating plants, major transmission stations, and transmission lines, is shown on Figure I.A.2.

[3] 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

Location/ Map Key	Plant Name	Number of Units	Summer MW
A	Turkey Point	3	2,819
B	St. Lucie [1/]	2	1,821
C	Manatee	3	2,772
D	Fort Myers	5	2,350
E	Lauderdale	7	2,039
F	Everglades	1	1,237
G	Riviera	1	1,212
H	Martin	5	3,736
I	Cape Canaveral	1	1,263
J	Sanford	2	2,018
K	St. John's River Power Park [1/]	2	254
L	West County	3	3,657
M	DeSoto [2]	1	25
N	Space Coast [2/]	1	10
O	Babcock Ranch Solar [2]	1	74.5
P	Citrus Solar [2/]	1	74.5
Q	Manatee Solar [2/]	1	74.5
	Scherer [3/]	1	634
	Gas Turbines	4	177
	Total System Generation =	**45**	**26,248**
	System Firm Generation =		**26,120**

1/ Represents FPL's ownership share: St Lucie nuclear: 100% Unit 1, 85% Unit 2: St. Johns River: 20% of two units.
2/ Approximately 52% of the 74.5 MW of PV at Babcock Ranch, Citrus, and Manatee, 46% of the 25 MW of PV at Desoto, and 32% of the 10 MW of PV at Space Coast, are considered as firm generating capacity for Summer reserve margin purposes.
3/ The Scherer unit is located in Georgia and is not shown on this map.

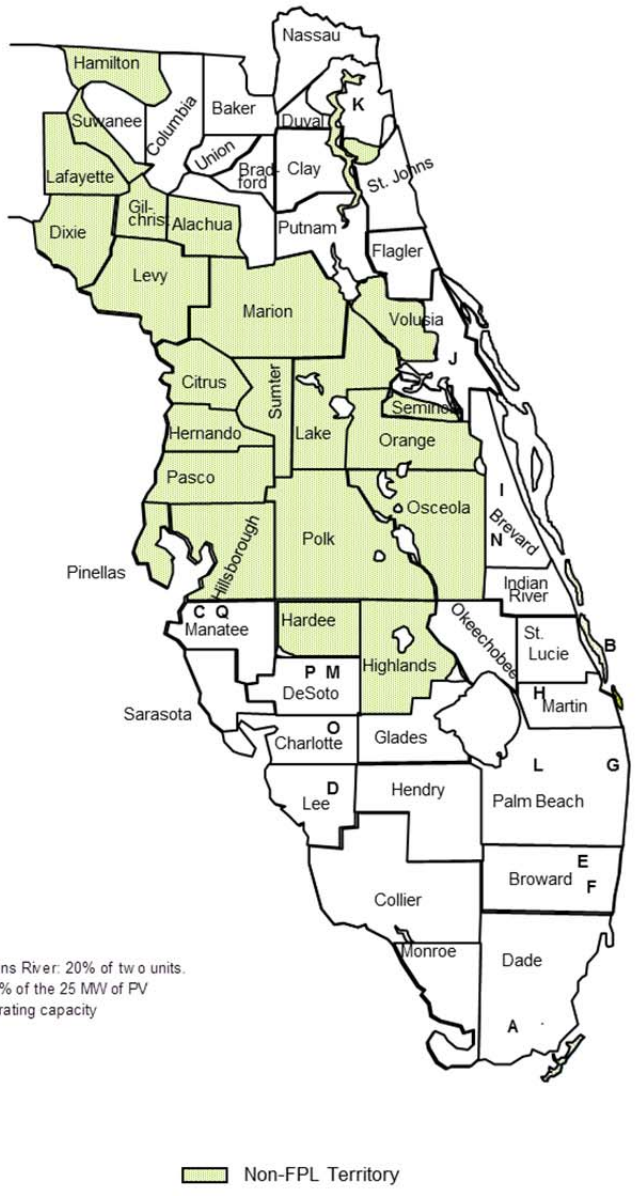

Figure I.A.1: Capacity Resources by Location (as of December 31, 2017)

Table I.A.1: Capacity Resource by Unit Type (as of December 31, 2017)

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	1,632
Total Nuclear:		**4**		**3,453**
Coal Steam				
Scherer	Monroe County, Ga	1	Coal	634
St. John's River Power Park [2/]	Jacksonville, FL	2	Coal	254
Total Coal Steam:		**3**		**888**
Combined-Cycle				
Fort Myers	Fort Myers, FL	1	Gas	1,524
Manatee	Parrish, FL	1	Gas	1,154
Martin	Indiantown, FL	2	Gas	974
Sanford	Lake Monroe, FL	2	Gas	2,018
Cape Canaveral	Cocoa, FL	1	Gas/Oil	1,263
Lauderdale	Dania, FL	2	Gas/Oil	884
Martin	Indiantown, FL	1	Gas/Oil	1,136
Port Everglades	City of Hollywood, FL	1	Gas/Oil	1,237
Riviera Beach	City of Riviera Beach, FL	1	Gas/Oil	1,212
Turkey Point	Florida City, FL	1	Gas/Oil	1,187
West County	Palm Beach County, FL	3	Gas/Oil	3,657
Total Combined Cycle:		**16**		**16,247**
Oil/Gas Steam				
Manatee	Parrish, FL	2	Oil/Gas	1,618
Martin	Indiantown,FL	2	Oil/Gas	1,626
Total Oil/Gas Steam:		**4**		**3,244**
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		1,155
Fort Myers	Fort Myers, FL	4	Gas/Oil	826
Total Combustion Turbines:		**9**		**1,981**
PV				
DeSoto [3/]	DeSoto, FL	1	Solar Energy	25
Babcock Ranch Solar [3/]	Charlotte County, FL	1	Solar Energy	74.5
Citrus Solar [3/]	DeSoto, FL	1	Solar Energy	74.5
Manatee Solar [3/]	Parrish, FL	1	Solar Energy	74.5
Space Coast [3/]	Brevard County, FL	1	Solar Energy	10
Total PV:		**5**		**259**
Total System Generation as of December 31, 2017 =		**45**		**26,248**
System Firm Generation as of December 31, 2017 =				**26,120**

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

2/ Capabilities shown represent FPL's output share from each of the units (approx. 92.5% and exclude the Orlando Utilities Commission (OUC) and Florida Municipal Power Agency (FMPA) combined portion of approximately 7.44776% per unit. Represents FPL's ownership share: SJRPP coal: 20% of two units). Both of the SJRPP units retire in January of 2018.

3/ Approximately 52% of the 74.5 MW of PV at Babcock Ranch, Citrus, and Manatee, 46% of the 25 MW of PV at Desoto, and 32% of the 10 MW of PV at Space Coast, are considered as firm generating capacity for Summer reserve margin purposes.

FPL Bulk Transmission System

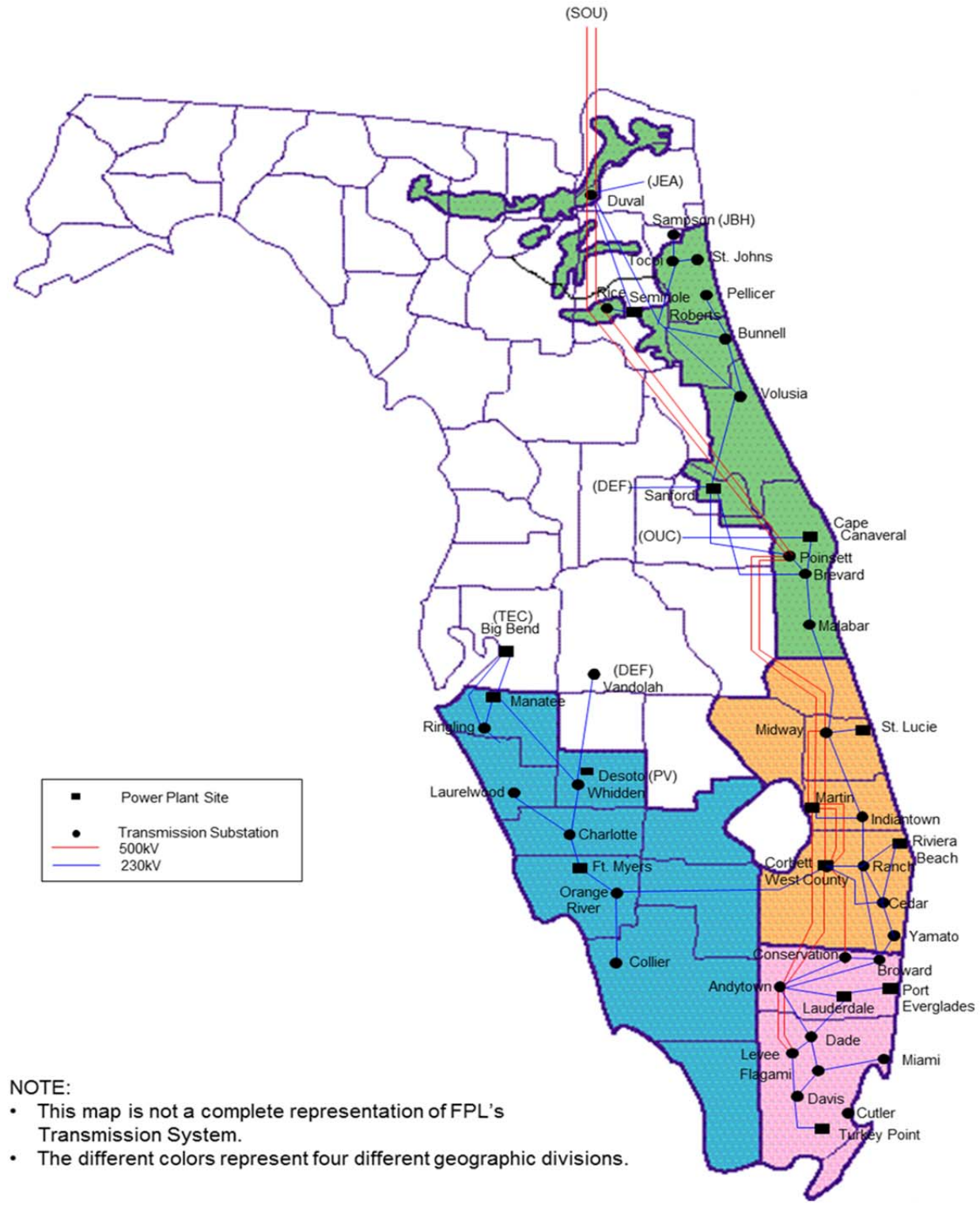

Figure I.A.2: FPL Substation and Transmission System Configuration

I.B 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 four 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. The 2017 actual and 2018 projected future contributions from these facilities are shown in Table I.B.1, Table I.B.2, and Table I.B.3. As discussed in FPL's 2017 Site Plan, 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). FPL currently projects that it will cancel this PPA by the end of the 1st Quarter of 2020 because the agreement is no longer cost-effective for FPL's customers.

Firm Capacity: Purchases from Utilities

In prior years, FPL's Site Plans showed an FPL contract with the former Jacksonville Electric Authority (now JEA) for the purchase of 382 MW (Summer) and 389 MW (Winter) of coal-fired generation from the St. John's River Power Park (SJRPP) Units No. 1 and No. 2. In addition, FPL had partial ownership of SJRPP Units 1 & 2, with FPL's ownership portion of each unit being 127 MW or 254 MW in total. However, both of the SJRPP units were retired on January 4, 2018. Therefore, FPL no longer receives coal-fired generation from the SJRPP units.

FPL's currently has PPAs with Orlando Utilities Commission and with Exelon Generation Company. Information regarding these PPAs is shown in Table I.B.2 and Table I.B.3.

Firm Capacity: Other Purchases

FPL has two other firm capacity purchase contracts with the Palm Beach Solid Waste Authority. Table I.B.2 and I.B.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.B.1 shows the amount of energy purchased in 2017 from these facilities.

Table I.B.1: Purchase Power Resources by Contract (as of December 31, 2017)

Firm Capacity Purchases (MW)	Location (City or County)	Fuel	Summer MW
I. Purchase from QF's: Cogeneration/Small Power Production Facilities			
Indiantown Cogen LP	Martin	Coal (Cogen)	330
Broward South	Broward	Solid Waste	4
		Total:	334
II. Purchases from Utilities & IPP			
Palm Beach SWA - extension	Palm Beach	Solid Waste	40
Palm Beach SWA - New Unit	Palm Beach	Solid Waste	70
SJRPP [1/]	Jacksonville	Coal	382
		Total:	492
	Total Net Firm Generating Capability:		826

Non-Firm Energy Purchases (MWH) Project	County	Fuel	Energy (MWH) Delivered to FPL in 2017
Miami Dade Resource Recovery [2/]	Dade	Solid Waste	57,005
Okeelanta (known as Florida Crystals and New Hope Power Partners) [2/]	Palm Beach	Bagasse/Wood	45,289
Broward South [2/]	Broward	Solid Waste	39,944
Lee County Solid Waste[2/]	Lee	Solid Waste	39,316
Waste Management - Collier County Landfill [2/]	Collier	Landfill Gas	16,875
Tropicana	Manatee	Natural Gas	5,194
Georgia Pacific	Putnam	Paper by-product	3,863
Waste Management Renewable Energy [2/]	Broward	Landfill Gas	1,244
Customer Owned PV & Wind	Various	PV/Wind	2,019

1/ Both of the SJRPP units retired in January of 2018.

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

Table I.B.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 [2/]	Contract Start Date	Contract End Date	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Broward South	01/01/93	12/31/26	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0
Broward South	01/01/95	12/31/26	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	0
Broward South	01/01/97	12/31/26	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0
Indiantown Cogen L.P.	12/22/95	1st Qtr/2019	330	0	0	0	0	0	0	0	0	0
QF Purchases Subtotal:			**334**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**0**

II. Purchases from Utilities

	Contract Start Date	Contract End Date	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Exelon Generation Company, LLC	05/01/18	09/30/18	200	0	0	0	0	0	0	0	0	0
OUC / FMPA	10/01/18	12/31/20	0	100	100	0	0	0	0	0	0	0
Utility Purchases Subtotal:			**200**	**100**	**100**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total of QF and Utility Purchases =			**534**	**104**	**104**	**4**	**4**	**4**	**4**	**4**	**4**	**0**

III. Other Purchases

	Contract Start Date	Contract End Date	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
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
Unspecified Purchase[3/]	05/01/19	12/31/19	0	325	0	0	0	0	0	0	0	0
Unspecified Purchase[3/]	05/01/20	12/31/20	0	0	55	0	0	0	0	0	0	0
Unspecified Purchase[3/]	05/01/27	10/31/27	0	0	0	0	0	0	0	0	0	262
Other Purchases Subtotal:			**110**	**435**	**165**	**110**	**110**	**110**	**110**	**110**	**110**	**372**
Total "Non-QF" Purchases =			**310**	**535**	**265**	**110**	**110**	**110**	**110**	**110**	**110**	**372**

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Summer Firm Capacity Purchases Total MW:	**644**	**539**	**269**	**114**	**114**	**114**	**114**	**114**	**114**	**372**

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 it then became accounted for under "Other Purchases"

2/ The Indiantown Cogen L.P. PPA is projected to end, and the generating unit to be retired, in 1st Quarter 2020.

3/ These Unspecified Purchases are short-term purchases for the summer of 2019, 2020, and 2027 that are included for resource planning purposes. No decision regarding such purchases is needed at this time.

Table I.B.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 [2/]	Contract Start Date	Contract End Date	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Broward South	01/01/93	12/31/26	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0
Broward South	01/01/95	12/31/26	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	0
Broward South	01/01/97	12/31/26	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0
Indiantown Cogen L.P.	12/22/95	1st Qtr/2019	330	330	0	0	0	0	0	0	0	0
QF Purchases Subtotal:			**334**	**334**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**0**

II. Purchases from Utilities

	Contract Start Date	Contract End Date	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
OUC / FMPA	10/01/18	12/31/20	0	70	70	0	0	0	0	0	0	0
Utility Purchases Subtotal:			**0**	**70**	**70**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Total of QF and Utility Purchases =			**334**	**404**	**74**	**4**	**4**	**4**	**4**	**4**	**4**	**0**

III. Other Purchases

	Contract Start Date	Contract End Date	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
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**	**180**	**180**	**110**	**110**	**110**	**110**	**110**	**110**	**110**

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Winter Firm Capacity Purchases Total MW:	**444**	**514**	**184**	**114**	**114**	**114**	**114**	**114**	**114**	**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 it then became accounted for under "Other Purchases"

2/ The Indiantown Cogen L.P. PPA is projected to end, and the generating unit to be retired, in 1st Quarter 2020.

I.C 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 2017 have resulted in a cumulative Summer peak reduction of approximately 4,822 MW at the generator and an estimated cumulative energy savings of approximately 81,700 Gigawatt-Hour (GWh) at the generator. After accounting for the 20% total reserve margin requirements, FPL's highly effective DSM efforts through 2017 have eliminated the need to construct the equivalent of approximately 15 new 400 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. FPL's DSM Goals for the 2015 through 2024 timeframe were established by the FPSC in December 2014. FPL continues to account for these DSM Goals in its planning process and extends that annual level of DSM at least through the year 2027.

Schedule 1

Existing Generating Facilities
As of December 31, 2017

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
						Fuel		Alt. Fuel		Actual/		Net Capability [1]	
Plant Name	Unit No.	Location	Unit Type	Fuel Pri.	Fuel Alt.	Transport Pri.	Transport Alt.	Days Use	Commercial In-Service Month/Year	Expected Retirement Month/Year	Gen.Max. Nameplate KW	Winter MW	Summer MW
Babcock Ranch Solar [2]		Charlotte County											
		19,30,31/42S/26E									74,500	74.5	74.5
	1		PV	Solar	Solar	N/A	N/A	Unknown	Dec-16	Unknown	74,500	74.5	74.5
Cape Canaveral		Brevard County											
		19/24S/36E									1,295,400	1,370	1,263
	3		CC	NG	FO2	PL	TK	Unknown	Apr-13	Unknown	1,295,400	1,370	1,263
Citrus Solar [2]		DeSoto County											
		18,19/33S/20E									74,500	74.5	74.5
	1		PV	Solar	Solar	N/A	N/A	Unknown	Dec-16	Unknown	74,500	74.5	74.5
DeSoto [2]		DeSoto County											
		25,26/36S/25E									22,500	25	25
	1		PV	Solar	Solar	N/A	N/A	Unknown	Oct-09	Unknown	22,500	25	25
Fort Myers		Lee County											
		35/43S/25E									2,680,890	2,669	2,458
	2		CC	NG	No	PL	No	Unknown	Jun-02	Unknown	1,721,490	1,702	1,524
	3		CT	NG	FO2	TK	TK	Unknown	Jun-03	Unknown	835,380	844	826
	1, 9		GT	FO2	No	WA	No	Unknown	May-74	Unknown	124,020	123	108
Lauderdale		Broward County											
		19,20,25,30/50S/41,42E									2,268,456	2,161	2,108
	4		CC	NG	FO2	PL	TK	Unknown	May-93	4th Q 2018	526,250	488	442
	5		CC	NG	FO2	PL	TK	Unknown	Jun-93	4th Q 2018	526,250	488	442
	6		CT	NG	FO2	PL	TK	Unknown	Dec-16	Unknown	1,147,500	1,110	1,155
	3, 5		GT	NG	FO2	PL	TK	Unknown	Aug-70	Unknown	68,456	74	69
Manatee Solar [2]		Manatee County											
		19/33S/20E									74,500	74.5	74.5
	1		PV	Solar	Solar	N/A	N/A	Unknown	Dec-16	Unknown	74,500	74.5	74.5
Manatee		Manatee County											
		18/33S/20E									2,951,110	2,927	2,772
	1		ST	NG	FO6	PL	WA	Unknown	Oct-76	Unknown	863,300	819	809
	2		ST	NG	FO6	PL	WA	Unknown	Dec-77	Unknown	863,300	819	809
	3		CC	NG	No	PL	No	Unknown	Jun-05	Unknown	1,224,510	1,289	1,154
Martin		Martin County											
		29/39S/38E									4,317,510	3,999	3,736
	1		ST	NG	FO6	PL	WA	Unknown	Dec-80	4th Q 2018	934,500	829	823
	2		ST	NG	FO6	PL	WA	Unknown	Jun-81	4th Q 2018	934,500	809	803
	3		CC	NG	No	PL	No	Unknown	Feb-94	Unknown	612,000	533	487
	4		CC	NG	No	PL	No	Unknown	Apr-94	Unknown	612,000	533	487
	8 [3]		CC	NG	FO2	PL	TK	Unknown	Jun-05	Unknown	1,224,510	1,295	1,136

1/ These ratings are peak capability.

2/ Approximately 52% of the 74.5 MW (Nameplate, AC) PV facility at Babcock Ranch, Citrus, and Manatee and 46% of the 25 MW (Nameplate, AC) PV facility at Desoto is considered as firm generating capacity for Summer reserve margin purposes and 0% is considered as firm capacity for Winter reserve margin purposes.

3/ 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.

Schedule 1

Existing Generating Facilities
As of December 31, 2017

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
						Fuel Transport		Alt. Fuel	Commercial	Actual/ Expected	Gen.Max.	Net Capability [1/]	
Plant Name	Unit No.	Location	Unit Type	Fuel Pri.	Alt.	Pri.	Alt.	Days Use	In-Service Month/Year	Retirement Month/Year	Nameplate KW	Winter MW	Summer MW
Port Everglades		City of Hollywood											
		23/50S/42E									1,412,700	1,338	1,237
	5		CC	NG	FO2	PL	TK	Unknown	Apr-16	Unknown	1,412,700	1,338	1,237
Riviera Beach		City of Riviera Beach											
		33/42S/432E									1,295,400	1,350	1,212
	5		CC	NG	FO2	PL	TK	Unknown	Apr-14	Unknown	1,295,400	1,350	1,212
Sanford		Volusia County											
		16/19S/30E									2,377,720	2,269	2,018
	4		CC	NG	No	PL	No	Unknown	Oct-03	Unknown	1,188,860	1,134	1,009
	5		CC	NG	No	PL	No	Unknown	Jun-02	Unknown	1,188,860	1,134	1,009
Scherer [2/]		Monroe, GA									680,368	635	634
	4		ST	SUB	No	RR	No	Unknown	Jul-89	Unknown	680,368	635	634
Space Coast [3/]		Brevard County											
		13/23S/36E									10,000	10	10
	1		PV	Solar	Solar	N/A	N/A	Unknown	Apr-10	Unknown	10,000	10	10
St. Johns River Power Park [4/]		Duval County 12/15/28E (RPC4)									271,836	260	254
	1		ST	BIT	Pet	RR	WA	Unknown	Mar-87	1st Q 2019	135,918	130	127
	2		ST	BIT	Pet	RR	WA	Unknown	May-88	1st Q 2019	135,918	130	127
St. Lucie [5/]		St. Lucie County											
		16/36S/41E									1,846,350	1,863	1,821
	1		ST	Nuc	No	TK	No	Unknown	May-76	Unknown	1,080,000	1,003	981
	2		ST	Nuc	No	TK	No	Unknown	Jun-83	Unknown	766,350	860	840
Turkey Point		Miami Dade County											
		27/57S/40E									2,978,910	2,924	2,819
	3		ST	Nuc	No	TK	No	Unknown	Nov-72	Unknown	877,200	839	811
	4		ST	Nuc	No	TK	No	Unknown	Jun-73	Unknown	877,200	848	821
	5		CC	NG	FO2	PL	TK	Unknown	May-07	Unknown	1,224,510	1,237	1,187
West County		Palm Beach County 29&32/43S/40E									4,100,400	4,008	3,657
	1		CC	NG	FO2	PL	TK	Unknown	Aug-09	Unknown	1,366,800	1,336	1,219
	2		CC	NG	FO2	PL	TK	Unknown	Nov-09	Unknown	1,366,800	1,336	1,219
	3		CC	NG	FO2	PL	TK	Unknown	May-11	Unknown	1,366,800	1,336	1,219
										Total System Generating Capacity as of December 31, 2017 [6/] =		**28,031**	**26,248**
										System Firm Generating Capacity as of December 31, 2017 [7/] =		**27,772**	**26,120**

1/ These ratings are peak capability.

2/ 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.

3/ Approximately 32% of the 10 MW (Nameplate, AC) PV facility at Space Coast is considered as firm generating capacity for Summer reserve margin purposes and 0% is considered as firm capacity for Winter reserve margin purposes.

4/ The net capability ratings represent Florida Power & Light Company's share of St. Johns River Park Units 1 and 2, excluding the JEA share of 80%. Both SJRPP units were retired in January of 2018

5/ Total capability of St. Lucie 1 is 981/1,003 MW. FPL's share of St. Lucie 2 is 840/860.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 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.

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

FPL typically develops long-term forecasts of sales, net energy for load (NEL), and peak loads on an annual basis for its resource planning work. FPL developed new long-term forecasts in January 2018. These new load forecasts are utilized throughout FPL's 2018 Site Plan and are a key input to the models used to develop the company's integrated resource plan.

The following pages describe how FPL develops each component of the long-term forecast, including sales, NEL, and peak loads. Consistent with past forecasts, the primary drivers in developing these forecasts include population growth, economic conditions, electric prices, weather, and energy-efficiency codes and standards. Also consistent with past forecasts, the current forecasts are 50% probability (P50) forecasts. This means the forecasts are designed so there is an equal probability of the actuals coming in below the forecast as there is of the actuals coming in above the forecasts -- *i.e*., a 50% probability that the actual load will be on either side of the forecast.

The projections for the national and Florida economies are obtained from IHS Markit, a leading economic forecasting firm. Population projections also are obtained from IHS Markit to ensure an internal consistency between these key forecast drivers. Using statistical models, these inputs are quantified and qualified in terms of their impact on the future demand for electricity.

Weather is always a key factor that affects FPL's energy sales and peak demand. FPL developed the following weather variables for use in its forecasting models:

1. Cooling degree-hours based on thresholds set at 72^{o} Fahrenheit (F) and 68^{o} F and Winter heating degree-days based on thresholds set at 62^{o} F and 66^{o} F. The maximum temperature on the peak day and the build-up of cooling degree-hours two days prior to the peak are used to forecast Summer peaks.
2. The minimum temperature on the peak day and the square of the build-up of heating degree-hours based on 66^{o} F on the day prior to the peak day through the morning of the peak are used to forecast Winter peaks.

FPL uses the cooling degree-hours and winter heating degree-days to capture the changes in the electric usage of weather-sensitive appliances, such as air conditioners and electric space heaters. Quadratic terms are added for both heating degree-days and cooling degree-hours to further calibrate the relationship between temperature and load.

FPL creates a composite hourly temperature profile using hourly temperatures across FPL's service territory. Miami, Ft. Myers, Daytona Beach, and West Palm Beach are the locations where temperatures are obtained. In developing the composite hourly profile, these regional temperatures are weighted by regional energy sales. FPL uses the resulting composite temperature to derive projected cooling and heating degree-hours and heating degree-days. Similarly, FPL uses composite temperature and hourly profiles of temperatures to calculate the weather variables used in the Summer and Winter peak models.

II.B. Comparison of FPL's Current and Previous Load Forecasts

FPL's current load forecast reflects long-term growth rates comparable to those presented in its 2017 Site Plan. Four primary factors drive the current load forecast: 1) projected population growth, 2) the performance of Florida's economy, 3) energy prices, and 4) energy-efficiency codes and standards. The combined impact of these factors results in growth rates that are comparable over the forecast horizon to those presented in FPL's 2017 Site Plan.

FPL's customer forecast is based on recent population projections and the actual levels of customer growth experienced historically. Population projections are derived from IHS Markit's October 2017 forecast. The forecasted growth rates are generally consistent with population growth rates utilized in FPL's 2017 Site Plan. On a percentage basis, the projected rates of population growth are expected to be comparable with recent growth rates. The absolute increases in population are projected to be significant. The state's population surpassed 21 million people in 2017 and is expected to approach 24 million by the end of 2027. Overall, the state's population is expected to increase by 2.7 million people from the beginning of 2018 through 2027.

The growth in FPL's customer accounts is expected to mirror the overall level of population growth in the state. From the beginning of 2018 through 2027, the total number of customer accounts is projected to increase at an annual rate of 1.2%, resulting in a cumulative increase of more than 610,000 customer accounts. By 2019, FPL expects that it will serve more than five million customer accounts. By 2027, FPL expects the total to reach approximately 5.5 million.

The economic projections incorporated into FPL's load forecast are provided by IHS Markit. Consistent with the projection in FPL's 2017 Site Plan, IHS Markit is projecting moderately positive income growth and positive increases in employment levels over the 10-year forecast horizon. Consistent with past projections, economic growth is expected to moderate somewhat over the longer term.

Estimates of savings from energy-efficiency codes and standards are developed by ITRON, a leading expert in this field. These estimates include savings from federal and state energy-efficiency codes and standards, including the 2005 National Energy Policy Act, the 2007 Energy Independence and Security Act, and savings resulting from the use of compact fluorescent bulbs and light-emitting diodes (LEDs).[4] The impact of these savings began in 2005, and their cumulative impact on the Summer peak is expected to reach 4,138 MW by 2027, the equivalent of an approximately 13% reduction in what the forecasted Summer peak load for 2027 would have been without these energy-efficiency codes and standards. The cumulative impact on NEL from these savings is expected to reach 19,800 GWh over the same period. This represents a decrease of approximately 14% in the forecasted NEL for 2027.

Consistent with the forecast presented in FPL's 2017 Site Plan, the total growth projected for the ten-year reporting period of this document is significant. The Summer peak is projected to rise to 27,076 MW by 2027, an increase of 3,703 MW over the 2017 actual Summer peak. Likewise, NEL is projected to reach 124,556 GWh in 2027, an increase of 3,809 GWh from the actual 2017 value.

II.C. Long-Term Sales Forecasts

FPL developed long-term forecasts of electricity sales for the major revenue classes that are adjusted to match the NEL forecast. The results of these sales forecasts for the years 2018 through 2027 are presented in Schedules 2.1 - 2.3, which appear at the end of this chapter. Econometric models are developed using the statistical software package MetrixND. The methodologies used to develop energy sales forecasts for each jurisdictional revenue class and NEL forecast are outlined below.

1. Residential Sales

FPL estimates residential electric usage per customer by using an econometric model. Residential sales are a function of the following variables: cooling degree-hours and heating degree-days, dummy variables for January 2010 and November 2016, and an autoregressive term. FPL forecasts residential energy sales by multiplying the projected residential use per customer by the projected number of residential customers.

2. Commercial Sales

FPL also uses econometric models to develop its commercial sales forecast. The commercial class is forecast using four separate models, based on customer size, including: commercial

[4] Note that in addition to the fact that these energy-efficiency codes and standards lower the forecasted load, these standards also lower the potential for energy-efficiency gains that would otherwise be available through utility DSM programs.

lighting accounts, small accounts (less than 20 kW of demand), medium accounts (21 kW to 499 kW of demand), and large accounts (demand of 500 kW or higher). Commercial sales are driven by economic and weather variables. Specifically, the small commercial sales model utilizes the following variables:

- Florida real per capita income weighted by the percent of the population that is employed
- Cooling degree-hours
- Dummy variable for the specific months of September 2017
- Autoregressive terms.

The medium commercial sales model utilizes the following variables:

- Florida real per capita income weighted by the percent of the population that is employed
- Cooling degree-hours, lagged cooling degree-hours
- An electric price variable based on increases in the real price of electricity over time
- Autoregressive terms.

The large commercial sales model utilizes the following variables:

- Florida non-agricultural employment
- Cooling degree-hours and heating degree-days
- Dummy variable for the month of September 2017
- Autoregressive term.

Finally, the commercial lighting sales model utilizes the following variables:

- A lag of commercial lighting sales
- Dummy variables for August 2004 and September 2004
- Autoregressive terms.

3. Industrial Sales

FPL forecasts industrial class sales using three separate models that are based on customer size. The industrial class is comprised of four distinct groups: 1) small accounts (less than 20 kW of demand), 2) medium accounts (21 kW to 499 kW of demand), 3) large accounts (demands of 500 kW or higher), and 4) industrial lighting sales.

- The small industrial sales model utilizes the following variables: Florida housing starts, cooling degree-hours, heating degree-hours, a lag of the independent variable, and autoregressive terms.

- The medium industrial sales model utilizes the following variables: cooling degree-hours, January heating degree-days, dummy variables for the specific months of February 2005, November 2005, and February 2006, and autoregressive terms.
- The large industrial sales model utilizes an exponential smoothing model.
- Industrial lighting sales are also included in industrial sales.

4. Railroad and Railways Sales and Street and Highway Sales

The Railroad and Railway class consists solely of Miami-Dade County's Metrorail system. The projections for railroad and railways sales are based on a historical moving average.

FPL develops the forecast for Street and Highway sales by first developing a trended use-per-customer value, then multiplying this value by the number of forecasted customers.

5. Other Public Authority Sales

This class consists of a sports field rate schedule (which is closed to new customers) and one government account. The forecast for this class is based on its historical usage characteristics.

6. Total Sales to Ultimate Customer

FPL sums the sales forecasts by revenue class to produce a total sales forecast.

7. Sales for Resale

Sales for resale (wholesale) customers are composed of municipalities and/or electric co-operatives. These customers differ from jurisdictional customers in that they are not the ultimate users of the electricity they buy. Instead, they resell this electricity to their own customers. FPL's load forecast 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, Winter Park, Homestead, Quincy, Moore Haven, Florida Public Utilities Company, and Seminole Electric Cooperative.[5]

Since May 2011, FPL has provided service to the Florida Keys Electric Cooperative under a long-term, full-requirements contract. FPL previously served the Florida Keys under a partial-

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

requirements contract. The sales to Florida Keys Electric Cooperative are based on customer-supplied information and historical coincidence factors.

Lee County contracted with FPL for FPL to supply a portion of the Lee County load through 2013, then to serve the entire Lee County load beginning in 2014. This contract began in January 2010. 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 2018. Under a separate contract, additional sales to New Smyrna Beach began in July 2017 and are projected to continue through December 2018.

FPL's sales to Wauchula began in October 2011. The contract is projected to continue through December 2021.

Sales to Winter Park began in January 2014. The contract is projected to continue through December 2019.

FPL sales to Homestead began in August 2015. The contract is projected to continue through December 2024.

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

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

Sales to Florida Public Utilities Company began in January 2018 and are projected to continue through December 2024.

FPL sales to Seminole Electric Cooperative are based on delivery of 200 MW that began in June 2014 and is projected to continue through May 2021.

II.D. Net Energy for Load (NEL)

FPL uses an econometric model to produce a NEL per-customer forecast. The inputs to the model include both Florida real per capita income weighted by the percentage of the population that is

employed and electric prices. The model also includes several weather variables, such as cooling degree-hours and heating degree-days. In addition, the model includes a variable for energy-efficiency codes and standards and a variable to account for leap year. There is also an autoregressive term in the model.

FPL uses two variables to capture the impact of electric prices on usage. One variable is based on increases in the real price of electricity over time while another is based on decreases in the real price of electricity over time. The energy-efficiency variable is included to capture 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 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 their cumulative impact on NEL is expected to reach 19,800 GWh by 2027. This represents an approximately 14% reduction in what the forecasted NEL for 2027 would have been absent these codes and standards. From the end of 2017, the incremental reduction through 2027 is expected to be 9,148 GWh.

FPL makes an adjustment for the impact of incremental private solar projected to be added after August 2017. The adjustment to the forecast due to private solar is expected to reduce the NEL forecast by 667 GWh by 2027. FPL also adjusted the forecast for the additional load projected to be added after August 2017 from new plug-in electric vehicles. This resulted in a projected increase of approximately 1,239 GWh by the end of the ten-year reporting period. FPL further adjusted the forecast for the incremental load projected to be added after December 2017 from FPL's economic development riders. This incremental load is projected to grow to 516 GWh before leveling off in 2022. As a result of FPL's projected acquisition of the City of Vero Beach electric system (COVB transaction), currently projected to begin on October 1, 2018, an adjustment is made for the additional load resulting from this acquisition. The incremental load over the 10-year reporting period of this Site Plan is expected to be 794 GWh. A final adjustment is made for wholesale-requirements contracts to include load not otherwise reflected in FPL's historical data as a result of new, modified, or expanded wholesale contracts. This incremental load is projected to add 4,344 GWh in 2027.

FPL develops the NEL forecast by first multiplying the NEL per-customer forecast by the projected total number of customers, then adjusting the forecasted results for the expected changes in load resulting from private solar, plug-in electric vehicles, FPL's economic development riders, incremental load from the COVB transaction, and wholesale requirements contracts. After the NEL forecast is determined, FPL computes total billed sales using a historical ratio of sales to NEL.

FPL then adjusts the sales by class forecasts (discussed previously) to match the total billed sales. The forecasted NEL values from the beginning of 2018 through 2027 are presented in Schedule 3.3, which appears at the end of this chapter.

II.E. System Peak Forecasts

The rate of absolute growth in peak load in the FPL system has been a function of the size of the customer base, varying weather conditions, projected economic conditions, and energy-efficiency codes and standards. FPL developed the peak forecast models to capture these behavioral relationships. In addition, FPL's peak forecast also reflects changes in load expected from private solar, the expected number of plug-in electric vehicles, FPL's economic development riders, the COVB transaction, and wholesale requirements contracts.

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 compact fluorescent light bulbs and LEDs. The impact from these energy-efficiency standards began in 2005, and their cumulative impact on the Summer peak is expected to reach 4,138 MW by 2027. This reduction includes engineering estimates and any resulting behavioral changes. This reduction also represents significant energy efficiency that is not funded by FPL's customers through the Energy Conservation Cost Recovery Clause.

The cumulative 2027 impact from these energy-efficiency codes and standards effectively reduces FPL's Summer peak for that year by approximately 13%. From the end of 2017, FPL projects the incremental impact on the Summer peak from these energy-efficiency codes and standards will be a reduction of 1,736 MW through 2027.

FPL also adjusted the forecast for additional load estimated from plug-in electric vehicles, FPL's economic development riders, and the COVB transaction. The impact from plug-in electric vehicles is projected to be an increase of approximately 367 MW in the Summer and 183 MW in the Winter by the end of 2027. The impact from FPL's economic development riders is projected to grow to 54 MW in the Summer peak and 28 MW in the Winter peak before leveling off in 2022. The COVB transaction is projected to add 164 MW to the Summer peak and 166 MW to the Winter peak by 2027. The incremental impact of private solar results in an expected decrease of approximately 159 MW in the Summer and a negligible reduction in the Winter by the end of the 10-year reporting period of this Site Plan. The incremental impact from private solar is based on forecasted increases in rooftop photovoltaic (PV) installations not otherwise reflected in the load forecast.

The forecasting methodology of Summer, Winter, and monthly system peaks is discussed below. The forecasted values for Summer and Winter peak loads for the years 2018 through 2027 are presented at the end of this chapter in Schedules 3.1 and 3.2, and in Chapter III in Schedules 7.1 and 7.2.

1. System Summer Peak

FPL develops the Summer peak forecast using an econometric model. The variables included in the model are Florida real per capita income, cooling degree-hours two days prior to the peak day, the maximum temperature on the day of the peak, a variable for energy-efficiency codes and standards, and a dummy variable for the year 2005. The model is based on the Summer peak contribution per customer multiplied by the total number of customers. 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, the COVB transaction and wholesale requirements contracts to derive FPL's system Summer peak.

2. System Winter Peak

Like the system Summer peak model, this model also is an econometric model. The model consists of two weather-related variables: the minimum temperature on the peak day and heating degree-hours for the prior day squared. The model also includes two dummy variables: one for post-2011 and the other for Winter 2008. Also included in the model is a variable for total customers. The model is then adjusted for the expected changes in loads resulting from private solar, plug-in electric vehicles, FPL's economic development riders, the COVB transaction, and wholesale requirements contracts.

3. Monthly Peak Forecasts

The forecasting process for 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.

II.F. Hourly Load Forecast

FPL produces forecasted values for system hourly load for the period 2018 through 2027 using a system load forecasting program called 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 monthly peaks and energy.

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, 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, however, can add an additional 3,000 MW or more to the Winter peak, and an extreme P90 hot weather event can add an additional 700 MW to the Summer peak.

In order to address uncertainty in the forecasts of aggregate peak demand and NEL, FPL first evaluates the assumptions underlying the forecasts. FPL takes a series of steps to evaluate the input variables, including comparing projections from different sources, identifying outliers in the series, and assessing the series' consistency with past forecasts. As needed, FPL reviews additional factors that may affect the input variables.

Uncertainty is also addressed in the modeling process. Econometric models generally are used to forecast the aggregate peak demand and NEL. During the modeling process, FPL scrutinizes the relevant statistics (goodness of fit, F-statistic, P-values, mean absolute deviation (MAD), mean absolute percentage error (MAPE), etc.) 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, FPL compares forecasts of aggregate peak demand and NEL 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, FPL may consider revisions to the econometric model.

FPL addresses the inherent uncertainty in load forecasting in different ways in regard to FPL's overall resource planning and operational planning work. With respect to FPL's resource planning work, the company's utilization of a 20% total reserve margin 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 FPL's customers in light of forecasting (and other) uncertainty. In addition, banded forecasts of the projected Summer peak and NEL may be

produced based on an analysis of past forecasting variances. A banded forecast for the projected Summer and Winter peak days is 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 provided to FPL's System Operations group for operational planning purposes.

II.H. DSM

FPL assumes that the effects of its DSM energy-efficiency programs through August 2017 are embedded in the actual usage data for forecasting purposes. In addition, FPL accounts 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 FPL has implemented in the September 2017 through December 2017 time period, 2) incremental energy efficiency that FPL plans to implement in the future based on the DSM Goals set for FPL by the FPSC in December 2014, and 3) the cumulative and projected incremental impacts of FPL's load management programs. FPL's DSM Goals address the years 2015 through 2024. FPL assumes that these goals will be met for the years 2018 through 2024. For the years 2025 through 2027 that are also presented in this Site Plan, FPL assumes that utility DSM impacts will continue at an annual level consistent with the current DSM Goals. After making these adjustments to the load forecast values, the resulting "firm" load forecast as shown in Chapter III in Schedules 7.1 and 7.2., is then used in FPL's IRP work.

Schedule 2.1
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
2008	8,679,468	2.17	53,229	3,992,257	13,333	45,561	500,748	90,986
2009	8,747,845	2.20	53,950	3,984,490	13,540	45,025	501,055	89,860
2010	8,857,091	2.21	56,343	4,004,366	14,070	44,544	503,529	88,464
2011	8,986,860	2.23	54,642	4,026,760	13,570	45,052	508,005	88,684
2012	9,109,305	2.25	53,434	4,052,174	13,187	45,220	511,887	88,340
2013	9,234,838	2.25	53,930	4,097,172	13,163	45,341	516,500	87,785
2014	9,375,074	2.25	55,202	4,169,028	13,241	45,684	525,591	86,919
2015	9,527,259	2.25	58,846	4,227,425	13,920	47,369	532,731	88,917
2016	9,678,807	2.26	58,687	4,284,159	13,699	47,355	540,356	87,637
2017	9,820,171	2.26	58,188	4,338,224	13,413	47,151	547,908	86,056

Historical Values (2008 - 2017):

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
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
2018	9,958,369	2.26	56,991	4,397,755	12,959	46,266	553,990	83,514
2019	10,090,885	2.27	57,752	4,452,654	12,970	46,866	559,988	83,692
2020	10,218,711	2.27	58,174	4,507,134	12,907	47,031	565,193	83,212
2021	10,344,947	2.27	58,473	4,561,850	12,818	47,072	570,102	82,568
2022	10,470,750	2.27	58,830	4,616,724	12,743	47,181	575,100	82,040
2023	10,596,790	2.27	59,202	4,672,137	12,671	47,129	579,898	81,271
2024	10,723,399	2.27	59,743	4,727,931	12,636	47,284	584,405	80,910
2025	10,850,531	2.27	60,191	4,783,716	12,583	47,370	588,867	80,443
2026	10,978,186	2.27	60,781	4,839,355	12,560	47,608	593,273	80,246
2027	11,106,216	2.27	61,352	4,894,983	12,534	47,812	597,482	80,023

Projected Values (2018 - 2027):

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

Col. (4) and Col. (7) represent forecasted energy sales that do not include 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
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
2008	3,587	13,377	268,168	81	423	37	102,919
2009	3,245	10,084	321,796	80	422	34	102,755
2010	3,130	8,910	351,318	81	431	28	104,557
2011	3,086	8,691	355,104	82	437	27	103,327
2012	3,024	8,743	345,871	81	441	25	102,225
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	109,821
2016	3,059	11,770	259,853	92	447	23	109,662
2017	2,961	11,654	254,103	83	446	41	108,871

Historical Values (2008 - 2017):

Col. (10) and Col.(15) represent 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	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
2018	3,052	12,092	252,423	92	448	32	106,881
2019	3,015	12,878	234,123	92	446	37	108,209
2020	3,000	13,497	222,297	92	446	34	108,777
2021	3,070	14,005	219,182	92	445	35	109,188
2022	3,093	14,412	214,610	92	444	35	109,675
2023	3,030	14,680	206,420	92	443	35	109,932
2024	3,073	14,854	206,893	92	442	35	110,670
2025	3,104	14,927	207,971	92	441	35	111,234
2026	3,122	14,948	208,873	92	439	35	112,078
2027	3,132	14,921	209,920	92	438	35	112,861

Projected Values (2018 - 2027):

Col. (10) and Col.(15) represent forecasted energy sales that do not include 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
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
2008	993	7,092	111,004	3,348	4,509,730
2009	1,155	7,393	111,303	3,439	4,499,067
2010	2,049	7,869	114,475	3,523	4,520,327
2011	2,176	6,951	112,454	3,596	4,547,052
2012	2,237	6,403	110,866	3,645	4,576,449
2013	2,158	6,714	111,655	3,722	4,626,935
2014	5,375	6,204	115,968	3,795	4,708,829
2015	6,610	6,326	122,756	3,907	4,775,381
2016	6,623	5,334	121,619	3,994	4,840,279
2017	6,406	5,470	120,747	4,100	4,901,886

Historical Values (2008 - 2017):

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 2012-2017 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
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
2018	5,576	5,772	118,229	4,177	4,968,013
2019	5,631	5,834	119,674	4,253	5,029,772
2020	5,703	5,918	120,398	4,329	5,090,154
2021	5,289	5,965	120,442	4,406	5,150,364
2022	5,111	6,044	120,829	4,482	5,210,718
2023	5,187	6,100	121,219	4,560	5,271,274
2024	5,264	6,227	122,161	4,636	5,331,826
2025	5,195	6,251	122,680	4,713	5,392,223
2026	5,267	6,310	123,654	4,787	5,452,363
2027	5,348	6,347	124,556	4,864	5,512,251

Projected Values (2018 - 2027):

Col. (19) represents forecasted energy sales that do not include the impact of incremental conservation and agrees to Col. (2) on Schedule 3.3.

Col. (19) = Schedule 2.2 Col. (16) + Col. (17) + Col. (18). These 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 3.1
History of Summer Peak Demand (MW)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Year	Total	Wholesale	Retail	Interruptible	Res. Load Management	Residential Conservation	C/I Load Management	C/I Conservation	Net Firm Demand
2008	21,060	181	20,879	0	966	1,042	760	706	19,334
2009	22,351	249	22,102	0	981	1,097	811	732	20,558
2010	22,256	419	21,837	0	990	1,181	815	758	20,451
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	19,176

Historical Values (2008 - 2017):

Col. (2) - Col. (4) 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. Therefore, Col. (2) represents the actual Net Firm Demand.

Col. (5) - Col. (9) represent actual DSM capabilities starting from January 1988 and are annual (12-month) values except for 2017 values which are through July.

Col. (6) value for 2015 and 2016 primarily reflect a short-term hardware communications issue that has been resolved.

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 3.1
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
2018	24,010	1,468	22,543	0	903	12	882	14	22,200
2019	24,456	1,440	23,016	0	917	24	924	28	22,564
2020	24,713	1,408	23,305	0	924	36	954	42	22,757
2021	24,904	1,218	23,686	0	931	48	970	57	22,898
2022	25,189	1,235	23,955	0	938	61	982	72	23,136
2023	25,546	1,248	24,299	0	946	74	993	87	23,446
2024	25,939	1,256	24,683	0	953	88	1,005	103	23,789
2025	26,259	1,211	25,047	0	960	101	1,017	120	24,060
2026	26,672	1,231	25,441	0	967	115	1,029	136	24,425
2027	27,076	1,255	25,821	0	975	129	1,040	152	24,780

Projected Values (2018 - 2027):

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

Col. (5) - Col. (9) represent cumulative load management, and 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 using 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 MW values of load management from Lee County and FKEC whose loads FPL serves.

Schedule 3.2
History of Winter Peak Demand (MW)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Year	Total	Firm Wholesale	Retail	Interruptible	Res. Load Management	Residential Conservation	C/I Load Management	C/I Conservation	Net Firm Demand
2008	18,055	163	17,892	0	868	644	636	279	16,551
2009	20,081	207	19,874	0	881	666	676	285	18,524
2010	24,346	500	23,846	0	895	687	721	291	22,730
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	16,941	1,087	15,854	0	742	858	570	352	15,629
2017	17,074	1,098	15,976	0	759	861	577	364	14,513

Historical Values (2008 - 2017):

Col. (2) - Col. (4) 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. Therefore, Col. (2) represents the actual Net Firm Demand. For year 2011, the actual winter peak occurred in December of 2010.

Col. (5) - Col. (9) for 2008 through 2017 represent actual DSM capabilities starting from January 1988 and are annual (12-month) values.

Col. (6) value for 2015 and 2016 primarily reflect a short-term hardware communications issue that has been resolved.

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
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
2018	19,604	1,208	18,396	0	760	3	609	9	18,223
2019	19,989	1,157	18,832	0	756	7	635	19	18,572
2020	20,182	1,074	19,108	0	762	11	659	30	18,720
2021	20,430	1,059	19,372	0	768	16	672	41	18,935
2022	20,489	850	19,640	0	774	20	677	52	18,966
2023	20,774	862	19,912	0	780	25	683	63	19,222
2024	21,067	873	20,193	0	786	30	688	75	19,486
2025	21,283	803	20,480	0	792	36	694	88	19,674
2026	21,579	803	20,776	0	798	41	699	100	19,940
2027	21,867	806	21,061	0	804	47	705	112	20,199

Projected Values (2018 - 2027):

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

Col. (5) - Col. (9) represent cumulative load management, and 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 using 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 MW values of load management from Lee County and FKEC whose loads FPL serves.

Schedule 3.3
History 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	Net Energy For Load without DSM GWh	Residential Conservation GWh	C/I Conservation GWh	Actual Net Energy For Load GWh	Sales for Resale GWh	Utility Use & Losses GWh	Total Billed Retail Energy Sales (GWh)	Load Factor(%)
2008	115,379	2,249	2,126	111,004	993	7,092	102,919	60.2%
2009	115,844	2,345	2,196	111,303	1,155	7,393	102,755	56.8%
2010	119,220	2,487	2,259	114,475	2,049	7,869	104,557	58.7%
2011	117,460	2,683	2,324	112,454	2,176	6,951	103,327	59.4%
2012	116,083	2,823	2,394	110,866	2,237	6,403	102,225	59.0%
2013	117,087	2,962	2,469	111,655	2,158	6,714	102,784	59.1%
2014	121,621	3,125	2,529	115,968	5,375	6,204	104,389	57.7%
2015	128,556	3,232	2,568	122,756	6,610	6,326	109,821	61.0%
2016	127,481	3,254	2,608	121,619	6,623	5,334	109,662	58.2%
2017	126,680	3,278	2,655	120,747	6,406	5,470	108,871	59.0%

Historical Values (2008 - 2017):

Col. (2) represents derived "Total Net Energy For Load w/o DSM". The values are calculated using the formula: Col. (2) = Col. (3) + Col. (4) + Col. (5).

Col. (3) & Col. (4) are DSM values starting in January 1988 and are annual (12-month) values. Col. (3) and Col. (4) for 2017 are "estimated actuals" and are also annual (12-month) values. The values represent the total GWh reductions experienced each year .

Col. (8) is the Total Retail Billed Sales. The values are 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 Col. (2), "Total", from Schedule 3.1 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(%)
2018	118,229	22	22	118,185	5,576	5,772	106,881	56.2%
2019	119,674	47	50	119,577	5,631	5,834	108,209	55.9%
2020	120,398	73	79	120,246	5,703	5,918	108,777	55.6%
2021	120,442	100	110	120,233	5,289	5,965	109,188	55.2%
2022	120,829	127	142	120,560	5,111	6,044	109,675	54.8%
2023	121,219	155	176	120,887	5,187	6,100	109,932	54.2%
2024	122,161	185	212	121,765	5,264	6,227	110,670	53.8%
2025	122,680	214	248	122,218	5,195	6,251	111,234	53.3%
2026	123,654	244	284	123,126	5,267	6,310	112,078	52.9%
2027	124,556	274	321	123,962	5,348	6,347	112,861	52.5%

Projected Values (2018 - 2027):

Col. (2) represents Forecasted Net Energy for Load and does not include incremental DSM from 2018 - on. The Col. (2) values are extracted from Schedule 2.3, Col(19). The effects of conservation implemented prior to mid - 2017 are incorporated into the load forecast values in Col. (2).

Col. (3) & Col. (4) are forecasted values of the reduction on sales from incremental conservation from Jan 2018 - on and are mid-year (6-month) values reflecting DSM signups occurring evenly thoughout each year.

Col. (5) is the forecasted Net Energy for Load (NEL) after adjusting for impacts of incremental DSM for years 2018 - 2027 using the formula: Col. (5) = Col. (2) - Col. (3) - Col. (4)

Col. (8) is the Total Retail Billed 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. (2) from this page and Col. (2), "Total", from Schedule 3.1. Col. (9) = ((Col. (2)*1000) / ((Col. (2) * 8760) Adjustments are made for leap years.

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

(1)	(2)	(3)	(4)	(5)	(6)	(7)
	2017 Actual		2018 FORECAST		2019 FORECAST	
Month	Total Peak Demand MW	NEL GWh	Total Peak Demand MW	NEL GWh	Total Peak Demand MW	NEL GWh
JAN	16,496	8,622	19,604	8,568	19,989	8,748
FEB	17,074	7,889	18,134	7,711	18,470	7,855
MAR	17,927	8,801	18,079	8,713	18,414	8,864
APR	20,619	9,610	19,631	9,106	19,996	9,238
MAY	22,199	11,221	21,452	10,408	21,850	10,537
JUN	22,123	11,036	22,892	10,973	23,317	11,113
JUL	22,997	12,275	23,297	11,687	23,729	11,818
AUG	23,373	12,493	24,010	11,899	24,456	12,018
SEP	23,184	10,660	22,489	11,176	22,907	11,305
OCT	21,001	10,592	21,158	10,445	21,551	10,510
NOV	18,083	8,836	18,591	8,654	18,937	8,715
DEC	17,016	8,711	17,860	8,888	18,192	8,955
Annual Values:		**120,747**		**118,229**		**119,674**

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

Cols. (4) - (7) do not include the impacts of cumulative load management, incremental utility conservation, and incremental load management.

Cols. (5) and Col. (7) annual values shown are consistent with forecasted values shown in Col.(2) of Schedule 3.3.

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. It also discusses some of the key assumptions, in addition to a new load forecast discussed in the previous chapter, which FPL used in developing the resource plan presented in this Site Plan.

Four Fundamental Steps of FPL's Resource Planning:

The four fundamental steps to FPL's resource planning 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 FPL's 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 FPL's IRP Process

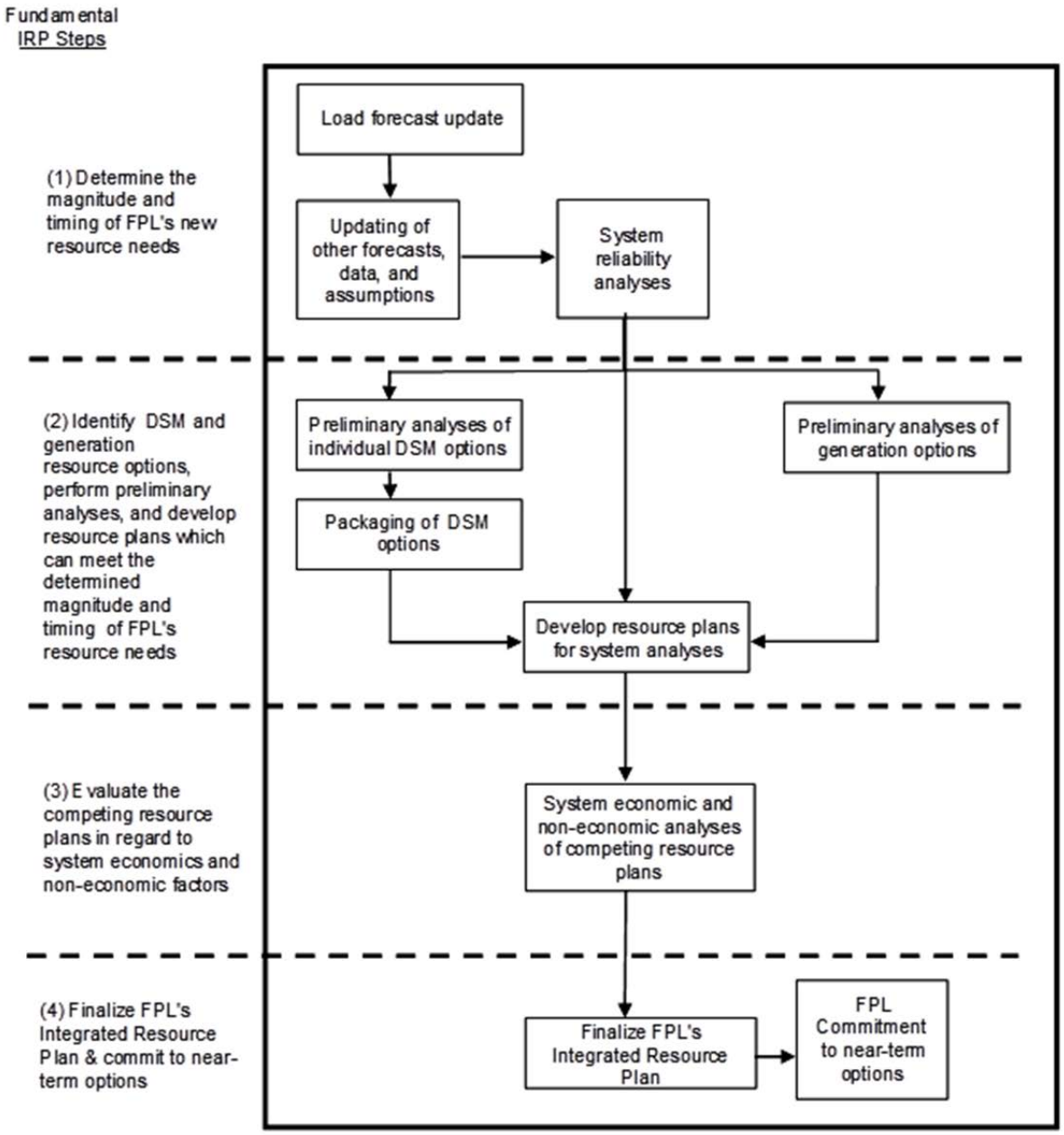

Figure III.A.1: Overview of FPL's IRP Process

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

The first of the four resource planning steps is essentially a determination of the amount and timing of capacity or 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, or resource adequacy analysis, 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 also includes key sets of projections regarding three specific types of resources: (1) FPL unit capacity changes, (2) firm capacity power purchases, and (3) DSM implementation.

Key Assumptions Regarding the Three Types of Resources:

The first set of assumptions, FPL unit capacity changes, is based on current projections of new generating capacity additions and planned retirements of existing generating units. In FPL's 2018 Site Plan, there are six (6) types of projected 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 Generation:

   In 2017, FPL requested FPSC approval for the construction, and recovery of expenditures for, 8 new photovoltaic (PV) facilities of 74.5 MW each under the Solar Base Rate Adjustment (SoBRA) mechanism agreed to in the settlement of FPL's 2016 base rate case. The FPSC granted the requested approval on January 8, 2018 in Order PSC-2018-0028-FOF-EI. Four of these facilities, totaling 298 MW, went into commercial service on January 1, 2018. The other four PV facilities, also totaling 298 MW, went into commercial service on March 1, 2018. This brings the current amount of PV generation on FPL's system to approximately 855 MW.

   In addition, on March 2, 2018, FPL filed with the FPSC a request to construct, and recover expenditures for, an additional 298 MW of PV facilities in 2019 under the SoBRA recovery mechanism. Information regarding the siting of these 2019 solar additions is presented in Chapter IV. In this 2018 Site Plan, FPL is also projecting that, in the year 2020, another

298 MW of PV under SoBRA, plus 224 MW more PV, will be added assuming these solar additions are projected to be cost-effective for FPL's customers. Thus by the end of 2020, FPL currently projects that it will have approximately 1,377 MW of PV generation plus the existing 75 MW solar thermal facility.

In the resource plan presented in this 2018 Site Plan, FPL projects that it will continue to add PV throughout the remainder of the years in the 10-year reporting period of this Site Plan if it can do so cost-effectively. Those projected annual PV additions are: 596 MW in 2021, and 298 MW per year for the years 2022 through 2027. With this resource plan's PV additions, FPL's total solar generation by the end of 2027 is projected to be approximately 4,134 MW consisting of approximately 4,059 MW of PV and 75 MW of solar thermal.

2) Retirement of Two 800 MW Steam-Type Generating Units:

FPL plans to retire two large (approximately 800 MW each) generating units at its Martin plan site. At the time this Site Plan is being prepared, these retirements are planned to occur late in the 4th Quarter of 2018 or early in the 1st Quarter of 2019. These units, Martin Units 1 & 2, are steam-type generating units. Both units have been in commercial operation for approximately 38 years and are now relatively inefficient units in regard to their ability to convert fuel into electricity.

3) CT upgrades at existing CC plant sites:

FPL will be upgrading the CT components in more of its CC units through the year 2020. These upgrades are projected to result in increased Summer capacity of approximately 1,124 MW by the end of that year. Information regarding the specific units, timing, and magnitude of these upgrades is presented in Schedule 8 in Chapter III.

4) New Combined Cycle Capacity at the Okeechobee Site:

FPL will be adding a new CC generating unit at its Okeechobee site in mid-2019 to meet resource needs starting that year. In 2015, FPL sought a determination of need from the Florida Public Service Commission (FPSC) for approval to build the Okeechobee CC unit. The FPSC issued its approval for the new unit in a final order (Order No.PSC-16-0032-FOF-EI) issued on January 19, 2016. The new CC unit is projected to add approximately 1,778 MW (Summer) of highly fuel-efficient generation capacity.

5) Modernization of the Existing Lauderdale Plant Site:

FPL will further modernize its power generation fleet by first retiring the two existing CC units, with a total Summer MW rating of 884 MW, at its existing Fort Lauderdale plant site

in the 4th Quarter of 2018. FPL will then build a new, modern 2x1 CC unit by mid-2022 at the same site. The new CC unit will provide 1,163 Summer MW of capacity in the Southeastern Florida region. This modernization is projected to reduce costs to FPL's customers by at least $337 million cumulative present value of revenue requirements (CPVRR) and significantly enhance reliability both for FPL's entire system and for the Southeastern Florida region of that system which consists of Miami-Dade and Broward counties. In addition, due to the new CC unit's high level of fuel efficiency, the modernization is projected to reduce the amount of natural gas used on FPL's system, and reduce system emissions of SO_2, NO_x, and CO_2, compared to what these projections would have been if the existing Lauderdale generating units had remained in operation. The FPSC voted unanimously to approve the new unit on March 1, 2018 and the final order was issued on March 19, 2018 (Order No. PSC-2018-0150-FOF-EI).

6) Retirement of Coal-Fired Capacity from SJRPP:

As of January 4, 2018, both of the coal-fired generating units at the St. John's River Power Park (SJRPP), which were jointly owned-by FPL and JEA, were retired. Consequently, FPL no longer receives the 254 MW from FPL's ownership portion of SJRPP.

The second set of assumptions involves other firm capacity power purchases. There have been changes in the projected contribution of these purchases when comparing FPL's 2018 Site Plan with its 2017 Site Plan.

FPL's 2017 Site Plan included two significant firm capacity power purchase agreements (PPAs): 384 MW of coal-based purchased power from JEA's ownership portion of SJRPP and a 330 MW coal-based PPA with Indiantown Cogeneration L.P. (ICL). As mentioned above, the SJRPP units were retired on January 4, 2018 and, therefore, FPL no longer receives the 382 MW of purchased capacity and energy from these units. 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 ICL, including the coal-fired ICL PPA and the underlying asset from which it received firm capacity and energy. While FPL has no current plans to run ICL after 2018, FPL currently plans to terminate this PPA by the end of the 1st Quarter of 2020 upon retirement of the senior debt in the project.

The current remaining projected firm capacity purchases are from a combination of utility and independent power producers. Including in these purchases are two new, short-term utility-based purchases, one from the Orlando Utilities Commission and one from Exelon. Details for these and other purchases, including the annual total capacity values for FPL's purchases, are presented in

Chapter I in Tables I.B.1, I.B.2, and I.B.3. These purchased capacity amounts were incorporated in FPL's resource planning work.

The third set of assumptions involves a projection of the amount of additional DSM that FPL anticipates it will implement annually over the ten-year reporting period of 2018 through 2027. The current DSM Goals address the 10-year period of 2015 through 2024. For planning purposes, FPL has assumed that the annual DSM contributions for the years 2025 through 2027 will be the same as the annual average contributions set forth in the 2015 through 2024 DSM Goals. FPL's DSM efforts are further discussed in section III.D of this chapter.

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

FPL applies these key assumptions, plus the other updated information described above, in the first fundamental step: determining the magnitude and timing of FPL's 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 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).

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 also recognize 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 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. FPL's standard for LOLP, which is commonly accepted throughout the industry, is a maximum of 0.1 day per year. 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. Therefore, in 2014 FPL implemented a minimum GRM criterion of 10% as a third reliability criterion in its resource planning process. This key criterion has to be met in all years beginning with the year 2019.

The 10% minimum Summer and Winter GRM criterion augments the other two reliability criteria that FPL uses: the 20% total reserve margin 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 FPL's system reliability.

Step 2: Identify Resource Options and Plans That Can Meet the Determined Magnitude and Timing of FPL's 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 typically utilizes a production cost model, a Fixed Cost Spreadsheet, and/or 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 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. Then, as the focus of DSM analyses progresses from analysis of individual DSM measures to the development of DSM portfolios, FPL uses two additional models. One is FPL's 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 FPL typically utilizes is its linear programming (LP) model, which the company uses to develop DSM portfolios.

FPL then typically "packages" 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 FPL's

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 FPL's 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 FPL's 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 FPL system from the competing resource options/resource plans. FPL typically utilizes the UPLAN production cost model and a Fixed Cost Spreadsheet, and/or the EGEAS optimization model, to perform the system economic analyses of resource plans. FPL may also use other spreadsheet models 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 FPL's electricity rate levels, with the general objective of minimizing FPL's 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 competing resource plans' impacts 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 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. FPL often refers to these factors as "system concerns or factors," which include (but are not limited to) maintaining/enhancing fuel diversity in the FPL system and maintaining a regional balance between load and generating capacity, particularly in the Southeastern Florida counties of

Miami-Dade and Broward. In conducting the evaluations needed to determine which resource options and resource plans are best for FPL's 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 FPL's Current Resource Plan

The results of the previous three fundamental steps are typically used to develop FPL's current resource plan. The current resource plan presented in the 2018 Site Plan is summarized in the following section.

III.B Projected Incremental Resource Changes in the Resource Plan

FPL's current projection of major changes in its resources, including both utility-owned generation and PPAs, for the years 2018 through 2027 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 FPL's resource needs and resource plan, the company's projected DSM additions are consistent with its DSM Goals through 2024, and annual DSM additions have been assumed for planning purposes at that same level through 2027. Thus, DSM impacts are fully accounted for in the resource plan in this Site Plan.

The generation additions include, in approximate chronological order: (i) the FPL Okeechobee Clean Energy Center CC unit in Okeechobee County in 2019; (ii) SoBRA PV additions in 2019 and 2020; (iii) capacity upgrades at a number of FPL's existing CC units through 2020; (iv) the planned modernization of the existing Lauderdale power plant site in mid-2022 with the new DBEC Unit 7; (iv) additional annual PV generation in the 2020 through 2027 time period; and (v) some unspecified short-term (Summer months only) purchases in several years.

FPL notes that, with the exception of the 2019 Okeechobee CC, the 2019 and 2020 PV, the CC capacity upgrades, and the 2022 DBEC Unit 7, the remaining generation additions shown in Table ES-1 are essentially placeholders and no final decision regarding these additions has been or needs to be made at his time

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

In considering the resource plan presented in this Site Plan, it is useful to note that there are at least six (6) significant factors, other than the future cost of PV equipment that was discussed in the Executive Summary, 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 address this imbalance.

   Partly because of the lower transmission-related costs resulting from their location in or adjacent to Southeastern Florida, at least five relatively recent capacity addition decisions (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 will be further enhanced by two other additions. First, the Corbett-Sugar-Quarry (CSQ) transmission line will be added in mid-2019. This new line will significantly increase FPL's ability to import capacity and energy into the region from generators located outside of the region. Second, the planned 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 2017, FPL used natural gas to generate approximately 72% of the total electricity it

delivered to its customers. By 2027, the percentage of FPL's electricity generated by natural gas is projected to decrease to approximately 65% based on the resource plan presented in this Site Plan. Due to this significant reliance on natural gas, as well as evolving environmental regulations, FPL is continually seeking opportunities to economically maintain and enhance the fuel diversity of its system, 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 PV generation. Consequently, FPL does not believe that new advanced technology coal units are currently viable fuel diversity enhancement options in Florida at this time.

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.

Solar Energy: Assuming that annual additions of PV will be cost-effective from 2020-on, this 2018 Site Plan projects that FPL will have a total of approximately 4,059 MW of PV generation by the end of 2027. Such a level of PV generation would represent about 14% of FPL's total generation. However, the impact of PV's contribution in terms of actual energy produced (MWh) is smaller. Because solar energy can only be generated during daylight hours, and is impacted by clouds, rain, etc., it has a relatively low capacity factor (approximately 26% for PV in the state of Florida). As a result, FPL's solar additions would be projected to supply approximately 7% of the total energy (MWh) that FPL delivers in 2027 (as shown in Schedule 6.2 later in this chapter).[6]

Nevertheless, solar-produced energy is projected to be greater than that produced by coal and oil combined beginning in the year 2019. And, with the resource plan presented in this 2018 Site Plan, it is projected that the cleanest energy sources -- low-emission natural gas, zero-

[6] As a rule of thumb for FPL's system, each 500 MW of PV added to FPL's system will account for slightly less than 1% of FPL's total energy delivery.

emission nuclear, and zero-emission solar – will provide approximately 97% of all energy produced by FPL in 2027.

Nuclear Energy: 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. FPL's customers are benefitting from lower fuel costs and reduced system emissions provided by this additional nuclear capacity.

Since June 2009, FPL has worked 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 for as long as 20 years from the time the licenses and permits are granted, and then to operate the units for at least 40 years thereafter. At the time this document is being prepared, FPL projects that it will receive a decision on its Combined Operating License (COL) Application by the 2nd Quarter of 2018. Once COLs have been issued, FPL will pause before deciding whether to seek Commission approval to move forward with construction of the new nuclear units. FPL intends to incorporate into that decision the construction experience of two nuclear units currently being constructed 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 2018 through 2027 time period addressed in this docket.

In addition, on January 30, 2018, FPL filed a request with the Nuclear Regulatory Commission (NRC) for a Subsequent License Renewal (SLR) for FPL's Turkey Point Units 3 & 4. The SLR requests approval to extend the operating licenses for these two nuclear units by 20 years from the current license expiration dates in 2032 and 2033, respectively.

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

Natural gas sourcing and delivery: 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 has been constructed and is now in service. This pipeline is necessary to fuel the FPSC-approved Okeechobee CC unit, which will address capacity needs that begin in 2019. The new pipeline system utilizes an independent route that will result in a more reliable, economic, and diverse natural gas supply for FPL customers and the State of Florida.

Using natural gas more efficiently: FPL has sought ways to utilize natural gas more efficiently for a number of years. In 2008, FPL received approval from the FPSC to modernize the existing Cape Canaveral and Riviera Beach plant sites with new, highly efficient CC units, which replaced the former steam generating units on each of those sites. The Cape Canaveral modernization went into service in April 2013, and the Riviera Beach modernization entered service in April 2014. On April 9, 2012, FPL received FPSC approval to proceed with a similar modernization project at the Port Everglades site. That new generating unit went into service on April 1, 2016. All three of these modernized sites have the capability to receive water-borne delivery of Ultra-Low Sulfur Diesel (ULSD) oil as a backup fuel.

Similarly, the modernization of the Lauderdale site in 2022 will also enhance FPL's ability to utilize natural gas more efficiently. The modernization will result in the retirement of two older, relatively fuel-inefficient generating units and the addition of a very fuel-efficient new CC unit: DBEC Unit 7. FPL projects that the amount of natural gas that will be used on its 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.

In the future, FPL will continue to identify and evaluate alternatives that may maintain or enhance system fuel diversity. In this regard, FPL also is maintaining the ability to utilize heavy oil and/or ULSD oil at existing units that have that capability. For example, FPL has electrostatic precipitators (ESPs) at the two 800 MW steam generating units at its Manatee site. This enables FPL to retain the ability to burn heavy oil, as needed, in these units while retaining the flexibility to use natural gas when economically attractive. In addition, the new 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 oil.

3. **Maintaining a 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. 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 for FPL and is one the company will continue to examine in its ongoing resource planning work.

4. **The Significant Impacts of Federal and State Energy-Efficiency Codes and Standards:** As discussed in Chapter II, FPL's load forecast includes projected impacts from federal and state energy-efficiency codes and standards. The magnitude of energy efficiency that FPL currently projects to deliver to its customers through these codes and standards is significant.

   FPL currently projects a cumulative Summer peak reduction impact of 4,138 MW from these codes and standards beginning in 2005 (the year the National Energy Policy Act was enacted) and extending through 2027 (*i.e.*, the last year in the 2018 through 2027 reporting time period for this Site Plan) 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 during the 2018 through 2027 reporting period of this Site Plan is a reduction of 1,736 MW compared to what the projected 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 2027 is projected to reach 19,800 GWh since 2005. Included in this projection is a reduction of 9,148 GWh during the 2018 through 2027 reporting period. All of these projections show the significant impact of these energy-efficiency codes and standards.

   In addition to lowering FPL's load forecast from what it otherwise would have been, and thus serving to lower FPL's projected load and resource needs, this projection of efficiency from the codes and standards also affects FPL's 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 FPL's current DSM Goals were set in December 2014. This projected effect will again be accounted for in 2019 when the FPSC sets new DSM Goals for FPL and other Florida utilities.

5. **The Continuing Decline in Costs for Battery Storage:** Although battery storage is not currently projected to be cost-effective on FPL's system, costs for battery technology are expected to continue to decline. Therefore, FPL is now evaluating the potential for cost-effectively utilizing battery storage on its system in the future. A discussion of the battery pilot projects through which FPL hopes to learn how to best utilize these storage options once they become economic is found later in this Chapter in Section III F.

6. Projected changes in CO_2 regulation and associated compliance costs:

Since 2007, FPL has evaluated potential CO_2 regulation and/or legislation and has included projected compliance costs for CO_2 emissions 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. The forecast of potential CO_2 compliance costs that FPL used in its 2017 resource planning work was lower than forecasts that had been used in prior years. In 2018, the forecasted compliance costs have decreased again. This further reduction is due to a number of factors projected for the Southeastern region of the U.S. including Florida. These factors include: lower forecasted growth rates in electricity usage; lower forecasted costs of natural gas; retirements of existing coal units; projected extension of operating licenses for existing nuclear generation; and increasing implementation of renewable energy sources.

III.D Demand Side Management (DSM)

FPL has sought and implemented cost-effective DSM programs since 1978, and DSM has been a key focus of the company's resource planning work for 40 years. During that time, FPL's DSM programs have included many energy efficiency and load management programs and initiatives.

FPL's current DSM Goals were established by the FPSC in December 2014. These DSM Goals address the years 2015 through 2024. The FPSC's DSM Goals Order No. PSC-14-0696-FOF-EU recognized that two important market forces were 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 Chapter II, and earlier in Section III.C above, the projected incremental impacts of these energy-efficiency codes and standards during the 2018 through 2027 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 was FPL's lower generating costs with which DSM must compete. There are two reasons for these lower generating costs. First, as fuel costs are lowered, the benefit that is realized by each kWh of energy reduced by DSM is also lowered. In other words, the benefit from DSM's kWh reductions has been reduced from what it had been when Florida previously established DSM Goals. For example, FPL last set DSM Goals in 2014, and prior to that, DSM Goals were set in 2009. Current projections for natural gas costs for the 10-year period addressed

in this Site Plan are approximately 75% lower than natural gas cost forecasts were in 2009.

Furthermore, the current natural gas forecasts are approximately 50% lower than the natural gas cost forecasts used in the most recent 2014 DSM Goals docket. These lower forecasted natural gas costs are very beneficial for FPL's customers because they result in lower fuel costs and lower electric rates. 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.

A second 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 used 23% less fossil fuel to generate a MWh in 2017 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.

Although FPL's current DSM Goals are appropriately lower due to these market forces, the projected cumulative effect of FPL's DSM programs to-date is truly significant. After accounting for the 20% total reserve margin requirements, the Summer MW reductions from FPL's DSM programs from their inception through the end of 2017 represent the equivalent of avoiding the need to build approximately fifteen (15) 400 MW power plants. The resource plan presented in this 2018 Site Plan accounts for the DSM MW and GWh reductions set forth in FPL's DSM Goals through 2024. In addition, FPL also assumes that additional DSM will be added in the years 2025 through 2027 at the same annual level projected in the 2015 – 2024 DSM Goals. The MW reductions from the DSM Goals and the projected extension of these annual levels through 2027 are accounted for in Schedules 7.1 and 7.2, which appear later in this chapter.

In August 2015, the FPSC approved FPL's DSM Plan (Order No. PSC-15-0331-PAA-EG, consummated by Order No. PSC-15-0384-CO-EG), which describes the approach FPL will take to meet its DSM Goals. The DSM Plan consists of fourteen (14) DSM programs and research and development efforts that are described below:

FPL DSM Programs and Research & Development Efforts

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, and/or system emergencies.

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. It is available to existing participants who had entered into a CILC agreement as of March 19, 1996.

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.

III.E Transmission Plan

The transmission plan will allow for the reliable delivery of the required capacity and energy to FPL's retail and wholesale customers. The following table presents FPL's proposed future additions of 230 kV and above bulk transmission lines that must be certified under the Transmission Line Siting Act.

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	St. Johns [1/]	Pringle	25	Dec/2018	230	759
FPL	Raven [2/]	Duval	45	Dec/2018	230	759
FPL	Levee [3/]	Midway	150	June/2019	500	2598

1/ Final order certifying the corridor was issued in April 2006. This project is to be completed in two phases. Phase I consisted of 4 miles of new 230 kV line (Pringle to Pellicer) and was completed in May 2009. Phase II consists of 21 miles of new 230 kV line (St. Johns to Pellicer) and is scheduled to be completed by December 2018.

2/ Final order certifying the corridor for the Raven to Duval project was issued in June 2016. The project is scheduled to be completed by December 2018.

3/ Final order certifying the corridor was issued in April 1990. Construction of 114 miles is complete and in-service. An additional phase of the Levee-Midway project called the Corbett-Sugar-Quarry (CSQ) line project includes adding a 500 kV line from FPL's Corbett Substation to a new 500 kV section of FPL's existing Sugar Substation and adding an approximately 68 mile 500 kV line from Sugar to FPL's Quarry Substation in Miami-Dade County. The Quarry 500/230 kV Substation is adjacent and connected to FPL's Levee Substation. The CSQ line project is scheduled to be completed by June 2019.

In addition, there will be transmission facilities needed to connect several of FPL's projected generating capacity additions to the system transmission grid. These transmission facilities (described on the following pages) are for the PV additions that FPL plans to add in 2019 and for the new CC unit in 2019 at the Okeechobee site. The modernization of the Lauderdale site, which will result in a new CC unit, Dania Beach Clean Energy Center Unit 7, in mid-2022 will not require new transmission lines.

Sites for other planned / potential PV additions from 2020-on have not yet been determined so no transmission analyses for these additions have been performed.

III.E.1 Transmission Facilities for the Pioneer Trail Solar Energy Center in Volusia County

The work required to connect the approximate 74.5 MW (nameplate, AC) Pioneer Trail Solar Energy Center in Volusia County in the 1st Quarter of 2019 is projected to be:

I. Substation:

1. Construct a new single bus, two (2) breaker 230 kV substation ("Floratam") on the project site approximately 1 mile west of the FPL Norris-Volusia 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 Floratam 230 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:

1. Loop the Highridge-Norris section of the Norris-Volusia 230 kV line into Floratam substation (approximately 1 mile).
2. No additional upgrades are expected to be necessary at this time.

III.E.2 Transmission Facilities for the Interstate Solar Energy Center in St. Lucie County

The work required to connect the approximate 74.5 MW (nameplate, AC) Interstate Solar Energy Center in St. Lucie County in the 1st Quarter of 2019 is projected to be:

I. Substation:

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

II. Transmission:

1. Loop the Emerson-Treasure 230 kV line into Sunray substation (approximately 0.1 mile).
2. No additional upgrades are expected to be necessary at this time.

III.E.3 Transmission Facilities for the Miami-Dade Solar Energy Center in Miami-Dade County

The work required to connect the approximate 74.5 MW (nameplate, AC) Miami-Dade Solar Energy Center in Miami-Dade County in the 1st Quarter of 2019 is projected to be:

I. Substation:

1. Construct a new single bus, two (2) breaker 138 kV substation ("Krome") on PV site adjacent to the FPL Davis-Florida City #2 138 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 Krome 138 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:

1. Loop the Davis-Avocado section of the Davis-Florida City #2 138 kV line into Krome substation (approximately 0.1 mile).
2. No additional upgrades are expected to be necessary at this time.

III.E.4 Transmission Facilities for the Sunshine Gateway Solar Energy Center in Columbia County

The work required to connect the approximate 74.5 MW (nameplate, AC) Sunshine Gateway Solar Energy Center in Columbia County in the 1st Quarter of 2019 is projected to be:

I. Substation:

1. Construct a new single bus, two (2) breaker 115 kV substation ("Bearcat") on the project site approximately 0.3 mile south of the FPL Columbia-Suwannee (DEF) 115 kV line corridor.
2. Add one 115/34.5 kV main step-up transformer (85 MVA) to connect PV inverter array.
3. Construct 34.5 kV buss to connect the PV array to Bearcat 115 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:

1. Loop the Live Oak Tap-Wellborn section of the Columbia-Suwannee (DEF) 1115 kV line into Bearcat substation (approximately 0.3 mile).
2. No additional upgrades are expected to be necessary at this time.

III.E.5 Transmission Facilities for the New Combined Cycle (CC) Unit in Okeechobee County

The work required to connect the new CC unit in Okeechobee County by Summer 2019 is projected to be:

I. Substation:

1. Build a new twelve breaker 500 kV Fort Drum substation switchyard on the Okeechobee generation site with a relay vault for the generator string buses and the transmission line terminals.
2. Add six main step-up transformers (3-615 MVA) one for each combustion turbine, and three single-phase (3-250 MVA units in parallel) for the steam turbine.
3. Add relays and other protective equipment.
4. Breaker replacements:
   Poinsett Sub – Replace three 230 kV breakers.

II. Transmission:

1. Loop the existing Martin-Poinsett and Midway Poinsett #2 500 kV lines into the new Fort Drum substation approximately 0.5 miles south.
2. No other upgrades are expected to be necessary at this time.

III.E.6 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.F. Renewable Resources and Storage Technology

Overview:

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

FPL's Renewable Energy Efforts Through 2017:

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 renewable energy efforts through 2017 are briefly discussed in five categories of solar/renewable activities. FPL's plans for new renewable energy facilities from 2018 through 2027 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.

2) Demand Side & Customer Efforts:

In terms of utilizing renewable energy sources to meet its customers' needs, FPL initiated the first-ever 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 (Code). The Code was revised to incorporate 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. In addition, FPL assists 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 2017, approximately 7,500 customer systems (predominantly residential) have been interconnected.

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. FPL's cap for these applications was approximately $15.5 million per year for five years. 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 Renewable Research and Demonstration projects. FPL's analyses of the results from these programs since their inception consistently showed that none of these pilot programs was cost-effective for FPL's 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. Demand-side PV will likely be examined again by FPL in preparation for the 2019 DSM Goals docket.

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 2032. Tables I.B.1, I.B.2, and I.B.3 in Chapter I provide information regarding both firm and non-firm capacity PPAs from renewable energy facilities.

4) Supply Side Efforts – FPL Facilities:

At the time this Site Plan is filed, FPL has 14 universal solar generating facilities in commercial operation. 13 of these 14 facilities are PV facilities and together they represent approximately 855 MW of generation. The other facility is a 75 MW solar thermal facility. Each of these solar facilities is discussed below, starting with the solar thermal facility.

a. The Martin Next Generation Solar Energy Center:

This facility began commercial operation in 2010 and provides 75 MW of solar thermal generation in an innovative way that directly displaces fossil fuel usage on the FPL system. The solar thermal facility generates steam that is integrated into the existing steam cycle for the Martin Unit 8 natural gas-fired CC plant. This project is the first "hybrid" solar plant in the world and, at the time the facility came in-service, was the second largest solar facility in the world and the largest solar plant of any kind in the U.S. outside of California.

b. The DeSoto Next Generation Solar Energy Center:

This 25 MW PV facility began commercial operation in 2009 and it was one of the largest PV facilities in the U.S. at that time. The facility utilizes a tracking PV array that is designed to follow the sun as it traverses across the sky.[7]

c. The Space Coast Next Generation Solar Energy Center:

Located at the Kennedy Space Center, this facility is part of an innovative public/private partnership with NASA. This 10 MW PV facility began commercial operation in 2010.

d. The Manatee Solar Energy Center:

This 74.5 MW PV facility at FPL's existing Manatee plant site began commercial operation in late 2016.

e. The Citrus Solar Energy Center:

This 74.5 MW PV facility in DeSoto County began commercial operation in late 2016.

[7] Unless otherwise noted, as is the case with this 2009 DeSoto facility, all of FPL's PV facilities are fixed tilt, non-tracking facilities. In addition, the MW values shown are nameplate ratings and do not represent the firm capacity values attributed to each PV facility.

f. The Babcock Ranch Solar Energy Center:

This 74.5 MW PV facility in Charlotte County began commercial operation in late 2016.

g. The Horizon Solar Energy Center:

This 74.5 MW PV facility in Putnam and Alachua Counties began commercial operation in the 1st Quarter of 2018.

h. The Wildflower Solar Energy Center:

This 74.5 MW PV facility in DeSoto County began commercial operation in the 1st Quarter of 2018.[8]

i. The Indian River Solar Energy Center:

This 74.5 MW PV facility in Indian River County began commercial operation in the 1st Quarter of 2018.

j. The Coral Farms Solar Energy Center:

This 74.5 MW PV facility in Putnam County began commercial operation in the 1st Quarter of 2018.

k. The Hammock Solar Energy Center:

This 74.5 MW PV facility in Hendry County began commercial operation in the 1st Quarter of 2018.

l. The Barefoot Bay Solar Energy Center:

This 74.5 MW PV facility in Brevard County began commercial operation in the 1st Quarter of 2018.

m. The Blue Cypress Solar Energy Center:

This 74.5 MW PV facility in Indian River County began commercial operation in the 1st Quarter of 2018.

n. The Loggerhead Solar Energy Center:

This 74.5 MW PV facility in St. Lucie County began commercial operation in the 1st Quarter of 2018.

[8] At the time this Site Plan is filed, DeSoto County produces more solar-generated electricity than any other county in Florida.

5) Ongoing Research & Development Efforts:

FPL has a "Living Lab" at its Juno Beach office to demonstrate FPL's solar energy commitment to employees and visitors. FPL currently has approximately to 124.5 kW of PV as part of the Living Lab. Through various Living Lab projects, FPL is able to evaluate multiple solar technologies and applications for the purpose of developing a renewable business model resulting in the most cost-effective and reliable uses of solar energy for FPL's customers. FPL plans to continue to expand the Living Lab as new technologies come to market.

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

In regard to PV's impact on the FPL system, FPL began in 2014 to develop 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, and 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, FPL has concluded that two of its earliest PV facilities can be counted on to contribute certain percentages of their nameplate (AC) ratings (approximately 46% for DeSoto and 32% for Space Coast) as firm capacity 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).

The three PV facilities that began operation in late 2016 are currently assumed to provide approximately 52% of their nameplate (AC) rating as firm capacity at FPL's Summer peak hour, but no firm capacity during FPL's Winter peak hour. The 8 PV facilities that went into commercial operation in the 1st Quarter of 2018 are projected to have a Summer firm capacity of 54% of their nameplate (AC) rating, but no firm capacity at the time of FPL's Winter peak hour. FPL currently projects that the four SoBRA PV facilities that will go in-service in 2019 will have a 55% Summer firm capacity rating, but no firm capacity for Winter peak. On-going analyses will determine what firm capacity values are attributed to future PV additions. FPL continues to evaluate and refine its methodology for assigning firm capacity for solar.

FPL's Planned Renewable Energy Efforts for 2018 Through 2027:

FPL's plans regarding renewable energy comprise efforts in both universal (utility-scale) and solar and distributed generation solar. In addition, FPL has significant interest in battery storage. 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 economically competitive 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. On January 1, 2018, four additional PV facilities of 74.5 MW each, or 298 MW in total, also went into commercial operation. These four 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). Four more 74.5 MW PV SoBRA facilities, or 298 MW in total, came into commercial operation on March 1, 2018. This brings the current amount of PV generation on FPL's system to approximately 855 MW.

In addition, on March 2, 2018, FPL filed with the FPSC a request to construct, and recover expenditures for, an additional 298 MW of PV facilities under the SoBRA recovery mechanism. Information regarding the siting of these 2019 solar additions is presented in Chapter IV. In this 2018 Site Plan, FPL shows plans to add more solar annually from 2020 through 2027, assuming that it is cost-effective to do so. These additions would result in a projected total solar generation of approximately 4,134 MW by the end of 2027, consisting of approximately 4,059 MW of PV and 75 MW of solar thermal.

As discussed in the Executive Summary, FPL currently has more uncertainty regarding the future cost of PV equipment and solar cost-effectiveness than it did a year ago when its 2017 Site Plan was filed. FPL's resource planning work in 2018 and beyond will continue to analyze the projected system economics of solar and all other resource options.

2) FPL Distributed Generation (DG) PV Pilot Programs:

FPL began implementation of two DG 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 at least partially funded by contributions from customers who volunteer to

participate in the pilot and will not rely on subsidies from non-participating customers. The second program will implement approximately 5 MW of DG PV. The objective of this second program is to collect grid integration data for DG PV and develop operational best practices for addressing potential problems that may be identified. A brief description of these pilot programs follows.

a) Voluntary, Community-Based Solar Partnership Pilot Program:

The Voluntary Solar Pilot Program provides FPL customers with an additional and 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 pilot was subsequently approved for an extension of an additional year by the FPSC in Order No. PSC-2017-0499-TRF-EI on December 12th, 2017 and is now scheduled to end at the close of 2018. This pilot program provides all customers the opportunity to support the use of solar energy at a community scale and is designed to be especially attractive for customers who do not wish, or are not able, to place solar equipment on their roof.

Customers can participate in the program through voluntary contributions of $9/month. As of the end of 2017, there were 26,674 participants enrolled in the Voluntary Solar Pilot Program. This program has installed 12 projects located in 10 communities. These projects represent approximately 315 kW-DC of PV generation.

b) Community Shared Solar:

As discussed in FPSC Docket No. 20170212-EI, FPL intends to present a community shared solar program for Commission approval in 2018. It is anticipated that this voluntary program will offer FPL customers the option to purchase capacity from cost-effective, large scale solar generation facilities. FPL expects the program's final design will not require customers who participate to be bound to a long-term contract or subject to administrative fees or termination penalties. Under the community shared solar program, participants' monthly electric bills would show both a subscription charge and a direct credit on their electric bills associated with the amount of solar-generated capacity purchased. The initial community shared solar program is expected to launch in 2020 and will leverage the economies of scale of universal solar to deliver long-term participant savings.

c) C&I Solar Partnership Pilot Program:

This pilot program is conducted in partnership with interested commercial and industrial (C&I) customers over an approximate 5 year period. Limited investments will be made in

PV facilities located at customer sites on selected distribution circuits within FPL's service territory.

The primary objective is to examine the effect of high DG PV penetration on FPL's distribution system and to determine how best to address any problems that may be identified. FPL has installed approximately 3 MW of PV facilities on circuits that experience specific loading conditions to better study feeder loading impacts. Up to an additional 2 MW may be built in 2018 to further expand the understanding of integrating large PV facilities on the FPL system. To further build upon the lessons learned to-date, and to better understand how future solar on distribution circuits may integrate into FPL operations, FPL may consider expanding this pilot to integrate storage (or other firm sources) into the final 2 MW of solar capacity deployed through this partnership program.

FPL's Battery Storage Efforts:

Based on battery storage costs at the time this Site Plan is filed, battery storage is currently not cost-effective for FPL's customers. However, battery storage costs have declined over the last few years and these costs are expected to continue to decline in the future. FPL is very interested in storage technology and has initiated two different 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 begin 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 customers as the economics of the technology 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) Small Scale Storage Pilot Projects:

In 2016 and early 2017, FPL implemented 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 has installed: (i) a 1.5 MW battery in Miami-Dade County primarily for peak shaving and frequency response, (ii) another 1.5 MW battery in Monroe County for backup power and voltage support, (iii) a relocatable 0.75 MW uninterruptible power supply (UPS) battery at the Tennis Center at Crandon Park in Key Biscayne for mitigation of momentary disruptions, and (iv) several smaller kilowatt-scale systems at other locations to study distributed storage reliability applications. All of these projects have been in service for more than 1 year and are yielding valuable information regarding the applications listed above.

2) <u>Large Scale (50 MW) Storage Pilot Project:</u>

The small scale energy storage pilot projects described above will be complemented by up to 50 MW of additional battery projects that will be deployed in the 2018 through 2020 time frame. These larger pilot projects were authorized under the Settlement Agreement in FPL's 2016 base rate case. The 50 MW of batteries that will be deployed in this larger pilot project will expand 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 involve pairing battery storage with existing universal PV facilities, and these projects are expected to be online by the time this Site Plan is filed. One of the projects is a 4 MW battery which is being sited at FPL's Citrus Solar Energy Center, which will capture clipped (curtailed) solar energy from the solar panels during high solar insolation hours, then release 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 also to provide "smoothing" of solar output and regulation services. These two projects are designed to enhance the operations of existing solar facilities as outlined in the Settlement Agreement, and are not included in the SoBRA cost recovery mechanism.

A third project will utilize a 10 MW battery in a dense downtown Miami area and it is designed to examine the use of batteries to address the distribution system with a focus on addressing grid, system, and customer challenges. These three projects will utilize approximately 24 MW of the 50 MW allowed under the Settlement Agreement. In regard to the remaining 26 MW of allowed storage capacity, FPL is continuing to evaluate which types of battery storage configurations and applications are projected to be the most meaningful to examine at this time. Potential project ideas are evaluated on an ongoing basis, considering current trends in the battery storage market, as well as the needs of FPL's system and the potential for projects of a given type to create future customer savings and value. Some of the applications and configurations under consideration for future projects include: (i) exploring customer-sited

projects under various business model structures, (ii) micro-grid resiliency applications, (iii) pairing storage with electric vehicle charging infrastructure, and (iv) even more advanced designs for solar-paired storage.

It is anticipated that individual project sizes for the remaining 26 MW of storage will range from sub-MW scale (i.e. for most customer-sited projects) to multi-MW projects on the high end, depending on the application that is targeted with the project. Specific sites will be identified and selected as a project idea progresses from conception to development. Future Site Plans will provide additional information as new storage applications under the 50 MW Storage Pilot Project are selected.

III.G FPL's Fuel Mix and Fuel Price Forecasts

1. FPL's Fuel Mix

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–fired 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-fired 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 will be 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.

In addition, FPL increased its utilization of nuclear energy through capacity uprates of its four existing nuclear units. With these uprates, more than 520 MW of additional nuclear capacity have been added to the FPL system. FPL is also pursuing plans to obtain licenses, permits,

and approvals to construct and operate two new nuclear units at its existing Turkey Point site that, in total, would add approximately 2,200 MW of new nuclear generating capacity. As mentioned previously, after obtaining the Combined Operating Licenses from the NRC, FPL will pause to decide when to pursue approval from the Commission 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 requests approval to extend the operating licenses by 20 years to 2052 and 2053, respectively.

In regard to utilizing renewable energy, FPL currently has a 75 MW solar thermal steam generating facility at the company's existing Martin site and a total of approximately 855 MW of PV generating capability with solar facilities at 14 sites. FPL is also adding additional solar generation as discussed elsewhere in 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 addition of PV might suggest.

FPL's future resource planning work will continue to focus on identifying and evaluating alternatives that would most cost-effectively maintain and/or enhance FPL's 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 unconventional reserves, preserving FPL's ability to utilize fuel oil at its existing units, and increased utilization of nuclear energy. (As previously discussed, new, advanced technology coal-fired generating units are not currently considered as viable options in Florida in the ten-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 FPL's on-going resource planning efforts.

FPL's current use of various fuels to supply energy to customers, plus a projection of this "fuel mix" through 2027 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.

2. FPL's Fossil 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. A January 2018 fuel

cost forecast was used in analyses, the results of which led to the resource plan presented in this 2018 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, FPL developed Low, Medium, and High price forecasts for fossil fuels in anticipation of its 2018 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 current + 2 years (2018-2020), the methodology used the January 2018 forward curve for New York Harbor 0.7% sulfur heavy oil, Ultra-Low Sulfur Diesel (ULSD) fuel oil, and Henry Hub natural gas commodity prices;

b. For the next two years (2021 and 2022), FPL used a 50/50 blend of the January 2018 forward curve and the most current projections at the time from The PIRA Energy Group;

c. For the 2023 through 2040 period, FPL used the annual projections from The PIRA Energy Group; and,

d. For the period beyond 2040, 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. Delivered price forecasts for Central Appalachian (CAPP), Illinois Basin (IB), and Powder River Basin (PRB) coal were provided by JD Energy; and,

b. The coal price forecast for Plant Scherer assumes the continuation of the existing mine-mouth and transportation contracts until expiration, along with the purchase of spot coal, to meet generation requirements.

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.

3. Natural Gas Storage

FPL was under contract through August 2014 for 2.5 billion cubic feet (Bcf) of firm natural gas storage capacity in the Bay Gas storage facility located in Alabama. The Bay Gas storage facility is interconnected with the Florida Gas Transmission (FGT) pipeline. FPL amended the transaction with Bay Gas on September 1, 2014 to increase the capacity to 4.0 Bcf of firm natural gas storage capacity. The amended contract is set to expire March 31, 2019 but will automatically renew for up to four more successive one-year terms unless otherwise terminated by either party on or before December 31 of the previous year. FPL has predominately utilized natural gas storage to help mitigate gas supply problems caused by severe weather and/or infrastructure problems.

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 FPL's 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 FPL

the ability to manage its supply and demand on a daily basis. FPL continues to evaluate its gas storage portfolio and may subscribe for additional gas storage capacity to help increase reliability, provide the necessary flexibility to respond to demand changes, and diversify the overall portfolio.

4. Securing Additional Natural Gas:

The recent trend of increasing 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, and Port Everglades due to completed modernization projects, plus the additional CC capacity at the Okeechobee and Dania Beach sites that will come in-service in 2019 and 2022, respectively, 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 plans to add additional PV facilities that utilize no fossil fuel. However, these efficiency gains do not fully offset the effects of FPL's growing load. Therefore, FPL may need to secure more natural gas supply and/or more firm gas transportation capacity in the future as fuel requirements dictate. The issue is how to secure these additional natural gas resources in a manner that is economical for FPL's customers and which maintains and/or enhances the reliability of natural gas supply and deliverability to FPL's generating units.

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 and Martin plants. The new pipeline system will also provide the primary fuel for the FPSC-approved Okeechobee CC unit which will come in-service in mid-2019. The new pipeline system will also allow needed support for gas-fired FPL generation facilities in several counties.

5. Nuclear Fuel Cost Forecast

This section reviews: 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, U3O8 (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 2.2% 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. Current demand has declined and several of the production facilities have 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 a limited number of new nuclear units are scheduled to start production in the U.S. during the next 5 to 10 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 is more stable, with laws enacted to resolve the import of Russian-enriched uranium, by allowing some imports of Russian-enriched uranium to meet about 20-25% of needs for currently operating units, but with no restriction on the first core for new units and no restrictions after 2020 (an extension of these restrictions is currently under review). 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 increase 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 after 2018 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. 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. The calculations for the nuclear fuel cost forecasts used in FPL's 2017 and early 2018 resource planning work were performed consistent with the method then used for FPL's Fuel Clause filings, including the assumption of refueling outages every 18 months and plant operation at current (i.e., power uprated) levels. The costs for each step to fabricate the nuclear fuel were added to calculate the total costs of the fresh fuel to be loaded at each refueling (acquisition costs). The acquisition cost for each group of fresh fuel assemblies were then amortized over the energy produced by each group of fuel assemblies. DOE notified FPL that, effective May 2014, all high-level waste payments would be suspended until further notice. Therefore, FPL is no longer including in its nuclear fuel cost forecast a 1 mill per kilowatt hour net to reflect payment to DOE for spent fuel disposal.

Schedule 5
Fuel Requirements
(for FPL only)

	Fuel Requirements	Units	Actual 1/ 2016	Actual 1/ 2017	Forecasted 2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
(1)	Nuclear	Trillion BTU	310	307	322	323	324	323	323	323	324	323	323	323
(2)	Coal	1,000 TON	2,474	3,752	1,457	1,350	1,184	1,183	1,171	1,234	1,226	1,245	1,293	1,329
(3)	Residual (FO6) - Total	1,000 BBL	764	2,061	88	49	2	9	0	2	2	3	5	8
(4)	Steam	1,000 BBL	764	2,061	88	49	2	9	0	2	2	3	5	8
(5)	Distillate (FO2) - Total	1,000 BBL	403	2,080	30	85	9	6	4	5	7	9	10	17
(6)	Steam	1,000 BBL	116	12	0	0	0	0	0	0	0	0	0	0
(7)	CC	1,000 BBL	79	954	11	0	0	0	0	0	0	0	0	0
(8)	CT	1,000 BBL	208	1,114	19	85	9	6	4	5	7	9	10	17
(9)	Natural Gas - Total	1,000 MCF	624,092	633,820	575,121	568,092	557,862	549,996	544,830	539,931	541,079	539,724	541,110	542,237
(10)	Steam	1,000 MCF	28,743	42,916	19,790	11,725	4,144	4,580	3,152	3,479	2,992	2,461	2,996	3,646
(11)	CC	1,000 MCF	592,178	584,414	552,904	551,894	552,800	544,236	541,185	535,640	537,620	536,878	537,670	537,959
(12)	CT	1,000 MCF	3,170	6,490	2,427	4,473	918	1,180	493	812	467	385	444	632

1/ Source: A Schedules.
Note: Solar contributions are provided on Schedules 6.1 and 6.2.

Schedule 6.1
Energy Sources

	Energy Sources	Units	Actual [1] 2016	Actual [1] 2017	Forecasted 2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
(1)	Annual Energy Interchange [2]	GWH	1,748	1,598	0	0	0	0	0	0	0	0	0	0
(2)	Nuclear	GWH	28,033	27,971	30,112	30,164	30,248	30,164	30,164	30,164	30,248	30,164	30,164	30,164
(3)	Coal	GWH	4,165	4,057	2,191	2,000	1,706	1,705	1,684	1,796	1,781	1,816	1,900	1,964
(4)	Residual(FO6) -Total	GWH	430	184	58	32	1	6	0	1	2	2	3	5
(5)	Steam	GWH	430	184	58	32	1	6	0	1	2	2	3	5
(6)	Distillate(FO2) -Total	GWH	230	216	18	45	5	3	2	3	4	5	5	9
(7)	Steam	GWH	3	1	0	0	0	0	0	0	0	0	0	0
(8)	CC	GWH	94	119	8	0	0	0	0	0	0	0	0	0
(9)	CT	GWH	132	96	10	45	5	3	2	3	4	5	5	9
(10)	Natural Gas -Total	GWH	86,161	86,706	82,189	83,031	82,665	81,376	81,056	80,593	80,703	80,557	80,709	80,807
(11)	Steam	GWH	2,135	3,506	1,793	1,073	384	421	287	319	272	226	272	332
(12)	CC	GWH	83,713	82,609	80,172	81,545	82,192	80,840	80,722	80,195	80,387	80,294	80,394	80,414
(13)	CT	GWH	313	591	224	413	89	115	47	79	44	37	43	61
(14)	Solar [3] -Total	GWH	237	658	1,994	2,679	3,994	5,354	6,032	6,707	7,401	8,052	8,722	9,391
(15)	PV	GWH	161	646	1,869	2,554	3,868	5,229	5,907	6,582	7,275	7,927	8,597	9,266
(16)	Solar Thermal	GWH	75	12	125	125	126	125	125	125	126	125	125	125
(17)	Other [4]	GWH	616	(642)	1,666	1,721	1,779	1,833	1,890	1,953	2,023	2,083	2,149	2,215
	Net Energy For Load [5]	GWH	121,619	120,747	118,229	119,674	120,398	120,442	120,829	121,219	122,161	122,680	123,654	124,556

1/ Source: A Schedules and Actual Data for Next Generation Solar Centers Report
2/ The projected figures are based on estimated energy purchases from SJRPP.
3/ Represents output from FPL's PV and solar thermal facilities.
4/ Represents a forecast of energy expected to be purchased from Qualifying Facilities, Independent Power Producers, etc., net of Economy and other Power Sales.
5/ Net Energy For Load values for the years 2017 - 2026 are also shown in Col. (19) on Schedule 2.3.

Schedule 6.2
Energy Sources % by Fuel Type

Energy Source	Units	Actual [1] 2016	Actual [1] 2017	Forecasted 2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
(1) Annual Energy Interchange [2]	%	1.4	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(2) Nuclear	%	23.1	23.2	25.5	25.2	25.1	25.0	25.0	24.9	24.8	24.6	24.4	24.2
(3) Coal	%	3.4	3.4	1.9	1.7	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.6
(4) Residual (FO6) -Total	%	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(5) Steam	%	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(6) Distillate (FO2) -Total	%	0.2	0.2	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	0.0
(8) CC	%	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(9) CT	%	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(10) Natural Gas -Total	%	70.8	71.8	69.5	69.4	68.7	67.6	67.1	66.5	66.1	65.7	65.3	64.9
(11) Steam	%	1.8	2.9	1.5	0.9	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.3
(12) CC	%	68.8	68.4	67.8	68.1	68.3	67.1	66.8	66.2	65.8	65.4	65.0	64.6
(13) CT	%	0.3	0.5	0.2	0.3	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0
(14) Solar [3] -Total	%	0.2	0.5	1.6	2.1	3.2	4.3	4.9	5.4	6.0	6.5	7.0	7.4
(15) PV	%	0.1	0.5	1.6	2.1	3.2	4.3	4.9	5.4	6.0	6.5	7.0	7.4
(16) Solar Thermal	%	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
(17) Other [4]	%	0.5	(0.5)	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.7	1.8
		100	100	100	100	100	100	100	100	100	100	100	100

1/ Source: A Schedules and Actual Data for Next Generation Solar Centers Report
2/ The projected figures are based on estimated energy purchases from SJRPP.
3/ Represents output from FPL's PV and solar thermal facilities.
4/ Represents a forecast of energy expected to be purchased from Qualifying Facilities, etc., Independent Power Producers, 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
2018	26,249	110	0	534	26,892	24,010	1,811	22,199	4,693	21.1	0	4,693	21.1	2,882	12.0
2019	26,538	435	0	104	27,077	24,456	1,892	22,564	4,513	20.0	0	4,513	20.0	2,621	10.7
2020	27,040	165	0	104	27,308	24,713	1,956	22,757	4,552	20.0	0	4,552	20.0	2,595	10.5
2021	27,381	110	0	4	27,494	24,904	2,006	22,897	4,597	20.1	0	4,597	20.1	2,591	10.4
2022	28,705	110	0	4	28,819	25,189	2,053	23,136	5,683	24.6	0	5,683	24.6	3,630	14.4
2023	28,866	110	0	4	28,980	25,546	2,101	23,445	5,534	23.6	0	5,534	23.6	3,434	13.4
2024	29,027	110	0	4	29,140	25,939	2,149	23,789	5,351	22.5	0	5,351	22.5	3,202	12.3
2025	29,177	110	0	4	29,290	26,259	2,198	24,060	5,230	21.7	0	5,230	21.7	3,032	11.5
2026	29,302	110	0	4	29,416	26,672	2,247	24,425	4,990	20.4	0	4,990	20.4	2,744	10.3
2027	29,412	372	0	0	29,784	27,076	2,296	24,780	5,004	20.2	0	5,004	20.2	2,708	10.0

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 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 2018 load forecast without incremental energy efficiency or cumulative load management.
Col.(8) represents cumulative load management capability, plus incremental energy efficiency and load management, from 9/2017-on intended for use
2018 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)
					Total			Firm	Total				Total		Generation Only
	Firm	Firm	Firm		Firm	Total		Winter	Reserve				Reserve		Reserve
	Installed	Capacity	Capacity	Firm	Capacity	Peak		Peak	Margin Before		Scheduled		Margin After		Margin After
January of	Capacity	Import	Export	QF	Available	Demand	DSM	Demand	Maintenance		Maintenance		Maintenance		Maintenance
Year	MW	MW	MW	MW	MW	MW	MW	MW	MW	% of Peak	MW	MW	% of Peak	MW	% of Peak
2018	27,512	110	0	334	27,956	19,604	1,382	18,222	9,734	53.4	0	9,734	53.4	8,351	42.6
2019	25,084	110	0	404	25,597	19,989	1,418	18,571	7,026	37.8	0	7,026	37.8	5,608	28.1
2020	27,063	110	0	74	27,246	20,182	1,462	18,720	8,526	45.5	0	8,526	45.5	7,064	35.0
2021	27,062	110	0	4	27,176	20,430	1,496	18,934	8,242	43.5	0	8,242	43.5	6,745	33.0
2022	27,074	110	0	4	27,188	20,489	1,523	18,966	8,222	43.4	0	8,222	43.4	6,699	32.7
2023	28,250	110	0	4	28,364	20,774	1,551	19,222	9,141	47.6	0	9,141	47.6	7,590	36.5
2024	28,250	110	0	4	28,364	21,067	1,580	19,486	8,877	45.6	0	8,877	45.6	7,297	34.6
2025	28,250	110	0	4	28,364	21,283	1,610	19,674	8,690	44.2	0	8,690	44.2	7,080	33.3
2026	28,250	110	0	4	28,364	21,579	1,639	19,940	8,424	42.2	0	8,424	42.2	6,785	31.4
2027	28,250	110	0	0	28,360	21,867	1,668	20,199	8,161	40.4	0	8,161	40.4	6,493	29.7

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 2018 load forecast without incremental energy efficiency or cumulative load management. The 2018 load is an actual load value.

Col.(8) represents cumulative load management capability, plus incremental energy efficiency and load management, from 9/2017-on intended for use with the 2018 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]

Plant Name	(2) Unit No.	(3) Location	(4) Unit Type	(5) Fuel Pri.	(5) Fuel Alt.	(7) Transport Pri.	(8) 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														
2018														
St. Johns River Power Park	1	Duval County	ST	BIT	Pet	RR	WA	-	Apr-87	Jan-18	135,918	(130)	(127)	RT
St. Johns River Power Park	2	Duval County	ST	BIT	Pet	RR	WA	-	Jul-88	Jan-18	135,918	(130)	(127)	RT
Horizon Solar Energy Center[3]	1	Putnam and Alachua Counties	PV	Solar	Solar	N/A	N/A	-	Jan-18	Unknown	74,500	-	40	P
Wildflower Solar Energy Center[3]	1	Desoto County	PV	Solar	Solar	N/A	N/A	-	Jan-18	Unknown	74,500	-	40	P
Indian River Solar Energy Center[3]	1	Indian River County	PV	Solar	Solar	N/A	N/A	-	Jan-18	Unknown	74,500	-	40	P
Coral Farms Solar Energy Center[3]	1	Putnam County	PV	Solar	Solar	N/A	N/A	-	Jan-18	Unknown	74,500	-	40	P
Turkey Point	5	Miami Dade County	CC	NG	FO2	PL	TK	-	Mar-18	Unknown	1,224,510	-	26	OT
Hammock Solar Energy Center[3]	1	Hendry County	PV	Solar	Solar	N/A	N/A	-	Mar-18	Unknown	74,500	-	40	P
Barefoot Bay Solar Energy Center[3]	1	Brevard County	PV	Solar	Solar	N/A	N/A	-	Mar-18	Unknown	74,500	-	40	P
Blue Cypress Solar Energy Center[3]	1	Indian River County	PV	Solar	Solar	N/A	N/A	-	Mar-18	Unknown	74,500	-	40	P
Loggerhead Solar Energy Center[3]	1	St. Lucie County	PV	Solar	Solar	N/A	N/A	-	Mar-18	Unknown	74,500	-	40	P
Manatee	3	Manatee County	CC	NG	No	PL	No	-	Apr-18	Unknown	612,000	-	(21)	OT
Martin	8	Martin County	CC	NG	FO2	PL	TK	-	Apr-18	Unknown	1,224,510	-	(2)	OT
Cape Canaveral Energy Center	3	Brevard County	CC	NG	FO2	PL	TK	-	Apr-18	Unknown	1,295,400	-	(7)	OT
Ft. Myers - 2 CT	3	Lee County	CT	NG	No	PL	No	-	Apr-18	Unknown	835,380	-	26	OT
Sanford	4	Volusia County	CC	NG	No	PL	No	-	Apr-18	Unknown	1,188,860	-	6	OT
Sanford	5	Volusia County	CC	NG	No	PL	No	-	Apr-18	Unknown	1,188,860	-	6	OT
West County	1	Palm Beach County	CC	NG	FO2	PL	TK	-	May-18	Unknown	1,336,800	-	14	OT
West County	3	Palm Beach County	CC	NG	FO2	PL	TK	-	Jul-18	Unknown	1,336,800	-	14	OT
										2018 Changes/Additions Total:		**(260)**	**129**	
2019														
Turkey Point	5	Miami Dade County	CC	NG	FO2	PL	TK	-	Mar-18	Unknown	1,224,510	16	-	OT
Ft. Myers - 2 CT	3	Lee County	CT	NG	No	PL	No	-	Apr-18	Unknown	835,380	(4)	-	OT
West County	3	Palm Beach County	CC	NG	FO2	PL	TK	-	Jul-18	Unknown	1,336,800	22	14	OT
Cape Canaveral Energy Center	3	Brevard County	CC	NG	FO2	PL	TK	-	Sep-18	Unknown	1,295,400	23	33	OT
Turkey Point	3	Miami Dade County	ST	Nuc	No	TK	No	-	Oct-18	Unknown	877,200	20	20	OT
Lauderdale	4	Broward County	CC	NG	FO2	PL	PL	-	Jul-93	Oct-18	526,250	(488)	(442)	RT
Lauderdale	5	Broward County	CC	NG	FO2	PL	PL	-	Jul-93	Oct-18	526,250	(488)	(442)	RT
Sanford	4	Volusia County	CC	NG	No	PL	No	-	Nov-18	Unknown	1,188,860	13	-	OT
Sanford	5	Volusia County	CC	NG	No	PL	No	-	Nov-18	Unknown	1,188,860	13	162	OT
West County	1	Palm Beach County	CC	NG	FO2	PL	TK	-	Dec-18	Unknown	1,336,800	33	27	OT
Turkey Point	4	Miami Dade County	ST	Nuc	No	TK	No	-	Dec-18	Unknown	877,200	20	20	OT
Martin	1	Martin County	ST	NG	FO6	PL	WA	-	Dec-80	4th Q 2018	934,500	(829)	(823)	RT
Martin	2	Martin County	ST	NG	FO6	PL	WA	-	Jun-81	4th Q 2018	934,500	(809)	(803)	RT
Sunshine Gateway Solar[3]	1	Columbia County	PV	Solar	Solar	N/A	N/A	-	1st Q 2019	Unknown	74,500	-	41	P
Miami Dade Solar[3]	1	Miami-Dade County	PV	Solar	Solar	N/A	N/A	-	1st Q 2019	Unknown	74,500	-	41	P
Interstate Solar[3]	1	St. Lucie County	PV	Solar	Solar	N/A	N/A	-	1st Q 2019	Unknown	74,500	-	41	P
Pioneer Trail Solar[3]	1	Volusia County	PV	Solar	Solar	N/A	N/A	-	1st Q 2019	Unknown	74,500	-	41	P
Riviera Beach Energy Center	5	City of Riviera Beach	CC	NG	FO2	PL	WA	-	Feb-19	Unknown	1,295,400	28	78	OT
Fort Myers	2	Lee County	CC	NG	No	PL	No	-	May-19	Unknown	1,721,490	-	288	OT
Manatee	3	Manatee County	CC	NG	No	PL	No	-	Jun-19	Unknown	612,000	(24)	116	OT
Okeechobee Energy Center	1	Okeechobee County	CC	NG	FO2	PL	TK	Jun-17	Jun-19	Unknown	-	-	1,778	P
Martin	8	Martin County	CC	NG	FO2	PL	TK	-	Jun-19	Unknown	1,224,510	26	101	OT
Solar Degradation[-9]	NA	NA	NA	NA	NA	NA	NA	-	NA	NA	NA	-	(1)	OT
										2019 Changes/Additions Total:		**(2,429)**	**291**	

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

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														
2020														
Riviera Beach Energy Center	5	City of Riviera Beach	CC	NG	FO2	PL	WA	-	Feb-19	Unknown	1,295,400	15	-	OT
Sanford	5	Volusia County	CC	NG	No	PL	No	-	May-19	Unknown	1,188,860	41	-	OT
Okeechobee Energy Center	1	Okeechobee County	CC	NG	FO2	PL	TK	Jun-17	Jun-19	Unknown	-	1,752	-	P
Turkey Point	5	Miami Dade County	CC	NG	FO2	PL	TK	-	Dec-19	Unknown	1,224,510	11	12	OT
Sanford	4	Volusia County	CC	NG	No	PL	No	-	Dec-19	Unknown	1,188,860	41	162	OT
West County	2	Palm Beach County	CC	NG	FO2	PL	TK	-	Aug-19	Unknown	1,336,800	33	41	OT
SoBRA PV Unsited[3]		Unknown	PV	Solar	Solar	N/A	N/A		1st Q 2020			-	165	P
Unsited Solar PV[3]		Unknown	PV	Solar	Solar	N/A	N/A		1st Q 2020			-	124	P
Fort Myers	2	Lee County	CC	NG	No	PL	No	-	May-20	Unknown	1,721,490	86	-	OT
Solar Degradation[3]	NA	NA	NA	NA	NA	NA	NA	-	NA	NA	NA	-	(2)	OT
										2020 Changes/Additions Total:		**1,979**	**502**	
2021														
Unsited Solar PV[3]		Unknown	PV	Solar	Solar	N/A	N/A		1st Q 2021			-	330	P
West County	3	Palm Beach County	CC	NG	FO2	PL	TK	-	Jun-21	Unknown	1,336,800	-	14	OT
Solar Degradation[3]	NA	NA	NA	NA	NA	NA	NA	-	NA	NA	NA	-	(3)	OT
										2021 Changes/Additions Total:		**0**	**341**	
2022														
West County	3	Palm Beach County	CC	NG	FO2	PL	TK	-	Jun-21	Unknown	1,336,800	11	-	OT
Unsited Solar PV[3]		Unknown	PV	Solar	Solar	N/A	N/A		1st Q 2022	Unknown		-	165	P
Dania Beach Clean Energy Center		Broward County	CC	NG	FO3	PL	WA		Jun-22	Unknown		-	1,163	P
Solar Degradation[3]	NA	NA	NA	NA	NA	NA	NA	-	NA	NA	NA	-	(4)	
										2022 Changes/Additions Total:		**11**	**1,324**	
2023														
Dania Beach Clean Energy Center		Broward County	CC	NG	FO3	PL	WA		Jun-22	Unknown		1,176	-	P
Unsited Solar PV[3]		Unknown	PV	Solar	Solar	N/A	N/A		1st Q 2023	Unknown		-	165	P
Solar Degradation[3]	NA	NA	NA	NA	NA	NA	NA	-	NA	NA	NA	-	(4)	
										2023 Changes/Additions Total:		**1,176**	**161**	
2024														
Unsited Solar PV[3]		Unknown	PV	Solar	Solar	N/A	N/A		1st Q 2024			-	165	P
Solar Degradation[3]	NA	NA	NA	NA	NA	NA	NA	-	NA	NA	NA	-	(5)	
										2024 Changes/Additions Total:		**0**	**160**	
2025														
Unsited Solar PV[3]		Unknown	PV	Solar	Solar	N/A	N/A		1st Q 2025			-	155	P
Solar Degradation[3]	NA	NA	NA	NA	NA	NA	NA	-	NA	NA	NA	-	(5)	
										2025 Changes/Additions Total:		**0**	**150**	
2026														
Unsited Solar PV[3]		Unknown	PV	Solar	Solar	N/A	N/A		1st Q 2026			-	131	P
Solar Degradation[3]	NA	NA	NA	NA	NA	NA	NA	-	NA	NA	NA	-	(6)	
										2026 Changes/Additions Total:		**0**	**125**	
2027														
Unsited Solar PV[3]		Unknown	PV	Solar	Solar	N/A	N/A		1st Q 2027			-	116	P
Solar Degradation[3]	NA	NA	NA	NA	NA	NA	NA	-	NA	NA	NA	-	(6)	
										2026 Changes/Additions Total:		**0**	**110**	

(1) Schedule 8 shows only planned and prospective changes to generating facilities and does not reflect changes to existing purchases. Those changes are reflected on Tables ES-1, I.B.1 and I.B.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 August 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 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Sunshine Gateway Solar (Columbia County)

(2) **Capacity**
- a. Nameplate (AC) 74.5 MW
- b. Summer Firm (AC) 41.3 MW
- c. Winter Firm (AC) -

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

(4) **Anticipated Construction Timing**
- a. Field construction start-date: 2018
- b. Commercial In-service date: 2019

(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:** 448 Acres (for PV facility)

(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 (%):	26.5% (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 (2019 $/kW):	1,374
Direct Construction Cost ($/kW):	1,320
AFUDC Amount (2019 $/kW):	54
Escalation ($/kW):	Accounted for in Direct Construction Cost
Fixed O&M ($/kW-Yr): (2019 $)	7.15 (First Full Year Operation)
Variable O&M ($/MWH): (2019 $)	0.00
K Factor:	1.04

* $/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:** Miami-Dade Solar (Miami-Dade County)

(2) **Capacity**

a. Nameplate (AC)	74.5	MW
b. Summer Firm (AC)	41.3	MW
c. Winter Firm (AC)	-	

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

(4) **Anticipated Construction Timing**

a. Field construction start-date:	2018
b. Commercial In-service date:	2019

(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:** 432 Acres (for PV facility)

(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 (%):	26.5%	(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 (2019 $/kW):	1,460	
Direct Construction Cost ($/kW):	1,415	
AFUDC Amount (2019 $/kW):	45	
Escalation ($/kW):	Accounted for in Direct Construction Cost	
Fixed O&M ($/kW-Yr): (2019 $)	7.15	(First Full Year Operation)
Variable O&M ($/MWH): (2019 $)	0.00	
K Factor:	1.04	

* $/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:** Interstate Solar Energy Center (St. Lucie County)

(2) **Capacity**

a. Nameplate (AC)	74.5	MW
b. Summer Firm (AC)	41.3	MW
c. Winter Firm (AC)	-	

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

(4) **Anticipated Construction Timing**

a. Field construction start-date:	2018
b. Commercial In-service date:	2019

(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:** 419 Acres (for PV facility)

(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 (%):	26.5% (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 (2019 $/kW):	1,289
Direct Construction Cost ($/kW):	1,243
AFUDC Amount (2019 $/kW):	45
Escalation ($/kW):	Accounted for in Direct Construction Cost
Fixed O&M ($/kW-Yr): (2019 $)	7.15 (First Full Year Operation)
Variable O&M ($/MWH): (2019 $)	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.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Pioneer Trail Solar Energy Center (Volusia County)

(2) **Capacity**
- a. Nameplate (AC) 74.5 MW
- b. Summer Firm (AC) 41.3 MW
- c. Winter Firm (AC) -

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

(4) **Anticipated Construction Timing**
- a. Field construction start-date: 2018
- b. Commercial In-service date: 2019

(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 (for PV facility)

(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 (%):	26.5%	(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 (2019 $/kW):	1,422	
Direct Construction Cost ($/kW):	1,366	
AFUDC Amount (2019 $/kW):	55	
Escalation ($/kW):	Accounted for in Direct Construction Cost	
Fixed O&M ($/kW-Yr): (2019 $)	7.15	(First Full Year Operation)
Variable O&M ($/MWH): (2019 $)	0.00	
K Factor:	1.01	

* $/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:** Okeechobee Clean Energy Center

(2) **Capacity**
a. Summer 1,778 MW
b. Winter 1,752 MW

(3) **Technology Type:** Combined Cycle

(4) **Anticipated Construction Timing**
a. Field construction start-date: 2017
b. Commercial In-service date: June, 2019

(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:** Mechanical Draft Cooling Towers

(8) **Total Site Area:** 2,842 Acres

(9) **Construction Status:** U (Under Construction)

(10) **Certification Status:** ---

(11) **Status with Federal Agencies:** ---

(12) **Projected Unit Performance Data:**

Planned Outage Factor (POF):	3.5%
Forced Outage Factor (FOF):	1.0%
Equivalent Availability Factor (EAF):	95.5%
Resulting Capacity Factor (%):	Approx. 80% (First Full Year Base Operation)
Average Net Operating Heat Rate (ANOHR): Base Operation 75F,100%	6,133 Btu/kWh
Average Net Incremental Heat Rate (ANOHR): Peak Operation 75F,100%	7,688 Btu/kWh

(13) **Projected Unit Financial Data *,****

Book Life (Years):	40 years
Total Installed Cost (2019 $/kW):	693
Direct Construction Cost (2019 $/kW):	620
AFUDC Amount (2019 $/kW):	73
Escalation ($/kW):	Accounted for in Direct Construction Cost
Fixed O&M ($/kW-Yr): (2019 $)	16.78
Variable O&M ($/MWH): (2019 $)	0.26
K Factor:	1.41

* $/kW values are based on Summer capacity.
** Levelized value includes Fixed O&M and Capital Replacement

Note: Total installed cost includes transmission interconnection and integration, and AFUDC.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** SoBRA PV Unsited

(2) **Capacity**
- a. Nameplate (AC) 298 MW (in four 74.5 MW increments)
- b. Summer Firm (AC) 165 MW
- c. Winter Firm (AC) -

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

(4) **Anticipated Construction Timing**
- a. Field construction start-date: 2019
- b. Commercial In-service date: 1st Q, 2020

(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 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 (%):	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 (2020 $/kW):	Less than $1,750/kW
Direct Construction Cost ($/kW):	TBD
AFUDC Amount (2020 $/kW):	TBD
Escalation ($/kW):	TBD
Fixed O&M ($/kW-Yr): (2020 $)	TBD
Variable O&M ($/MWH): (2020 $)	TBD
K Factor:	TBD

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) 224 MW (in three 74.5 MW increments)
b. Summer Firm (AC) 124 MW
c. Winter Firm (AC) -

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

(4) **Anticipated Construction Timing**
a. Field construction start-date: 2019
b. Commercial In-service date: 1st Q, 2020

(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 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 (%): 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 (2020 $/kW): TBD
Direct Construction Cost ($/kW): TBD
AFUDC Amount (2020 $/kW): TBD
Escalation ($/kW): TBD
Fixed O&M ($/kW-Yr): (2020 $) TBD
Variable O&M ($/MWH): (2020 $) TBD
K Factor: TBD

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)	596	MW (in eight 74.5 MW increments)
b. Summer Firm (AC)	330	MW
c. Winter Firm (AC)	-	

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

(4) **Anticipated Construction Timing**

a. Field construction start-date:	2020
b. Commercial In-service date:	1st Q, 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:** Not applicable 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 (%):	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 (2021 $/kW):	TBD
Direct Construction Cost ($/kW):	TBD
AFUDC Amount (2021 $/kW):	TBD
Escalation ($/kW):	TBD
Fixed O&M ($/kW-Yr): (2021 $)	TBD
Variable O&M ($/MWH): (2021 $)	TBD
K Factor:	TBD

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:** Lauderdale Modernization (Dania Beach Clean Energy Center Unit 7)

(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: June, 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:** Existing Site 392 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):	1.0%
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 Operation 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): (2022 $)	19.73
Variable O&M ($/MWH): (2022 $)	0.23
K Factor:	1.55

* $/kW values are based on Summer capacity.
** Levelized value includes Fixed O&M and 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:** Unsited Solar PV

(2) **Capacity**

a. Nameplate (AC)	298	MW (in four 74.5 MW increments)
b. Summer Firm (AC)	165	MW
c. Winter Firm (AC)	-	

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

(4) **Anticipated Construction Timing**

a. Field construction start-date:	2021
b. Commercial In-service date:	1st Q, 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:** Not applicable 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 (%):	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 (2022 $/kW):	TBD
Direct Construction Cost ($/kW):	TBD
AFUDC Amount (2022 $/kW):	TBD
Escalation ($/kW):	TBD
Fixed O&M ($/kW-Yr): (2022 $)	TBD
Variable O&M ($/MWH): (2022 $)	TBD
K Factor:	TBD

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)	298	MW (in four 74.5 MW increments)
b. Summer Firm (AC)	165	MW
c. Winter Firm (AC)	-	

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

(4) **Anticipated Construction Timing**

a. Field construction start-date:	2022
b. Commercial In-service date:	1st Q, 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:** Not applicable 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 (%):	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 (2023 $/kW):	TBD
Direct Construction Cost ($/kW):	TBD
AFUDC Amount (2023 $/kW):	TBD
Escalation ($/kW):	TBD
Fixed O&M ($/kW-Yr): (2023 $)	TBD
Variable O&M ($/MWH): (2023 $)	TBD
K Factor:	TBD

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) 298 MW (in four 74.5 MW increments)
b. Summer Firm (AC) 165 MW
c. Winter Firm (AC) -

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

(4) **Anticipated Construction Timing**
a. Field construction start-date: 2023
b. Commercial In-service date: 1st Q, 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 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 (%): 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 (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

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)	298	MW (in four 74.5 MW increments)
b. Summer Firm (AC)[1/]	155	MW
c. Winter Firm (AC)	-	

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

(4) **Anticipated Construction Timing**

a. Field construction start-date:	2024
b. Commercial In-service date:	1st Q, 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 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 (%):	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

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)	298	MW (in four 74.5 MW increments)
b. Summer Firm (AC) 1/	131	MW
c. Winter Firm (AC)	-	

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

(4) **Anticipated Construction Timing**

a. Field construction start-date:	2025
b. Commercial In-service date:	1st Q, 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 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 (%):	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 (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

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) 298 MW (in four 74.5 MW increments)
- b. Summer Firm (AC) [1/] 116 MW
- c. Winter Firm (AC) -

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

(4) **Anticipated Construction Timing**
- a. Field construction start-date: 2026
- b. Commercial In-service date: 1st Q, 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 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 (%):	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 $)	TBD
Variable O&M ($/MWH): (2027 $)	TBD
K Factor:	TBD

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 10
Status Report and Specifications of Proposed Transmission Lines

Sunshine Gateway Solar (Columbia County)

The Sunshine Gateway Solar Energy Center will require bifurcating the existing FPL Columbia-Suwanee (Duke Energy Florida) 115 kV tie line between FPL's Wellborn-Live Oak Tap section and extending two parallel sections approximately 0.3 mile to loop the new Bearcat Substation and connect the solar PV inverter array.

(1) Point of Origin and Termination:	Wellborn-Live Oak Tap 115 kV line to Bearcat Substation
(2) Number of Lines:	1
(3) Right-of-way	FPL – Owned
(4) Line Length:	0.3 mile (double-circuit)
(5) Voltage:	115 kV
(6) Anticipated Construction Timing:	Start date: 2018 End date: 2019
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Bearcat Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Miami Dade Solar (Miami-Dade County)

The Miami-Dade Solar Energy Center will require will require bifurcating the existing FPL Davis-Florida City 138 kV line between FPL's Davis-Avocado section looping the new Krome Substation.

(1) Point of Origin and Termination:	Davis-Avocado 138 kV line to Krome Substation
(2) Number of Lines:	1
(3) Right-of-way	FPL – Owned
(4) Line Length:	0.1 miles
(5) Voltage:	138 kV
(6) Anticipated Construction Timing:	Start date: 2018 End date: 2019
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Krome Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Interstate Solar (St. Lucie County)

The Interstate Solar Energy Center will require bifurcating the FPL Emerson - Treasure 230 kV line and extending two parallel sections approximately 0.1 miles east to loop the new Sunray Substation.

(1) Point of Origin and Termination:	Emerson-Treasure 230 kV line to Sunray Substation
(2) Number of Lines:	1
(3) Right-of-way	FPL – Owned
(4) Line Length:	0.1 miles
(5) Voltage:	230 kV
(6) Anticipated Construction Timing:	Start date: 2018 End date: 2019
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Sunray Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Pioneer Trail Solar (Volusia County)

The Pioneer Trail Solar Energy Center (Volusia) will require bifurcating the existing FPL Norris-Volusia 230 kV transmission line between the Norris-Highridge section and extending two parallel sections approximately 1 mile to loop the new Floratam Substation and connect the solar PV inverter array.

(1) Point of Origin and Termination:	Norris-Highridge 230 kV line to Floratam Substation
(2) Number of Lines:	1
(3) Right-of-way	FPL – Owned
(4) Line Length:	1 mile (double-circuit)
(5) Voltage:	230 kV
(6) Anticipated Construction Timing:	Start date: 2018 End date: 2019
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Floratam Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Okeechobee Next Generation Clean Energy Center

The Okeechobee Next Generation Clean Energy Center does not require any new transmission lines.

Schedule 10

Status Report and Specifications of Proposed Transmission Lines

SoBRA PV Unsited (298 MW of PV)

No site(s) has been determined for this projected generation addition which is assumed for planning purposes to be in service by the first Quarter 2020. Therefore no projection of transmission lines that might be needed is possible at this time.

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Unsited Solar PV (224 MW)

No site(s) has been determined for this projected generation addition which is assumed for planning purposes to be in service by the first Quarter 2020. Therefore no projection of transmission lines that might be needed is possible at this time.

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Unsited Solar PV (596 MW)

No site(s) has been determined for this projected generation addition which is assumed for planning purposes to be in service by the first Quarter 2021. Therefore no projection of transmission lines that might be needed is possible at this time.

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Lauderdale Modernization (Dania Beach Clean Energy Center Unit 7)

The Lauderdale Modernization (Dania Beach Clean Energy Center Unit 7) does not require any new transmission lines.

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Unsited Solar PV (298 MW)

No site(s) has been determined for this projected generation addition which is assumed for planning purposes to be in service by the first Quarter 2022. Therefore no projection of transmission lines that might be needed is possible at this time.

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Unsited Solar PV (298 MW)

No site(s) has been determined for this projected generation addition which is assumed for planning purposes to be in service by the first Quarter 2023. Therefore no projection of transmission lines that might be needed is possible at this time.

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Unsited Solar PV (298 MW)

No site(s) has been determined for this projected generation addition which is assumed for planning purposes to be in service by the first Quarter 2024. Therefore no projection of transmission lines that might be needed is possible at this time.

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Unsited Solar PV (298 MW)

No site(s) has been determined for this projected generation addition which is assumed for planning purposes to be in service by the first Quarter 2025. Therefore no projection of transmission lines that might be needed is possible at this time.

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Unsited Solar PV (298 MW)

No site(s) has been determined for this projected generation addition which is assumed for planning purposes to be in service by the first Quarter 2026. Therefore no projection of transmission lines that might be needed is possible at this time.

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Unsited Solar PV (298 MW)

No site(s) has been determined for this projected generation addition which is assumed for planning purposes to be in service by the first Quarter 2027. Therefore no projection of transmission lines that might be needed is possible at this time.

Schedule 11.1

Existing Firm and Non-Firm Capacity and Energy by Primary Fuel Type
Actuals for the Year 2017

	(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	888	3.3%	895	3.1%	4,057	3.4%
(2)	Nuclear	3,453	12.8%	3,550	12.3%	27,971	23.2%
(3)	Residual	0	0.0%	0	0.0%	184	0.2%
(4)	Distillate	108	0.4%	123	0.4%	216	0.2%
(5)	Natural Gas	21,541	79.6%	23,204	80.4%	86,706	71.8%
(6)	Solar (Firm & Non-Firm)	259	1.0%	259	0.9%	658	0.5%
(7)	***FPL Existing Units Total [1]:***	***26,248***	***96.9%***	***28,031***	***97.1%***	***119,792***	***99.2%***
(8)	Renewables (Purchases)- Firm	114.0	0.4%	114.0	0.4%	805	0.7%
(9)	Renewables (Purchases)- Non-Firm	Not Applicable	---	Not Applicable	---	200	0.2%
(10)	***Renewable Total:***	114.0	0.4%	114.0	0.4%	1,005	0.83%
(11)	***Purchases Other / (Sales) :***	712.0	2.6%	712.0	2.5%	(49)	0.0%
(12)	***Total :***	*27,074.1*	*100.0%*	*28,856.8*	*100.0%*	*120,747*	*100.0%*

Note:

(1) FPL Existing Units Total values on row (7), columns (2) and (4), match the Total 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 2017.

Schedule 11.2

Existing Non-Firm Self-Service Renewable Generation Facilities
Actuals for the Year 2017

(1)	(2)	(3)	(4)	(5)	(6) = (3)+(4)-(5)
Type of Facility	Installed Capacity DC (MW)	Renewable Projected Annual Output (MWh)	Annual Energy Purchased from FPL (MWh)	Annual Energy Sold to FPL (MWh)	Projected Annual Energy Used by Customers
Customer-Owned Renewable Generation (0 kW to 10 kW)	45.65	63,944	332,108	1,228	394,824
Customer-Owned Renewable Generation (> 10 kW to 100 kW)	16.16	22,272	257,554	637	279,189
Customer-Owned Renewable Generation (> 100 kW - 2 MW)	23.97	76,122	305,624	154	381,592
Totals	85.78	162,338	895,286	2,019	1,055,605

Notes:

1. There were approximately 7500 customers with renewable generation facilities interconnected with FPL on December 31, 2017.
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 2017.
4. The Annual Energy Sold to FPL is an actual value from FPL's metered data for 2017.
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.

CHAPTER IV

Environmental and Land Use Information

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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 is 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 oil, including foreign oil, by approximately 98 percent – from 40 million barrels annually in 2001 to 0.7 million barrels in 2017. FPL is also the largest producer of solar energy in Florida. In the one-year period since FPL's 2017 Site Plan was filed to the filing of its 2018 Site Plan, FPL has added 596 MW of PV generation. In this 2018 Site Plan, FPL projects it will add approximately 3,204 MW of additional PV from 2019 through the end of the 10-year reporting period (2027) for this Site Plan.

FPL maintains its 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 actively participates include the creation and management of the Manatee Lagoon – An FPL Eco-Discovery Center, Everglades Mitigation Bank, Crocodile Management Program, and preservation of the Barley Barber Swamp.

FPL and its 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 their corporate culture. FPL has one of the lowest emissions profiles among U.S. utilities, and its carbon dioxide (CO_2) emission rate in 2017 was approximately 30% lower (cleaner) than the industry national average.

In 2017, NextEra Energy was ranked as the top "green utility" in the United States and No. 2 in the world based on carbon emissions and renewable energy capacity, according to the latest annual report from EI Energy Intelligence, an independent provider of global energy and geopolitical news, analysis, data, and research. In the evaluation process, utilities were awarded points based on three criteria: direct carbon dioxide emissions per megawatt-hour of electricity produced, renewable energy capacity in volume, and renewable energy capacity in proportion to total generating capacity.

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. 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 is committed to environmentally sustainable water use. Nearly 99 percent of the water FPL uses is returned to its original source. Pursuing alternate water sources, such as the use of 27 million gallons of treated wastewater for cooling the FPL West County Energy Center, reduces the need to access ground- or surface-water resources. Additionally, FPL and Miami-Dade County are in the early stages of collaboration on a potential advanced wastewater treatment facility that would both enable the reuse of up to 60 million gallons per day of county wastewater and clean it further for productive reuse at the FPL Turkey Point Nuclear Generating Station.

In 2017, FPL supported a broad base of environmental organizations with donations, event sponsorships, and memberships. Those organizations include, but were not limited to: Everglades Foundation, The Nature Conservancy, Conservancy of Southwest Florida, Busch Wildlife Sanctuary, Inc., Loggerhead Marinelife Center, Inc., and Audubon state and local chapters.

FPL and NextEra, Inc., employees serve as board members for many organizations that focus on environmental restoration, preservation, and stewardship. A partial list of these organizations includes: Florida Fish and Wildlife Conservation Commission, Nature Conservancy in Florida, Grassy Waters Conservancy, Sustainable Florida, Palm Beach County Loggerhead Marinelife Center, and Audubon Florida.

IV.B FPL's Environmental Policy

FPL and its 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 and NextEra Energy, Inc. endeavor to:

Comply

- 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

Conserve

- 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

Communicate

- 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

Continuously Improve

- 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's parent company, NextEra Energy, Inc., updated this policy in 2013 to reflect changing expectations and ensure that employees are doing the utmost to protect the environment. FPL complies with all environmental laws, regulations, and permit requirements, and it designs, constructs, and operates its facilities in an environmentally sound and responsible manner. FPL also responds immediately and effectively to any known environmental hazards or non-compliance situations. The company's commitment to the environment does not end there. FPL proactively pursues opportunities to perform better than current environmental standards require, including reducing waste and emission of pollutants, recycling materials, and conserving natural resources throughout its operations and day-to-day work activities. FPL also encourages cost-effective, efficient uses of energy, both within the Company and by its customers. These actions are just a few examples of how FPL is committed to the environment.

To ensure FPL is adhering to its environmental commitment, it has developed rigorous environmental governance procedures and programs. These include its Environmental Assurance

Program and Corporate Environmental Governance Council. Through these programs, FPL conducts 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.C Environmental Management

In order to successfully implement the Environmental Policy, FPL has 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.D 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.

As part of its commitment, FPL created an enhanced Environmental Data Management Information System (EDMIS). Environmental data management software systems are increasingly viewed as an industry best-management practice to ensure environmental compliance. FPL's top goals for this system are to improve: 1) the flow of environmental data between site operations and corporate services to ensure compliance, and 2) operating efficiencies. In addition, the EDMIS helps to standardize environmental data collection, thus improving external reporting to the public.

IV.D Environmental Assurance Program

FPL'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 FPL policies. In addition to FPL facility audits, through the Environmental Assurance Program, the company performs audits of third-party vendors used

for recycling and/or disposal of waste generated by FPL operations. Vendor audits provide information used for selecting candidate or incumbent vendors for disposal and recycling needs.

FPL has also implemented a Corporate Environmental Governance System in which quarterly reviews are performed by each business unit deemed to have potential for significant environmental exposure. Quarterly reviews evaluate operations for potential environmental risks and consistency with the company's 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.

In addition to periodic environmental audits, FPL'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 FPL policies.

IV.E 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 2017 environmental outreach activities are summarized in Table IV.E.1.

Table IV.E.1: 2017 FPL Environmental Outreach Activities

Activity	Count (#)
Visitors to Manatee Lagoon - An FPL Eco-Discovery Center	>96,000
Number of website visits to the Manatee Lagoon website	634,587
Visitors to FPL's Energy Encounter at St. Lucie	250
Visitors to Manatee Park, Ft. Myers	234,599
Number of website visits to FPL's Environmental & Corporate Responsibility Websites	>46,000
Visitors to Barley Barber Swamp (Treasured Lands Partnership)	695
Visitors to FPL Living Lab, Martin Energy Center Solar & DeSoto Solar Tours	791
Environmental Brochures Distributed	>45,300
Home Energy Surveys	Field Visits: 24,983 Phone: 41,105 Online:45,466 **Total: 111,554**

IV.F Preferred and Potential Sites

Based upon its projection of future resource needs, FPL has identified seven (7) Preferred Sites and fifteen (15) Potential Sites for adding future generation. Some of these sites currently have existing generation. Preferred Sites are those locations where FPL has conducted significant reviews and has either taken action, is committed to take action, or is likely to take action 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 FPL has made a definitive decision to pursue new generation (or generation expansion or modernization in the case of an existing generation site) at that location, nor does this designation necessarily indicate the that size or technology of a generating resource has been determined. The Preferred Sites and Potential Sites are discussed in separate sections below.

IV.F.1 Preferred Sites

For the 2018 Ten Year Site Plan, FPL has identified seven (7) Preferred Sites. These include a combination of existing and new sites for the development of solar generation facilities, natural gas combined cycle units, and/or nuclear generation. Sites for solar additions in 2019 have been selected, and these sites are described in this section. Potential sites for possible 2020-on solar additions are discussed in the Potential Site section later in this chapter.

These seven (7) Preferred Sites are presented in general chronological order of when resources are projected to be added to the FPL system:

2019 Solar Sites (4): FPL requested permission from the FPSC to recover costs under the Solar Base Rate Adjustment (SoBRA), which was part of the settlement agreement in FPL's last base rate case, in a March 2nd, 2018 filing for four 74.5 MW PV facilities that will be in commercial operation in early 2019. The counties in which the PV facilities will be sited, and the name of each PV facility, are as follows: (i) Columbia County (Sunshine Gateway Solar), (ii) Miami-Dade County (Miami-Dade Solar), (iii) St. Lucie County (Interstate Solar), and (iv) Volusia County (Pioneer Trail Solar).

Other Generation Sites (3): This Site Plan also discusses three non-solar sites for new generation. These sites are: (i) Okeechobee County for the FPL Okeechobee Clean Energy Center Unit 1 in 2019; (ii) Broward County for the modernization of the existing Lauderdale plant

site, which will result in the creation of the FPL Dania Beach Clean Energy Center Unit 7 in 2022; and (iii) Miami-Dade County due to two nuclear generation possibilities: (a) the receipt of the

pending Combined Operating License Application for new nuclear generation Turkey Point Units 6 & 7, and (b) the extension of operating licenses for the existing Turkey Point Units 3 & 4.

The geological features of each site and adjacent area maps for each of the seven (7) Preferred Sites are provided as the first two Figures at the end of this chapter. These two Figures are titled Relationship of Regional Hydrogeologic Units to Major Stratigraphic units, and Florida Regions, respectively.

Preferred Site # 1: Columbia County (Sunshine Gateway Solar)

The Sunshine Gateway Solar Energy Center, a 74.5 MW PV facility, will be located in Columbia County on approximately 448 acres.[9] Commercial operation is projected to begin in March 2019.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Proposed Facilities Layout

See Figures at the end of this chapter.

c. Map of Site and Adjacent Areas

See Figures at the end of this chapter.

d. Land Use Map of site and Adjacent Areas

See Figures at the end of this chapter.

e. Existing Land Uses of Site and Adjacent Areas

1. Site Pastureland

2. Adjacent Areas Field crop and residential

f. General Environmental Features On and In the Site Vicinity

1. Natural Environment

Site is predominately pastureland with minimal forested wetlands and freshwater marshes.

[9] The acreage value for each solar site represents the fenced-in area of the PV facility footprint, not the area of the entire site.

2. Listed Species

Due to the existing disturbed nature of the site and the lack of suitable onsite habitat, no adverse impacts to listed species are expected to occur.

3. Natural Resources of Regional Significance Status

No natural resources of regional significance status exist at, or are adjacent to, the site.

4. Other Significant Features

The site contains potential cultural resources.

g. Design Features and Mitigation Options

The design includes a 74.5 MV PV facility, an on-site transmission substation, and a site storm water system.

h. Local Government Future Land Use Designations

Local government future land use on this site is Agriculture-3.

i. Site Selection Criteria Process

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 Panhandle Florida region.

l. Projected 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 the absence of sufficient rainfall

m. Water Supply Sources by Type

Cooling: Not applicable for PV

Process: Not applicable for PV

Potable: Delivered to the site by truck or via existing permitted supply

Panel Cleaning: Delivered to the site by truck or via existing permitted supply

n. Water Conservation Strategies Under Consideration

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 will be employed to prevent and control inadvertent release of pollutants.

p. Fuel Delivery, Storage, Waste Disposal, and Pollution Control

PV does not require fuel, and no waste products will be generated at the site.

q. Air Emissions and Control Systems

Fuel: PV 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 energy generation does not emit noise and, therefore, there will be no need for noise control systems.

s. Status of Applications

Florida Environmental Resources Permit (ERP) application submitted: September 15, 2017

Florida Environmental Resources Permit (ERP) issued: February 9, 2018

USACE Section 404 Permit received: Not applicable

Preferred Site # 2: Miami-Dade County (Miami Dade Solar)

The Miami-Dade Solar Energy Center, a 74.5 MW PV facility, will be located on approximately 432 acres in Miami-Dade County. Commercial operation is projected to begin in March 2019.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Proposed Facilities Layout

See Figures at the end of this chapter.

c. Map of Site and Adjacent Areas

See Figures at the end of this chapter.

d. Land Use Map of site and Adjacent Areas

See Figures at the end of this chapter.

e. Existing Land Uses of Site and Adjacent Areas

1. Site Row crop and tree nursery

2. Adjacent Areas Row crop and residential

f. General Environmental Features On and In the Site Vicinity

1. Natural Environment

Site is predominately row crops with a tree nursery and some depressional areas present onsite.

2. Listed Species

Due to the existing disturbed nature of the site and lack of suitable onsite habitat, no adverse impacts to listed species are expected to occur.

3. Natural Resources of Regional Significance Status

No natural resources of regional significance status exist at, or are 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 a 74.5 MV PV facility, an onsite transmission substation, and a site storm water system.

h. Local Government Future Land Use Designations

Local government future land use for this site is Agriculture.

i. Site Selection Criteria Process

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 South Florida.

l. Projected 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 PV

Process: Not applicable for PV

Potable: Delivered to the site by truck or via existing permitted supply

Panel Cleaning: Delivered to the site by truck or via existing permitted supply

n. Water Conservation Strategies Under Consideration

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 will be employed to prevent and control inadvertent release of pollutants.

p. Fuel Delivery, Storage, Waste Disposal, and Pollution Control

PV does not require fuel, and no waste products will be generated at the site.

q. Air Emissions and Control Systems

Fuel: PV 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 energy generation does not emit noise and, therefore, there will be no need for noise control systems.

s. Status of Applications

Florida Environmental Resources Permit (ERP) application submitted: June 26, 2017

Florida Environmental Resources Permit (ERP) permit received: August 1, 2017

USACE Section 404 Permit: Not Applicable

Preferred Site # 3: St. Lucie County (Interstate Solar)

The Interstate Solar Energy Center, a 74.5 MW PV facility, will be located on approximately 419 acres in St. Lucie County. Commercial operation is projected to begin in March 2019.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Proposed Facilities Layout

See Figures at the end of this chapter.

c. Map of Site and Adjacent Areas

See Figures at the end of this chapter.

d. Land Use Map of site and Adjacent Areas

See Figures at the end of this chapter.

e. Existing Land Uses of Site and Adjacent Areas

1. Site Pastureland

2. Adjacent Areas Citrus groves and fallow cropland

f. General Environmental Features On and In the Site Vicinity

1. Natural Environment

Site is predominately pastureland with drainage ditches. Herbaceous, shrub marsh, wet prairies, and hydric pine savanna wetland areas are present onsite.

2. Listed Species

Due to the existing disturbed nature of the site, and lack of suitable on-site habitat, no adverse impacts to listed species are expected to occur.

3. Natural Resources of Regional Significance Status

No natural resources of regional significance status exist at, or are 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 a 74.5 MW solar PV facility, an on-site transmission substation, and a site storm water system.

h. Local Government Future Land Use Designations

Local government future land use for this site is Towns, Village & Countryside.

i. Site Selection Criteria Process

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 on-site 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 Southeast Florida.

l. Projected 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 PV

Process: Not applicable for PV

Potable: Delivered to the site by truck or via existing permitted supply

Panel Cleaning: Delivered to the site by truck or via existing permitted supply

n. Water Conservation Strategies Under Consideration

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 will be employed to prevent and control inadvertent release of pollutants.

p. Fuel Delivery, Storage, Waste Disposal, and Pollution Control

PV does not require fuel, and no waste products will be generated at the site.

q. Air Emissions and Control Systems

Fuel: PV 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 energy generation does not emit noise and, therefore, there will be no need for noise control systems.

s. Status of Applications

Florida Environmental Resources Permit (ERP) application submitted: April 18, 2017

Florida Environmental Resources Permit (ERP) issued: May 31, 2017

USACE Section 404 Permit submitted: April 18, 2017

Preferred Site # 4: Volusia County (Pioneer Trail Solar)

The Pioneer Trail Solar Energy Center, a 74.5 MW PV facility, will be located in Volusia County on approximately 473 acres. Commercial operation is projected to begin in March 2019.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Proposed Facilities Layout

See Figures at the end of this chapter.

c. Map of Site and Adjacent Areas

See Figures at the end of this chapter.

d. Land Use Map of site and Adjacent Areas

See Figures at the end of this chapter.

e. Existing Land Uses of Site and Adjacent Areas

1. **Site** Field crop

2. **Adjacent Areas** Field crop

f. General Environmental Features On and In the Site Vicinity

1. **Natural Environment**

Site is predominately field crop (sod) with drainage ditches. Forested, herbaceous, and shrub marsh wetland areas are also present.

2. **Listed Species**

Due to the existing disturbed nature of the site, and the lack of suitable onsite habitat, no adverse impacts to listed species are expected to occur.

3. **Natural Resources of Regional Significance Status**

No natural resources of regional significance status exist at, or are 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 consists of a 74.5 MW PV facility, an on-site transmission substation, and a site storm water system.

h. Local Government Future Land Use Designations

Local government future land use for this site is Agricultural Resource (AR) and Environmental Systems Corridor (ESC).

i. Site Selection Criteria Process

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 on-site 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 Central Florida.

l. Projected 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 PV

Process: Not applicable for PV

Potable: Delivered to the site by truck or via existing permitted supply

Panel Cleaning: Delivered to the site by truck or via existing permitted supply

n. Water Conservation Strategies Under Consideration

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 will be employed to prevent and control inadvertent release of pollutants.

p. Fuel Delivery, Storage, Waste Disposal, and Pollution Control

PV does not require fuel, and no waste products will be generated at the site.

q. Air Emissions and Control Systems

Fuel: PV 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 energy generation does not emit noise and, therefore, there will be no need for noise control systems.

s. Status of Applications

Florida Environmental Resources Permit (ERP) application submitted: June 28, 2017

Florida Environmental Resources Permit (ERP) issued: July 22, 2017

USACE Section 404 Permit received: September 25, 2017

Preferred Site # 5: Okeechobee Clean Energy Center, Okeechobee County

FPL chose clean and efficient natural gas-fueled combined cycle (CC) generation at the site to meet a need for new resources (beginning in 2019) to maintain reliable electric service. Construction has commenced and Commercial Operation is projected to begin by June 2019. In addition, FPL currently views the Okeechobee site as a potential location for future universal solar and gas-fueled generation facilities.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Proposed Facilities Layout

See Figures at the end of this chapter.

c. Map of Site and Adjacent Areas

See Figures at the end of this chapter.

d. Land Use Map of site and Adjacent Areas

See Figures at the end of this chapter.

e. Existing Land Uses of Site and Adjacent Areas

1. Site	Pastureland and fallow crop land
2. Adjacent Areas	Pastureland, conservation, and existing electrical transmission

f. General Environmental 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

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

The Okeechobee site is adjacent to 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 one new approximately 1,778 MW CC unit consisting of three combustion turbines (CTs), three heat recovery steam generators (HRSGs), and a steam turbine. Future options at the site include solar and/or gas-fueled generation technology. Mitigation for unavoidable impacts, if required, would 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 Process

The site selection criteria included system load, transmission interconnection, proximity of the natural gas pipelines, economics, and environmental compatibility (*e.g.*, wetlands, wildlife, threatened and endangered species, etc.).

j. Water Resources

Water resources include groundwater from the Surficial Aquifer System and the Floridian Aquifer System.

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. Projected Water Quantities for Various Uses

Cooling: 8.4 million gallons per day (mgd) daily average, 10.3 mgd maximum
Process: 0.6 mgd
Potable: 0.003 mgd
Panel Cleaning: Not Applicable

m. Water Supply Sources by Type

Cooling: Floridan Aquifer System
Process: Floridan Aquifer System
Potable: Surficial Aquifer System

n. Water Conservation Strategies Under Consideration

Cooling will utilize a closed system that will cycle cooling water approximately five times prior to disposal. The heat recovery steam generator blowdown will be reused to the maximum extent practicable. Additional water conservation strategies will be identified during the project's detailed design phase.

o. Water Discharges and Pollution Control

The site will utilize a closed-cycle cooling (towers) system for heat dissipation. Heat recovery steam generator blowdown will be reused to the maximum extent practicable or mixed with the cooling water flow before discharge to an Underground Injection Control system. Reverse osmosis reject water will be mixed with the plant's cooling water flow prior to discharge to the UIC. Storm water runoff will be collected and routed to storm water ponds. The facility will employ Best Management Practices and Spill Prevention, Control, and Countermeasure plans to prevent and control the inadvertent release of pollutants.

p. Fuel Delivery, Storage, Waste Disposal, and Pollution Control

Natural gas is the primary fuel and it will be delivered via the new Sabal Trail/Florida Southeast Connection natural gas pipeline. Ultra-low Sulfur Diesel fuel is the backup fuel and it will be delivered via truck and stored in a new above-ground storage 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 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

Offsite noise impacts from construction and operation are expected to be limited.

s. Status of Applications

Underground Injection Control Exploratory Well and associated Dual Zone Monitoring Well Permit received: April 14, 2015

Need Determination Request Filed: September 3, 2015

Need Determination Granted: January 19, 2016

Fl. Site Certification Application Submitted: September 25, 2015

Fl. Site Certification Received: June 29, 2016

Prevention of Significant Deterioration (PSD) Application Submitted: September 25, 2015

PSD Permit Received: March 9, 2016

USACE Section 404 Permit Application Filed: July 30, 2015, Deemed Complete August 12, 2015

USACE Section 404 Permit Received: January 24 2017

Preferred Site # 6: Lauderdale Plant Modernization (Dania Beach Clean Energy Center Unit 7), Broward County

This site is located on the existing FPL Lauderdale Plant property within the City of Dania Beach and the City of Hollywood. The proposed Lauderdale modernization project will replace the two, older existing combined cycle (CC) units (Units 4 and 5) with a modern, highly efficient, lower-emission next generation clean energy center using advanced CC technology. The existing two outdated CC units will first be demolished and removed, then replaced with a new single CC unit on the site. The name of the new CC unit will be the FPL Dania Beach Clean Energy Center Unit 7.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Proposed Facilities Layout

See Figures at the end of this chapter.

c. Map of Site and Adjacent Areas

See Figures at the end of this chapter.

d. Land Use Map of site and Adjacent Areas

See Figures at the end of this chapter.

e. Existing Land Uses of Site and Adjacent Areas

1. Site Electric power generation and transmission.

2. Adjacent Areas — Low to high density urban, transportation, communication, utilities, commercial, water and some open land.

f. General Environmental 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 other listed species due to previous development.

3. Natural Resources of Regional Significance Status

No natural resources of regional significance status exist at, or are 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 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 as the primary fuel and will use Ultra-Low Sulfur Distillate as the backup fuel.

h. Local Government Future Land Use Designations

The site is zoned General Industrial.

i. Site Selection Criteria Process

The Lauderdale Plant has been selected as a preferred site for a site modernization due to consideration of various factors including system load, Southeastern Florida regional load and generation balance, and system economics. Environmental issues were not a deciding factor because this site does not exhibit significant environmental sensitivity or other environmental issues. However, there are significant environmental benefits of replacing the existing, outdated CC units with a new, highly efficient CC unit, including a significant reduction in system air emissions and system natural gas usage. 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 CC 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. Projected Water Quantities for Various Uses

Cooling: No additional water required.

Process: No additional water required.

Potable: No additional water required.

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 ULSD will minimize SO_2, sulfuric acid mist (SAM), particulates, and other fuel-bound contaminants, factors that will ensure compliance with applicable emission-limiting standards. Combustion Control / Combustor Design: Will limit formation of NO_x, CO, and VOCs. When firing natural gas, NOx emissions will be controlled using dry-low NO_x combustion technology and selective catalytic reduction (SCR). Water injection and SCR will be used to reduce NO_x emissions during operations when using ULSD.

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 Request Filed: October 20, 2017

Need Determination Granted: March 1, 2018

Fl. Site Certification Application Submitted: July 27, 2017

Prevention of Significant Deterioration (PSD) Application Submitted: July 26, 2017

PSD Permit Received: December 4, 2017

USACE Section 404 Permit Application Filed: July 26, 2017

IWW Modification: July 26, 2017

Preferred Site # 7: Turkey Point Plant, Miami-Dade County

Since June 2009, FPL has been pursuing a federal Combined Operating License (COL) for two new nuclear units, Turkey Point Units 6 & 7, which would be located at FPL's Turkey Point site (where two other nuclear generating units exist). At the time this document is being prepared, FPL projects that it will receive a decision on its COL Application in the 2nd Quarter of 2018. In addition, during 2016, FPL determined that once a COL has been issued, it would pause before moving forward into construction of the new nuclear units in order to incorporate the construction experience of two first-wave nuclear units currently under construction by Georgia Power. As a result of the COLA review schedule and FPL's decision to pause to better understand the results of the first-wave construction experience for new nuclear units, the earliest in-service dates for Turkey Point 6 & 7 are beyond the 2018 through 2027 time period addressed in this Site Plan.

In addition, in January 2018, FPL filed a request with the Nuclear Regulatory Commission (NRC) for approval to continue to operate the existing nuclear units Turkey Point Units 3 & 4 for an additional 20 years beyond the end of the current operating licenses for those units (2032 and 2033, respectively.) A decision by the NRC on FPL's request is not expected for several years.

Maintaining and/or enhancing nuclear generation remains an important factor in FPL's resource planning, and this Site Plan continues to present the Turkey Point site as a Preferred Site for nuclear generation. Because Turkey Point Units 3 & 4 are existing generating units, the information which follows addresses the new units: Turkey Point 6 & 7.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Proposed Facilities Layout

See Figures at the end of this chapter.

c. Map of Site and Adjacent Areas

See Figures at the end of this chapter.

d. Land Use Map of site and Adjacent Areas

See Figures at the end of this chapter.

e. Existing Land Uses of Site and Adjacent Areas

1. Site	Electrical generating facilities
2. 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 Environmental Features On and In the Site Vicinity

1. Natural Environment

The site includes hypersaline mud flats, man-made active 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, wet spoil berms associated with remnant canals, and upland spoil areas.

2. Listed Species

Listed species known to occur at the site or associated linear features 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, white-crowned pigeon, and bald eagle. 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 any 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 Process

Site selection included the following criteria: existing transmission and transportation infrastructure to support new generation, the size and seclusion of the site, Southeastern Florida regional load and generation balance, system 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 South Florida.

l. Projected 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 and 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

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.

Turkey Point Units 6 & 7 will employ Best Management Practices plans and Spill Prevention, Control, and Countermeasure plans to prevent and control the inadvertent release of pollutants.

p. Fuel Delivery, Storage, Waste Disposal, and Pollution Control

The Turkey Point Units 6 & 7 reactors will contain enriched uranium fuel assemblies. New 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 (DOT) and NRC regulations. Spent fuel assemblies 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 a permitted 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 (DOE) 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 Expected: October 2018

COL Application for Units 6 & 7 Submitted to the NRC: June 2009.

COL received: 2nd Quarter 2018 (Projected)

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.

Underground Injection Control exploratory well: issued in 2010, and a permit to convert the exploratory well, to an injection well and to operationally test the system: issued in 2013.

Federal Aviation Administration permits for the containment structure: originally issued in 2009, renewed in 2012, and again in 2015.

IV.F.2 Potential Sites

Fifteen (15) counties are currently identified as Potential Sites for future generation and storage additions to meet FPL's projected capacity and energy needs.[10] 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

[10] As has been described in previous FPL Site Plans, FPL also considers a number of other locations as possible sites for future generation additions. These include the remainder of FPL'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 FPL and its customers.

water quantities discussed below are in reference to universal solar PV generation rather than for gas-fired 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 considers each site to be equally viable. The Potential Sites briefly discussed below are presented in alphabetical order.

Potential Site # 1: Baker County

FPL is currently evaluating potential sites in Baker County for a future PV facility. No specific locations have been selected at this time.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

c. Environmental Features

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

d. Water Quantities Required

Cooling: Not Applicable for PV
Process: Not Applicable for PV
Potable: Minimal
Panel Cleaning: Minimal and only in absence of sufficient rainfall

e. Supply Sources

Cooling: Not Applicable for PV
Process: Not Applicable for PV
Potable: Minimal
Panel Cleaning: Minimal, trucked in if and when needed

Potential Site # 2: Charlotte County

FPL is currently evaluating potential sites in Charlotte County for a future PV facility. No specific locations have been selected at this time.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

c. Environmental Features

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

d. Water Quantities Required

Cooling: Not Applicable for PV
Process: Not Applicable for PV
Potable: Minimal
Panel Cleaning: Minimal and only in absence of sufficient rainfall

e. Supply Sources

Cooling: Not Applicable for PV
Process: Not Applicable for PV
Potable: Minimal
Panel Cleaning: Minimal, trucked in if and when needed

Potential Site # 3: Clay County

FPL is currently evaluating potential sites in Clay County for a future PV facility. No specific locations have been selected at this time.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

c. Environmental Features

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

d. Water Quantities Required

Cooling: Not Applicable for PV
Process: Not Applicable for PV
Potable: Minimal
Panel Cleaning: Minimal and only in absence of sufficient rainfall

e. Supply Sources

Cooling: Not Applicable for PV
Process: Not Applicable for PV
Potable: Minimal
Panel Cleaning: Minimal, trucked in if and when needed

Potential Site # 4: Desoto County

FPL is currently evaluating potential sites in Desoto County for a future PV facility. No specific locations have been selected at this time.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

c. Environmental Features

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

d. Water Quantities Required

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable: Minimal

Panel Cleaning: Minimal and only in absence of sufficient rainfall

e. Supply Sources

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable: Minimal

Panel Cleaning: Minimal, trucked in if and when needed

Potential Site # 5: Hendry County

FPL is currently evaluating potential sites in Hendry County for future PV facilities. No specific locations have been selected at this time. A site is also a potential site for new gas-fired generation.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

This information is not available at the time of publication of this report because specific sites have not been definitively selected.

c. Environmental Features

This information is not available at the time of publication of this report because specific sites have not been definitively selected.

d. Water Quantities Required

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable: Minimal

Panel Cleaning: Minimal and only in absence of sufficient rainfall

e. Supply Sources

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable: Minimal

Panel Cleaning: Minimal, trucked in if and when needed

Potential Site # 6: Manatee County

FPL is currently evaluating potential sites in Manatee County for a future PV facility. No specific locations have been selected at this time.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

c. Environmental Features

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

d. Water Quantities Required

Cooling: Not Applicable for PV
Process: Not Applicable for PV
Potable: Minimal
Panel Cleaning: Minimal and only in absence of sufficient rainfall

e. Supply Sources

Cooling: Not Applicable for PV
Process: Not Applicable for PV
Potable: Minimal
Panel Cleaning: Minimal, trucked in if and when needed

Potential Site # 7: Martin County

FPL is currently evaluating potential sites in Martin County for a future PV facility. No specific locations have been selected at this time.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

c. Environmental Features

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

d. Water Quantities Required

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable: Minimal

Panel Cleaning: Minimal and only in absence of sufficient rainfall

e. Supply Sources

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable: Minimal

Panel Cleaning: Minimal, trucked in if and when needed

Potential Site # 8: Miami-Dade County

FPL is currently evaluating other potential sites in Miami-Dade County for a future PV facility. No specific locations have been selected at this time.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

c. Environmental Features

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

d. Water Quantities Required

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable: Minimal

Panel Cleaning: Minimal and only in absence of sufficient rainfall

e. Supply Sources

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable: Minimal

Panel Cleaning: Minimal, trucked in if and when needed

Potential Site # 9: Nassau County

FPL is currently evaluating potential sites in Nassau County for a future PV facility. No specific locations have been selected at this time.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

c. Environmental Features

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

d. Water Quantities Required

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable: Minimal

Panel Cleaning: Minimal and only in absence of sufficient rainfall

e. Supply Sources

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable: Minimal

Panel Cleaning: Minimal, trucked in if and when needed

Potential Site # 10: Okeechobee County

FPL is currently evaluating potential sites in Okeechobee County for future PV facilities. No specific locations have been selected at this time. A site is also a potential site for new gas-fired generation.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

This information is not available at the time of publication of this report because specific sites have not been definitively selected.

c. Environmental Features

This information is not available at the time of publication of this report because specific sites have not been definitively selected.

d. Water Quantities Required

Cooling: Not Applicable for PV
Process: Not Applicable for PV
Potable: Minimal
Panel Cleaning: Minimal and only in absence of sufficient rainfall

e. Supply Sources

Cooling: Not Applicable for PV
Process: Not Applicable for PV
Potable: Minimal
Panel Cleaning: Minimal, trucked in if and when needed

Potential Site # 11: Palm Beach County

FPL is currently evaluating potential sites in Palm Beach County for a future PV facility. No specific locations have been selected at this time.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

c. Environmental Features

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

d. Water Quantities Required

Cooling: Not Applicable for PV
Process: Not Applicable for PV
Potable: Minimal
Panel Cleaning: Minimal and only in absence of sufficient rainfall

e. Supply Sources

Cooling: Not Applicable for PV
Process: Not Applicable for PV
Potable: Minimal
Panel Cleaning: Minimal, trucked in if and when needed

Potential Site # 12: Putnam County

FPL is currently evaluating potential sites in Putnam County for a future PV facility. No specific locations have been selected at this time.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

c. Environmental Features

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

d. Water Quantities Required

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable: Minimal

Panel Cleaning: Minimal and only in absence of sufficient rainfall

e. Supply Sources

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable: Minimal

Panel Cleaning: Minimal, trucked in if and when needed

Potential Site # 13: St. Johns County

FPL is currently evaluating potential sites in St. Johns County for a future PV facility. No specific locations have been selected at this time.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

c. Environmental Features

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

d. Water Quantities Required

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable: Minimal

Panel Cleaning: Minimal and only in absence of sufficient rainfall

e. Supply Sources

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable: Minimal

Panel Cleaning: Minimal, trucked in if and when needed

Potential Site # 14: Suwannee County

FPL is currently evaluating potential sites in Suwannee County for a future PV facility. No specific locations have been selected at this time.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

c. Environmental Features

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

d. Water Quantities Required

Cooling: Not Applicable for PV
Process: Not Applicable for PV
Potable: Minimal
Panel Cleaning: Minimal and only in absence of sufficient rainfall

e. Supply Sources

Cooling: Not Applicable for PV
Process: Not Applicable for PV
Potable: Minimal
Panel Cleaning: Minimal, trucked in if and when needed

Potential Site # 15: Union County

FPL is currently evaluating potential sites in Union County for a future PV facility. No specific locations have been selected at this time.

a. U.S. Geological Survey (USGS) Map

See Figures at the end of this chapter.

b. Existing Land Uses of Site and Adjacent Areas

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

c. Environmental Features

This information is not available at the time of publication of this report because a specific site has not been definitively selected.

d. Water Quantities Required

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable: Minimal

Panel Cleaning: Minimal and only in absence of sufficient rainfall

e. Supply Sources

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable: Minimal

Panel Cleaning: Minimal, trucked in if and when needed

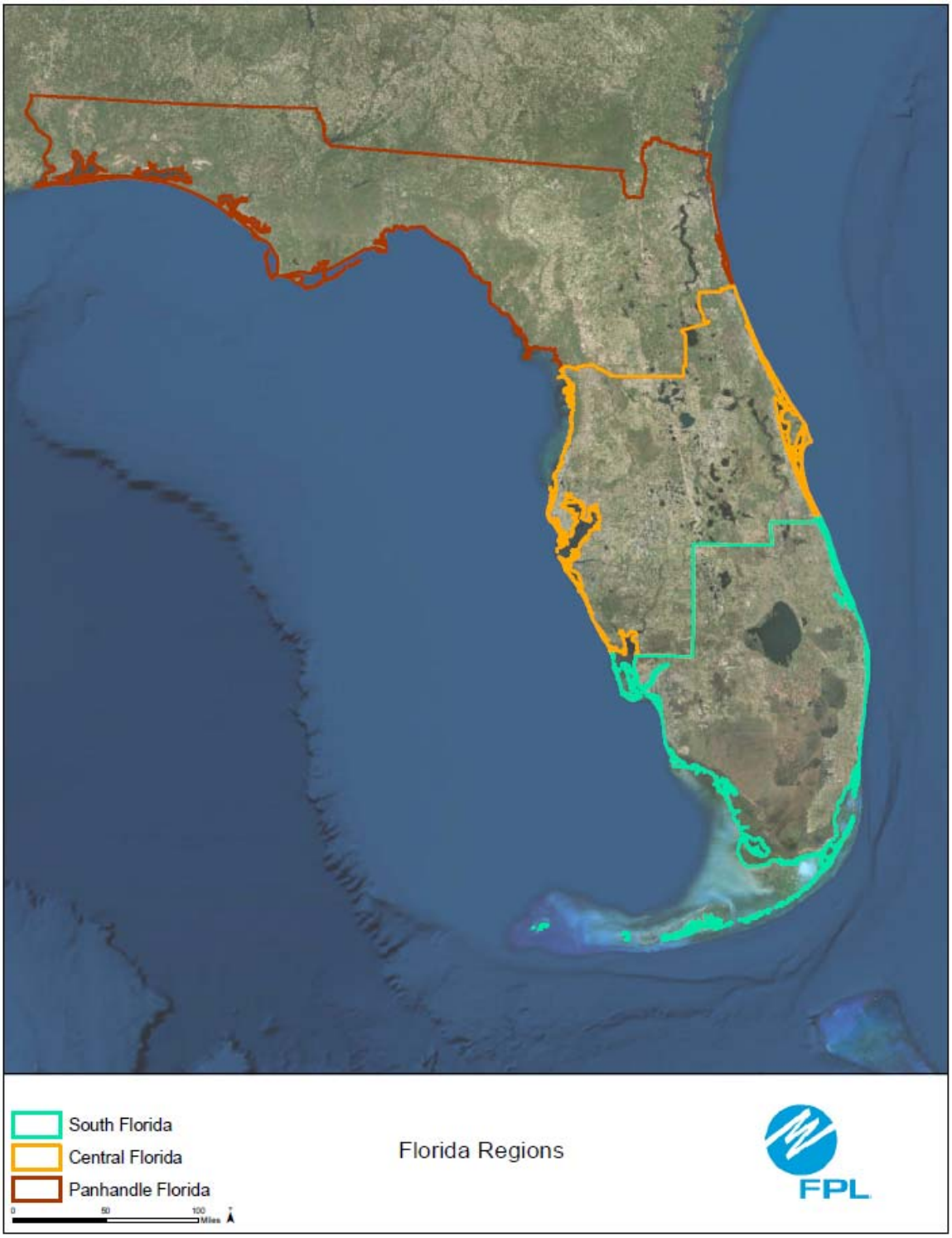
Environmental and Land Use Information:
Supplemental Information

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		

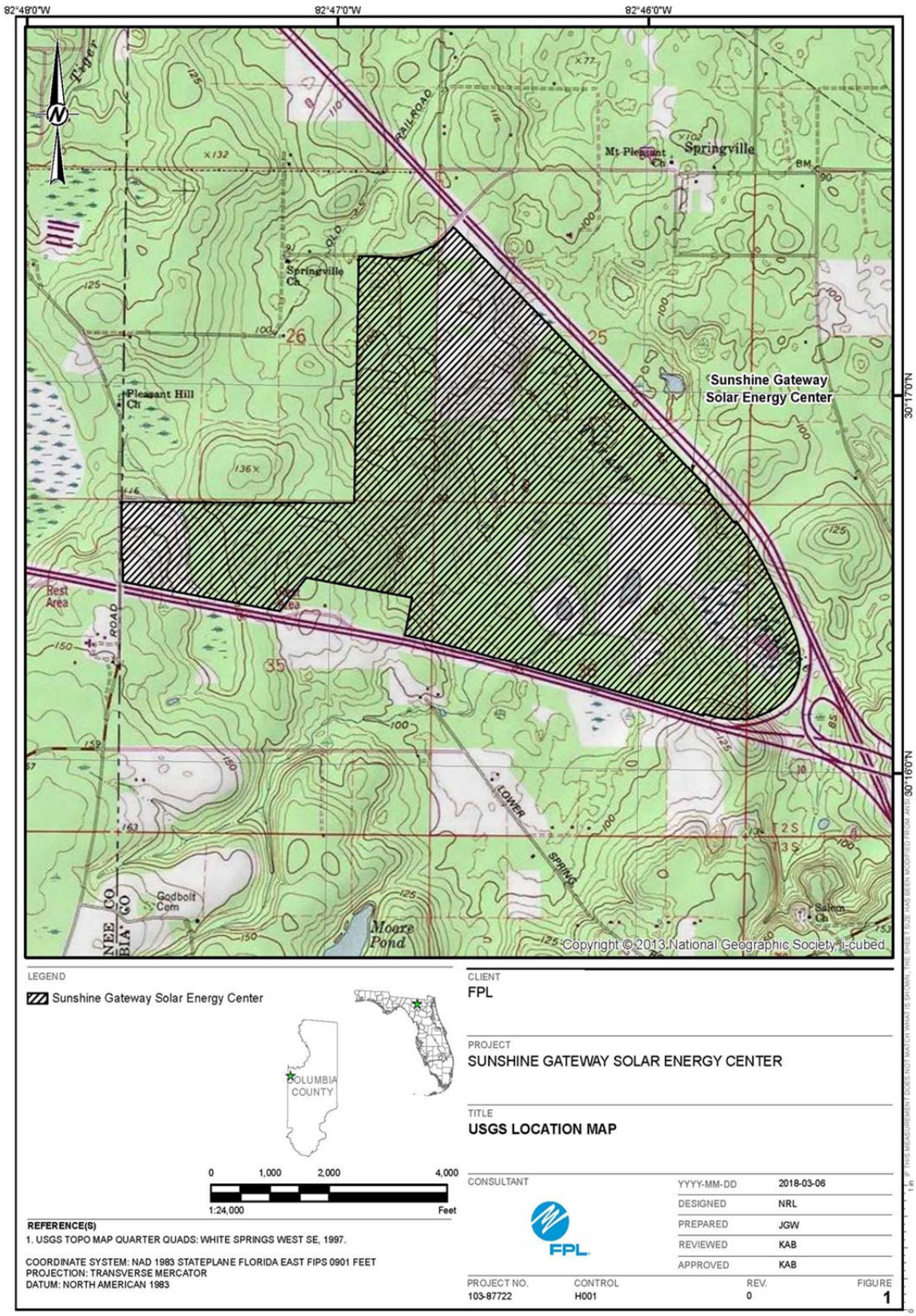
Note: This information is referred to in subsection k, Geological Features of Site and Adjacent Areas, for each of the 7 Preferred Sites.

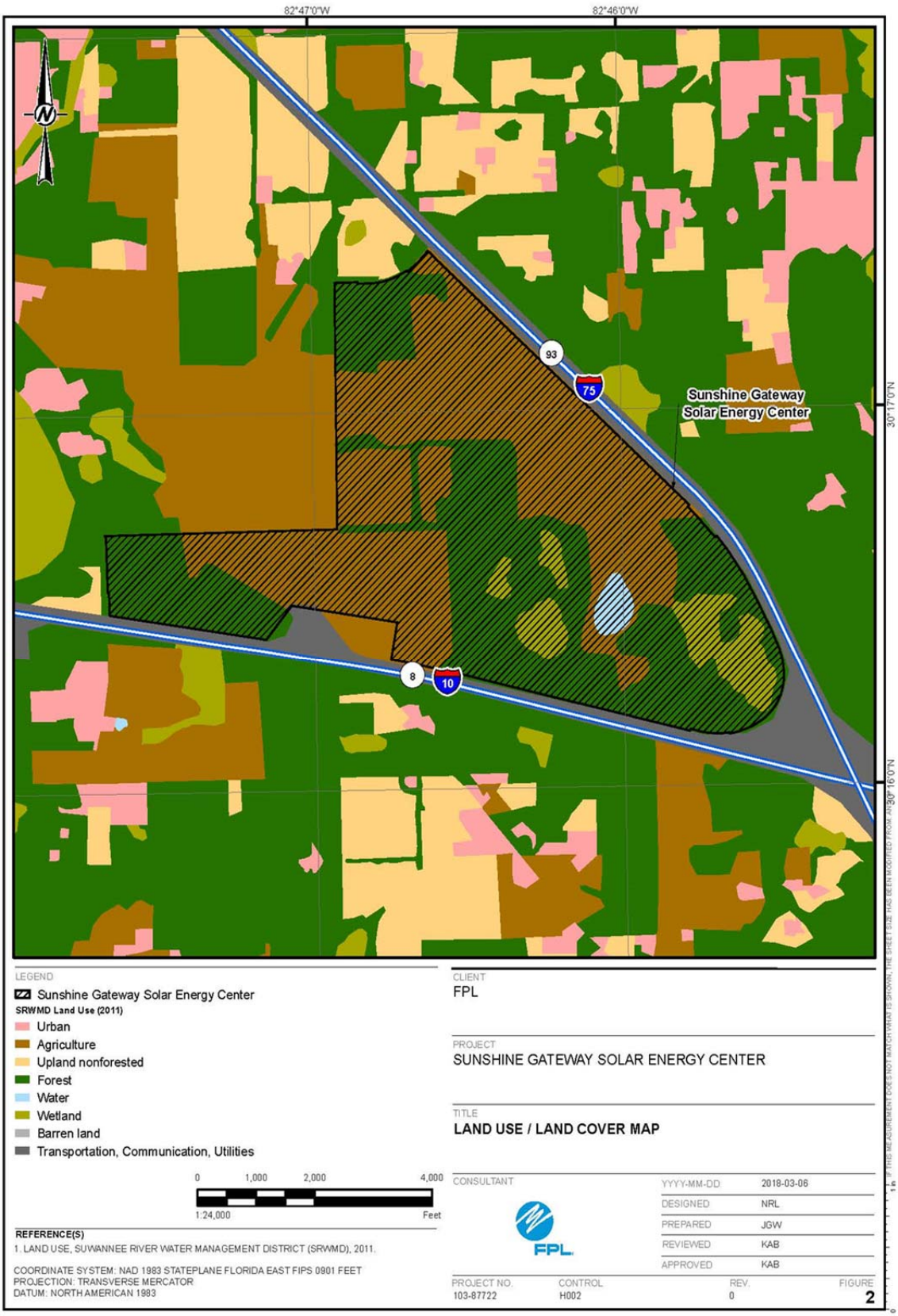


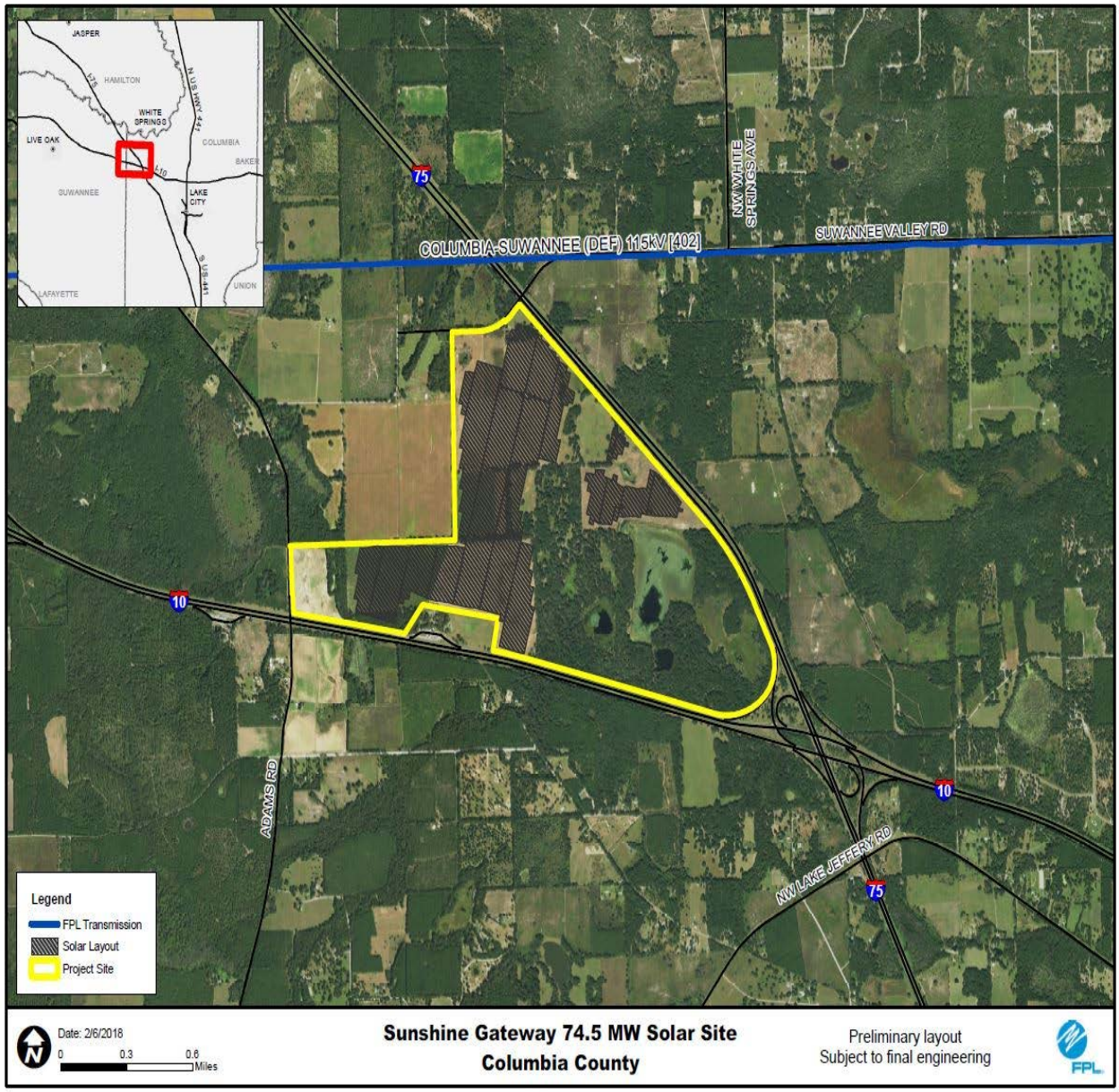
Note: This information is referred to in subsection k, Geological Features of Site and Adjacent Areas, for each of the 7 Preferred Sites.

Environmental and Land Use Information: Supplemental Information

Preferred Site # 1: Sunshine Gateway Solar, Columbia County

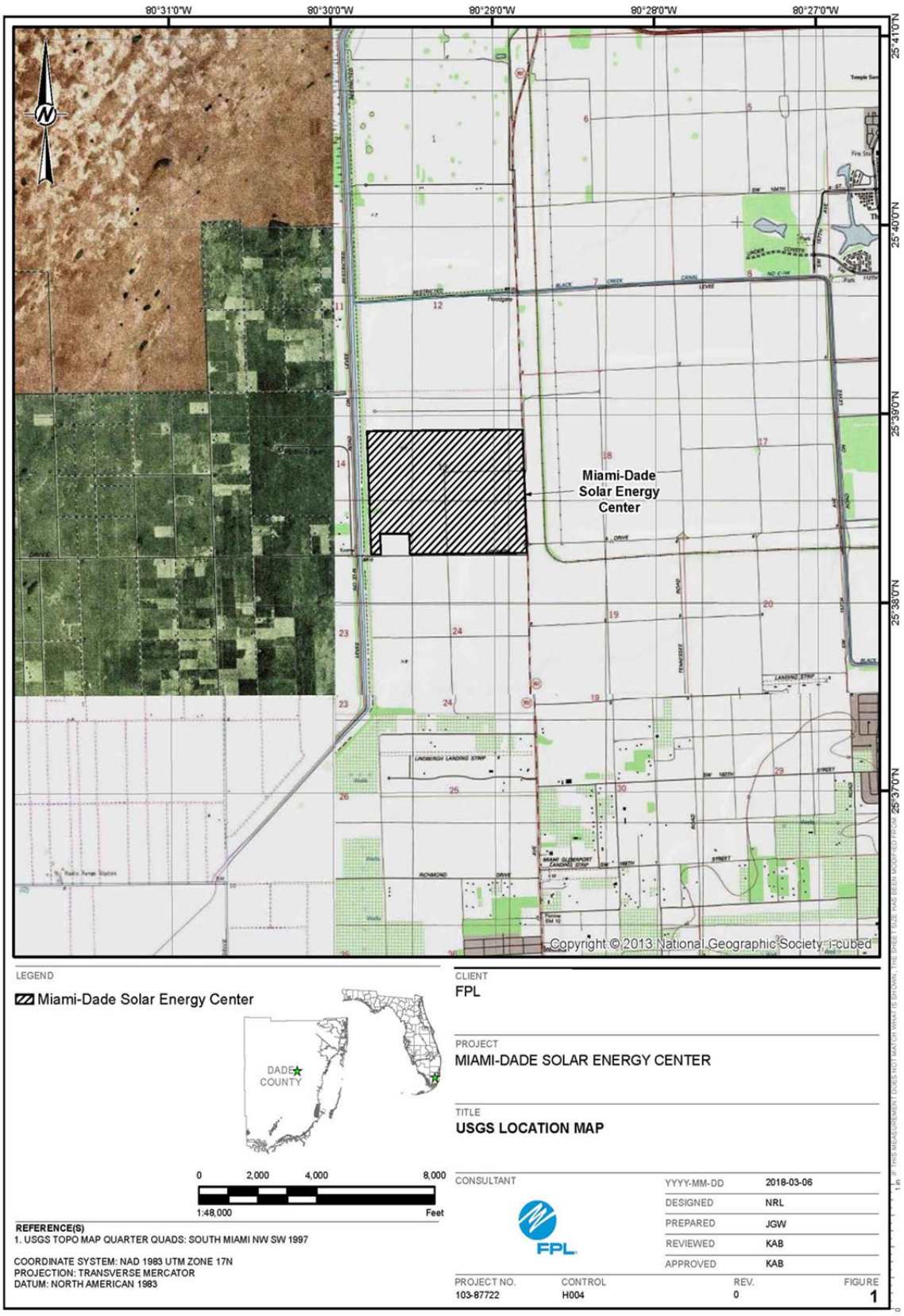

82°48'0"W
82°47'0"W
82°46'0"W
30°17'0"N
30°16'0"N
Sunshine Gateway
Solar Energy Center
Springville
Mt Pleasant Ch
Springville Ch
Pleasant Hill Ch
Godbolt Cem
Moore Pond
Salem Ch
Rest Area
RAILROAD
LOWER SPRING
T2S
T3S
Copyright © 2013 National Geographic Society, i-cubed
LEGEND
Sunshine Gateway Solar Energy Center
COLUMBIA COUNTY
0 1,000 2,000 4,000
1:24,000 Feet
REFERENCE(S)
1. USGS TOPO MAP QUARTER QUADS: WHITE SPRINGS WEST SE, 1997.
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
SUNSHINE GATEWAY SOLAR ENERGY CENTER
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-06
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL H001
REV. 0
FIGURE 1

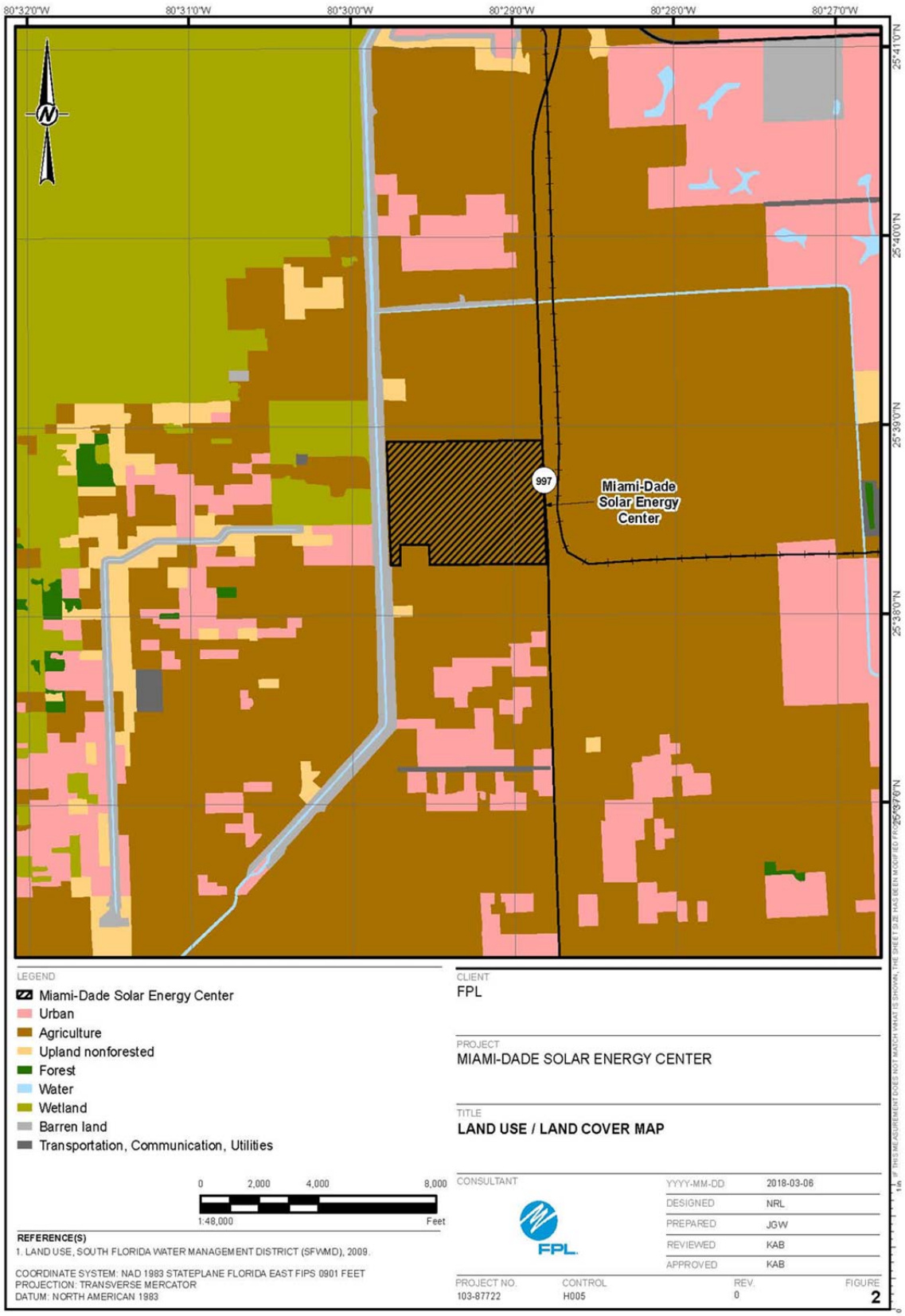

82°47'0"W
82°46'0"W
30°17'0"N
30°16'0"N
93
75
8
10
Sunshine Gateway
Solar Energy Center
LEGEND
Sunshine Gateway Solar Energy Center
SRWMD Land Use (2011)
Urban
Agriculture
Upland nonforested
Forest
Water
Wetland
Barren land
Transportation, Communication, Utilities
0 1,000 2,000 4,000
1:24,000 Feet
REFERENCE(S)
1. LAND USE, SUWANNEE RIVER WATER MANAGEMENT DISTRICT (SRWMD), 2011.
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
SUNSHINE GATEWAY SOLAR ENERGY CENTER
TITLE
LAND USE / LAND COVER MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-06
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL H002
REV. 0
FIGURE 2

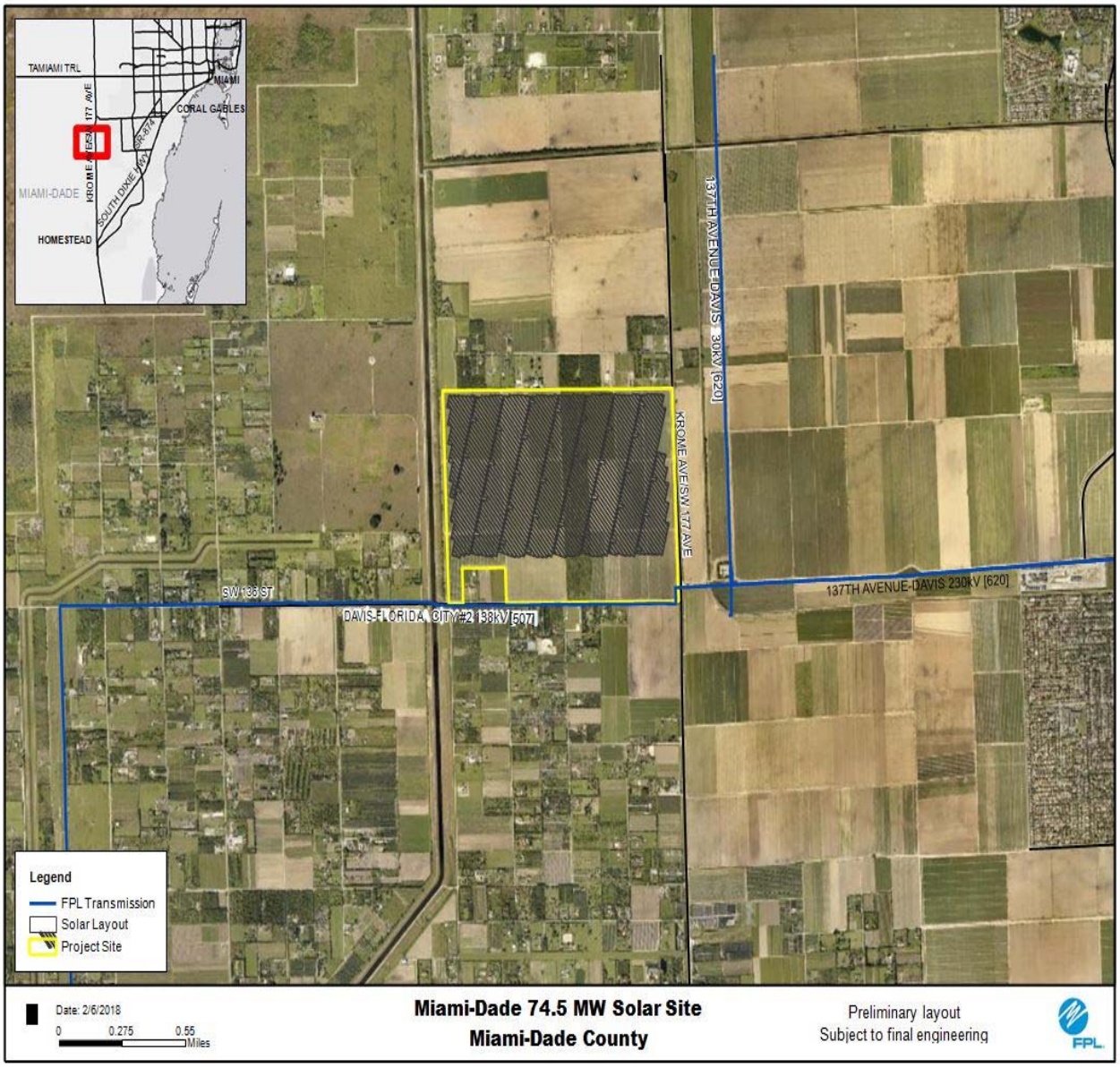

JASPER
HAMILTON
WHITE SPRINGS
LIVE OAK
COLUMBIA
BAKER
SUWANNEE
LAKE CITY
LAFAYETTE
UNION
75
NW WHITE SPRINGS AVE
SUWANNEE VALLEY RD
COLUMBIA-SUWANNEE (DEF) 115kV [402]
10
ADAMS RD
NW LAKE JEFFERY RD
Legend
FPL Transmission
Solar Layout
Project Site
Date: 2/6/2018
0 0.3 0.6 Miles
Sunshine Gateway 74.5 MW Solar Site
Columbia County
Preliminary layout
Subject to final engineering
FPL

Environmental and Land Use Information: Supplemental Information

Preferred Site # 2: Miami-Dade Solar, Miami-Dade County

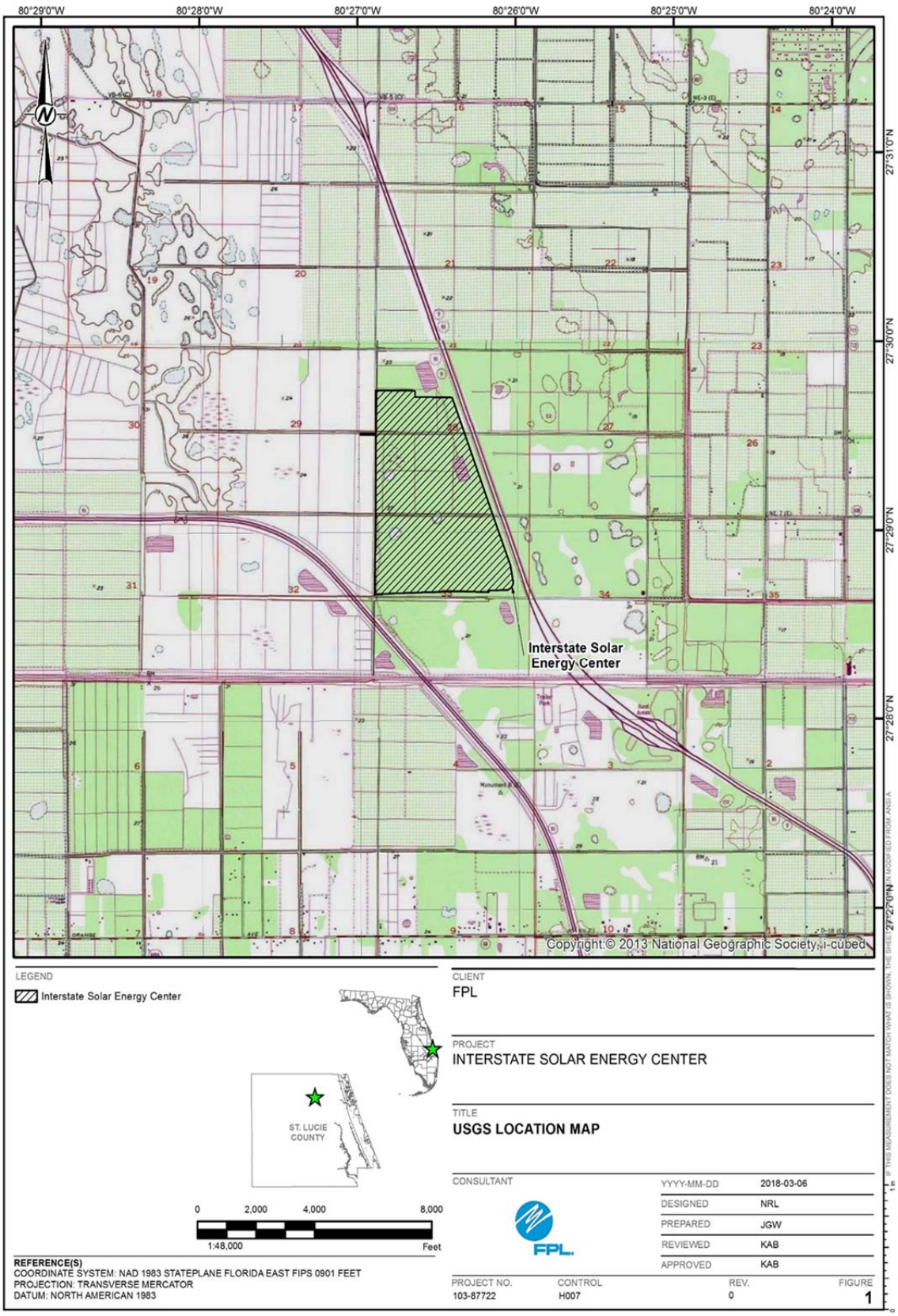

80°31'0"W
80°30'0"W
80°29'0"W
80°28'0"W
80°27'0"W
25°41'0"N
25°40'0"N
25°39'0"N
25°38'0"N
25°37'0"N
Miami-Dade Solar Energy Center
Copyright © 2013 National Geographic Society, i-cubed
LEGEND
Miami-Dade Solar Energy Center
DADE COUNTY
0 2,000 4,000 8,000
1:48,000 Feet
REFERENCE(S)
1. USGS TOPO MAP QUARTER QUADS: SOUTH MIAMI NW SW 1997
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
MIAMI-DADE SOLAR ENERGY CENTER
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-06
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL H004
REV. 0
FIGURE 1

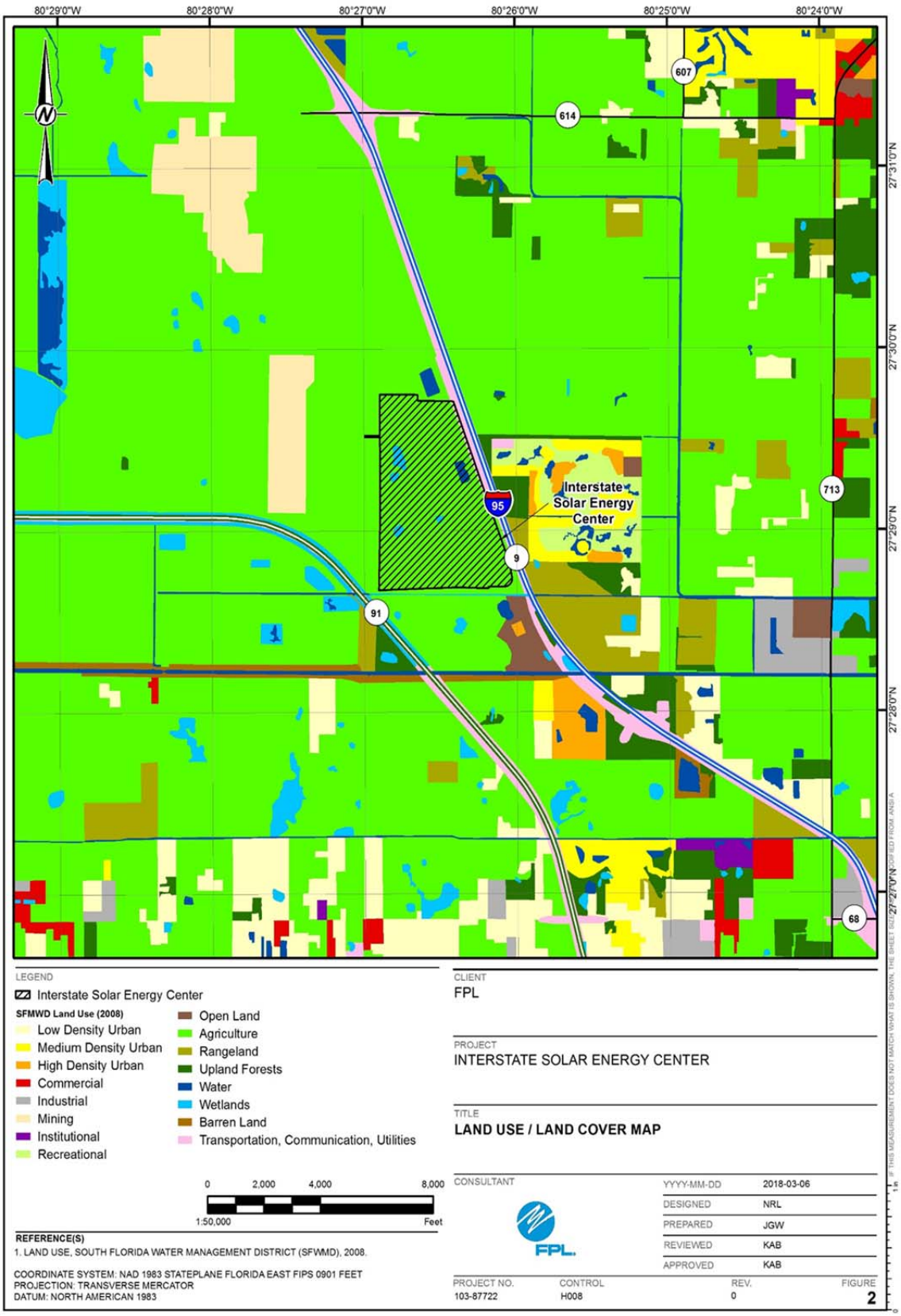

80°32'0"W
80°31'0"W
80°30'0"W
80°29'0"W
80°28'0"W
80°27'0"W
25°41'0"N
25°40'0"N
25°39'0"N
25°38'0"N
25°37'0"N
997
Miami-Dade Solar Energy Center
LEGEND
Miami-Dade Solar Energy Center
Urban
Agriculture
Upland nonforested
Forest
Water
Wetland
Barren land
Transportation, Communication, Utilities
0 2,000 4,000 8,000
1:48,000 Feet
REFERENCE(S)
1. LAND USE, SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD), 2009.
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
MIAMI-DADE SOLAR ENERGY CENTER
TITLE
LAND USE / LAND COVER MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-06
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL H005
REV. 0
FIGURE 2

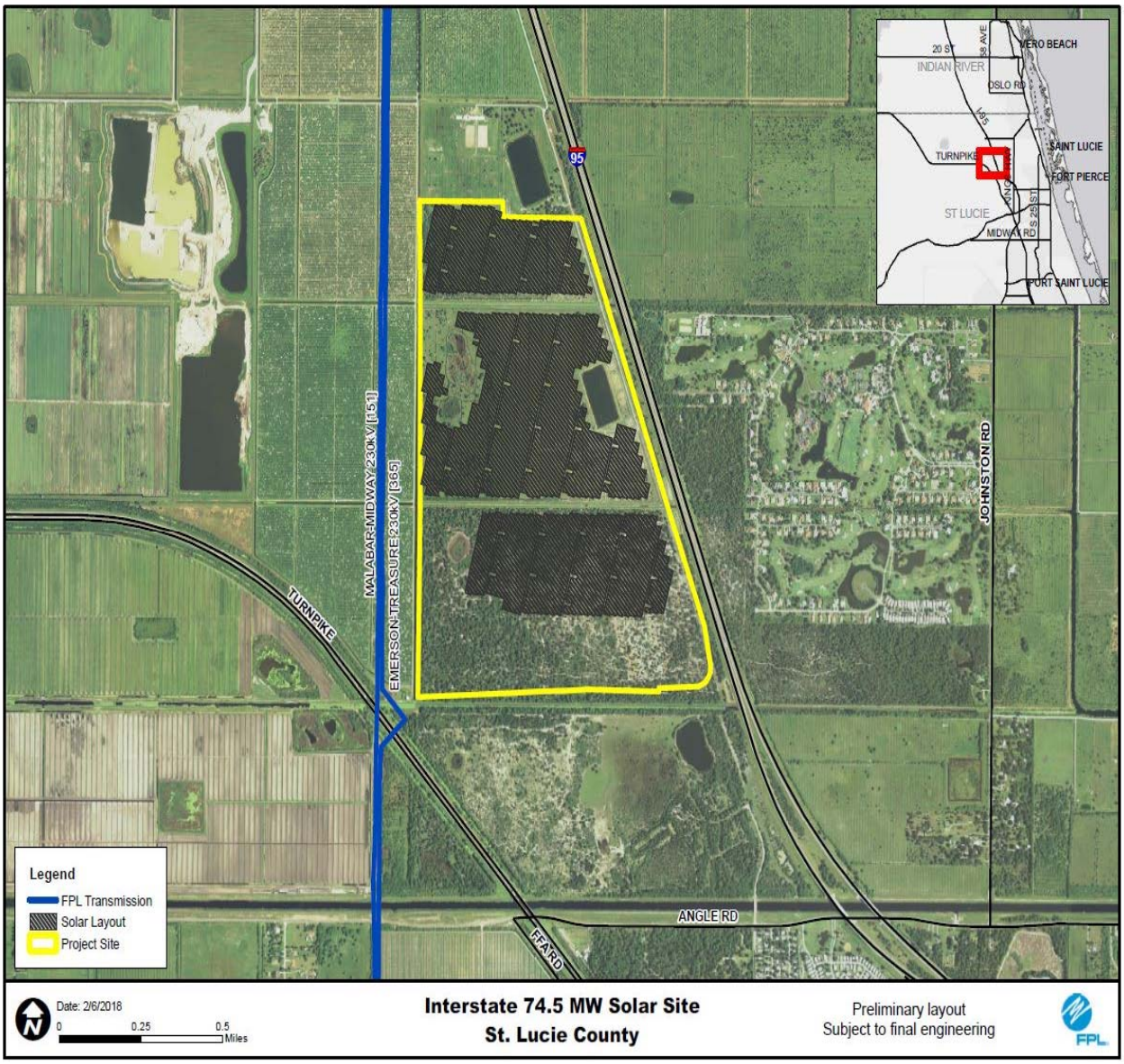

TAMIAMI TRL
MIAMI
CORAL GABLES
KROME AVE/SW 177 AVE
SOUTH DIXIE HWY/US-1
MIAMI-DADE
HOMESTEAD
137TH AVENUE-DAVIS 230kV [620]
KROME AVE/SW 177 AVE
SW 136 ST
DAVIS-FLORIDA CITY #2 138kV [507]
137TH AVENUE-DAVIS 230kV [620]
Legend
FPL Transmission
Solar Layout
Project Site
Date: 2/6/2018
0 0.275 0.55
Miles
Miami-Dade 74.5 MW Solar Site
Miami-Dade County
Preliminary layout
Subject to final engineering
FPL

Environmental and Land Use Information: Supplemental Information

Preferred Site # 3: Interstate Solar, St. Lucie County

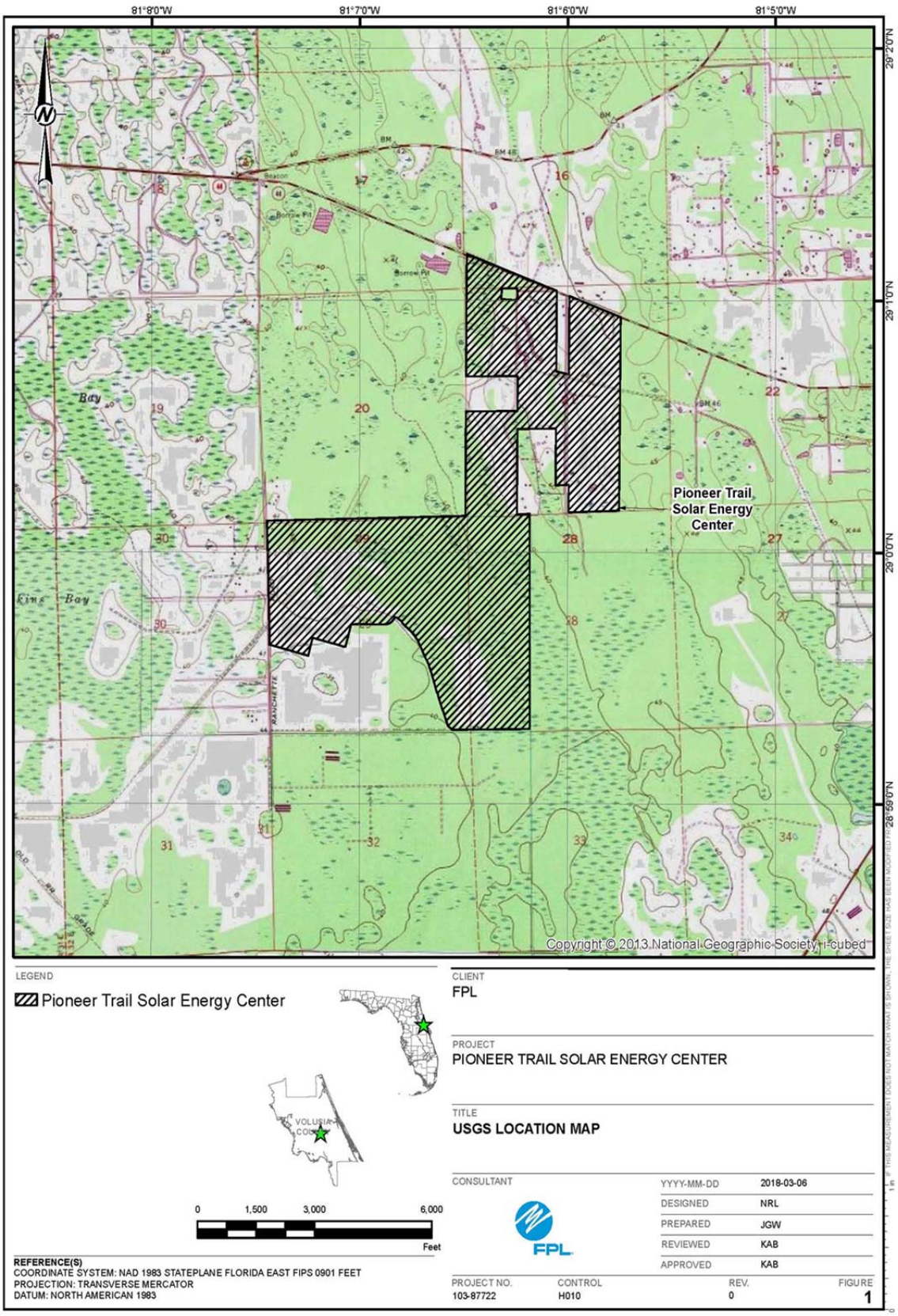

80°29'0"W
80°28'0"W
80°27'0"W
80°26'0"W
80°25'0"W
80°24'0"W
27°31'0"N
27°30'0"N
27°29'0"N
27°28'0"N
27°27'0"N
N
Interstate Solar
Energy Center
Copyright © 2013 National Geographic Society, i-cubed
LEGEND
Interstate Solar Energy Center
ST. LUCIE
COUNTY
0
2,000
4,000
8,000
1:48,000
Feet
REFERENCE(S)
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
INTERSTATE SOLAR ENERGY CENTER
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-06
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL H007
REV. 0
FIGURE 1

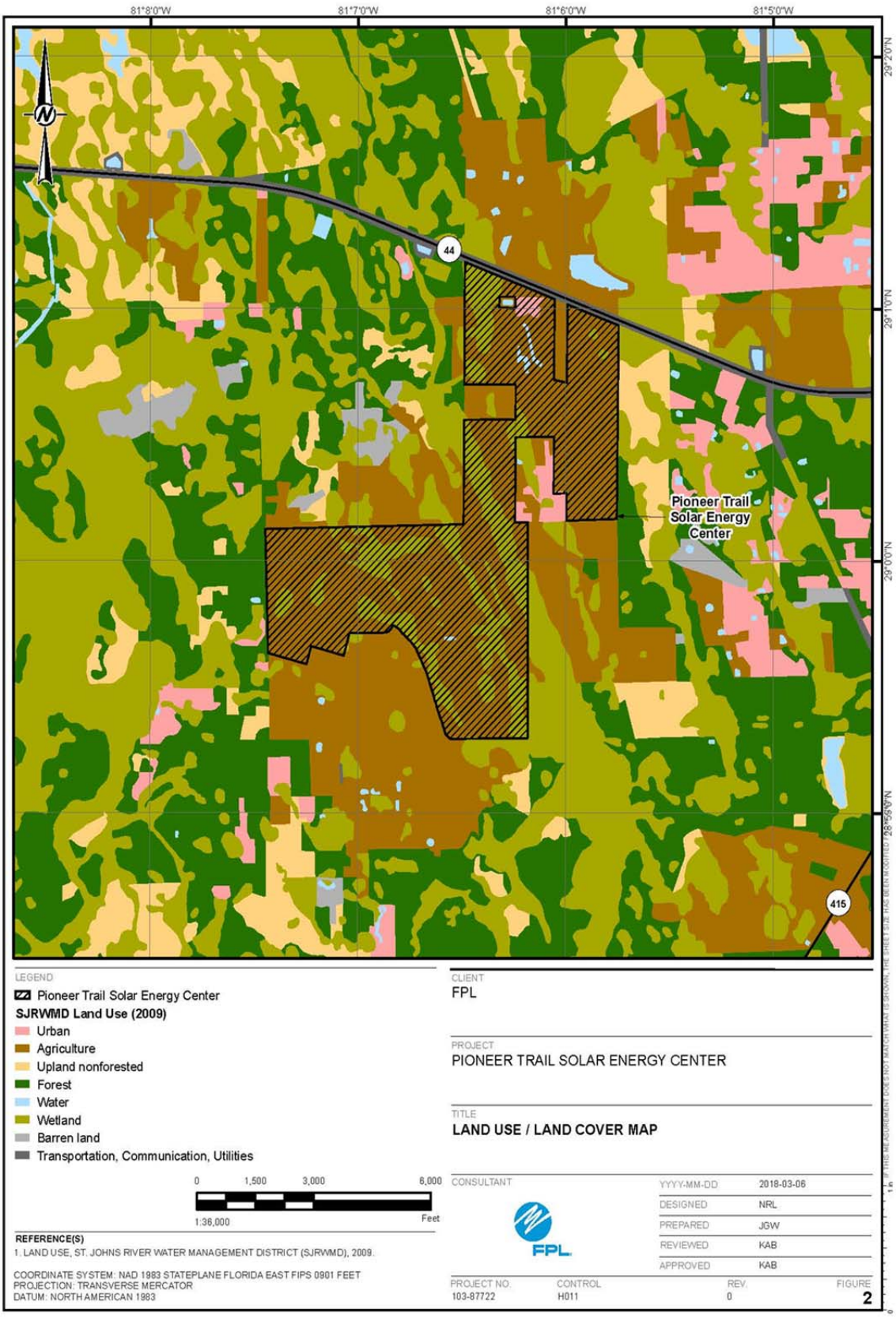

80°29'0"W
80°28'0"W
80°27'0"W
80°26'0"W
80°25'0"W
80°24'0"W
27°31'0"N
27°30'0"N
27°29'0"N
27°28'0"N
27°27'0"N
N
607
614
713
95
9
91
68
Interstate
Solar Energy
Center
LEGEND
Interstate Solar Energy Center
SFMWD Land Use (2008)
Low Density Urban
Medium Density Urban
High Density Urban
Commercial
Industrial
Mining
Institutional
Recreational
Open Land
Agriculture
Rangeland
Upland Forests
Water
Wetlands
Barren Land
Transportation, Communication, Utilities
0
2,000
4,000
8,000
1:50,000
Feet
REFERENCE(S)
1. LAND USE, SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD), 2008.
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
INTERSTATE SOLAR ENERGY CENTER
TITLE
LAND USE / LAND COVER MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-06
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL H008
REV. 0
FIGURE 2

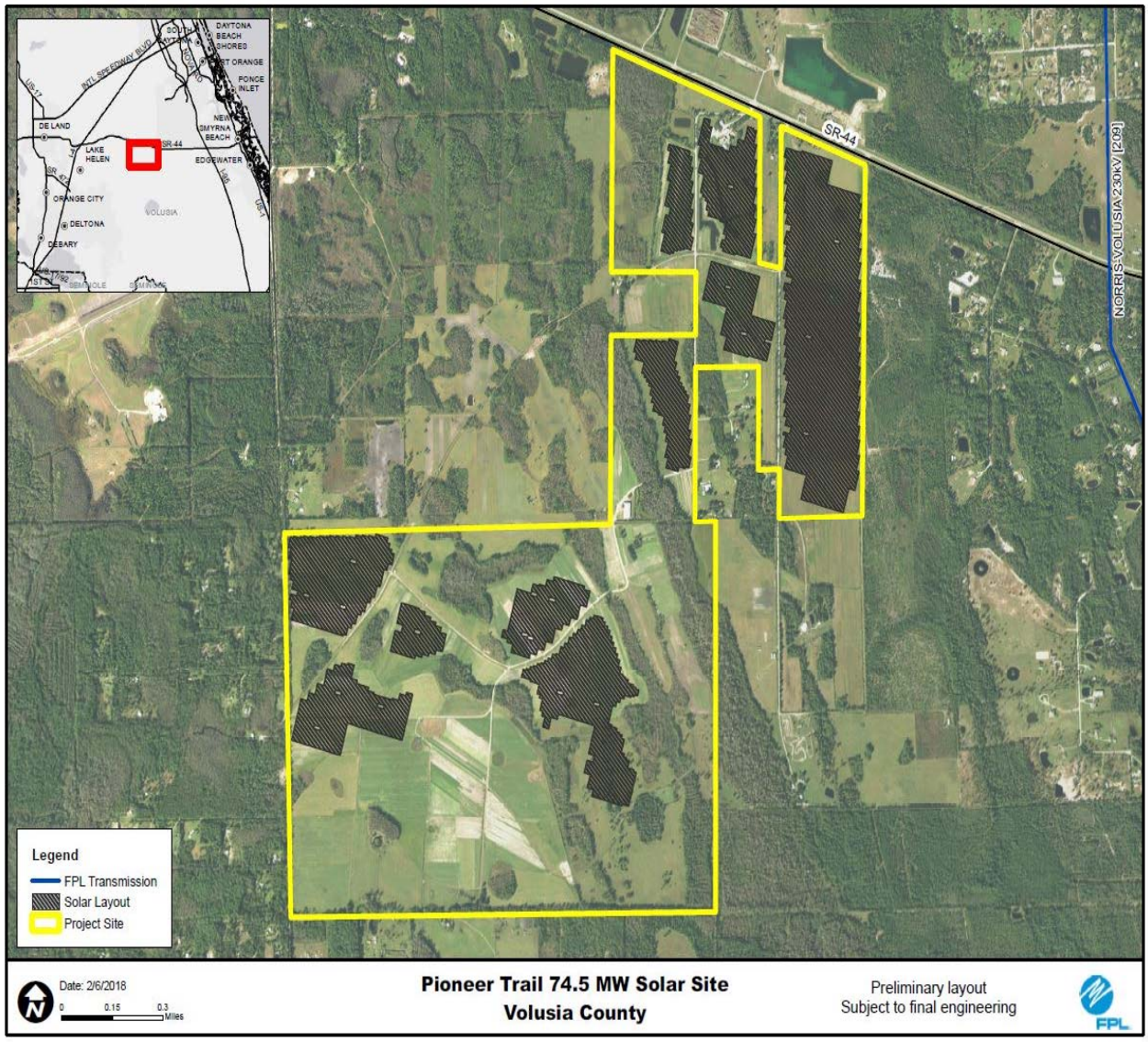

VERO BEACH
20 ST
INDIAN RIVER
OSLO RD
SAINT LUCIE
TURNPIKE
FORT PIERCE
ST LUCIE
MIDWAY RD
PORT SAINT LUCIE
95
MALABAR-MIDWAY 230kV [151]
EMERSON-TREASURE 230kV [365]
JOHNSTON RD
TURNPIKE
ANGLE RD
FPL RD
Legend
FPL Transmission
Solar Layout
Project Site
Date: 2/6/2018
0
0.25
0.5
Miles
Interstate 74.5 MW Solar Site
St. Lucie County
Preliminary layout
Subject to final engineering
FPL

Environmental and Land Use Information: Supplemental Information

Preferred Site # 4: Pioneer Trail Solar, Volusia County

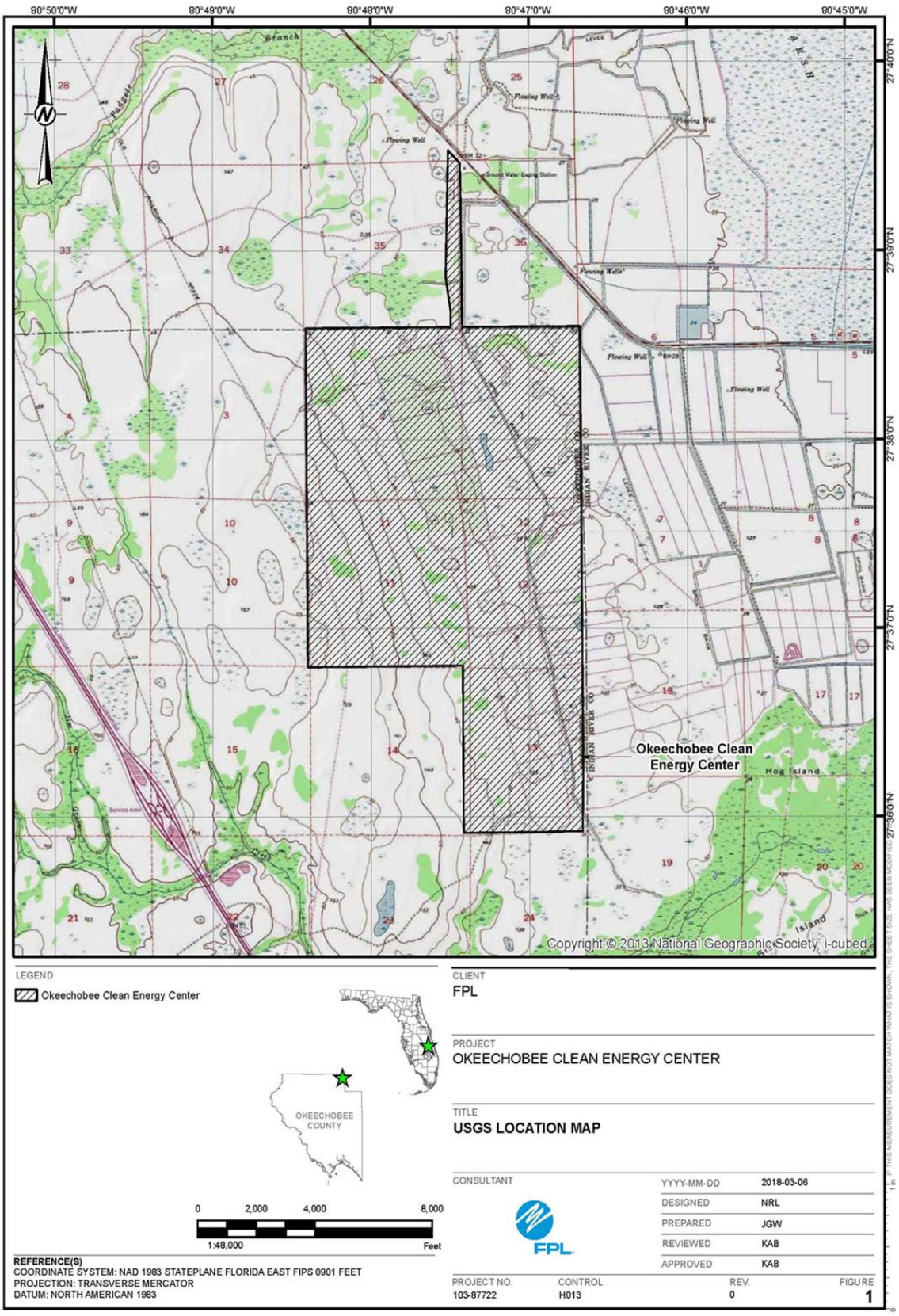

81°8'0"W
81°7'0"W
81°6'0"W
81°5'0"W
29°2'0"N
29°1'0"N
29°0'0"N
28°59'0"N
N
Pioneer Trail Solar Energy Center
Bay
Fins Bay
Copyright © 2013 National Geographic Society, i-cubed
LEGEND
Pioneer Trail Solar Energy Center
0
1,500
3,000
6,000
Feet
REFERENCE(S)
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
PIONEER TRAIL SOLAR ENERGY CENTER
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-06
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL H010
REV. 0
FIGURE 1

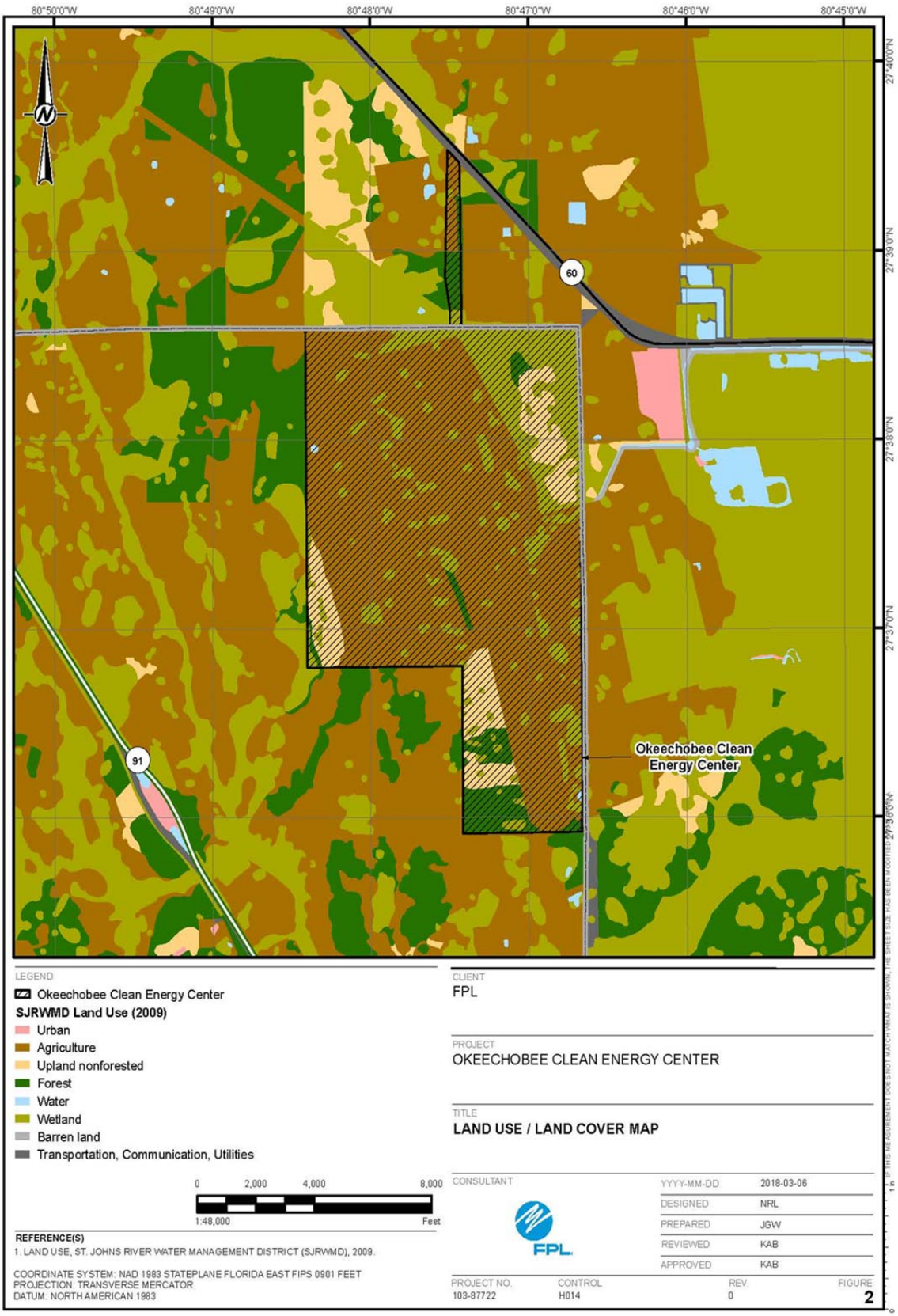

81°8'0"W
81°7'0"W
81°6'0"W
81°5'0"W
29°2'0"N
29°1'0"N
29°0'0"N
28°59'0"N
N
44
415
Pioneer Trail Solar Energy Center
LEGEND
Pioneer Trail Solar Energy Center
SJRWMD Land Use (2009)
Urban
Agriculture
Upland nonforested
Forest
Water
Wetland
Barren land
Transportation, Communication, Utilities
0
1,500
3,000
6,000
1:36,000
Feet
REFERENCE(S)
1. LAND USE, ST. JOHNS RIVER WATER MANAGEMENT DISTRICT (SJRWMD), 2009.
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
PIONEER TRAIL SOLAR ENERGY CENTER
TITLE
LAND USE / LAND COVER MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-08
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL H011
REV. 0
FIGURE 2

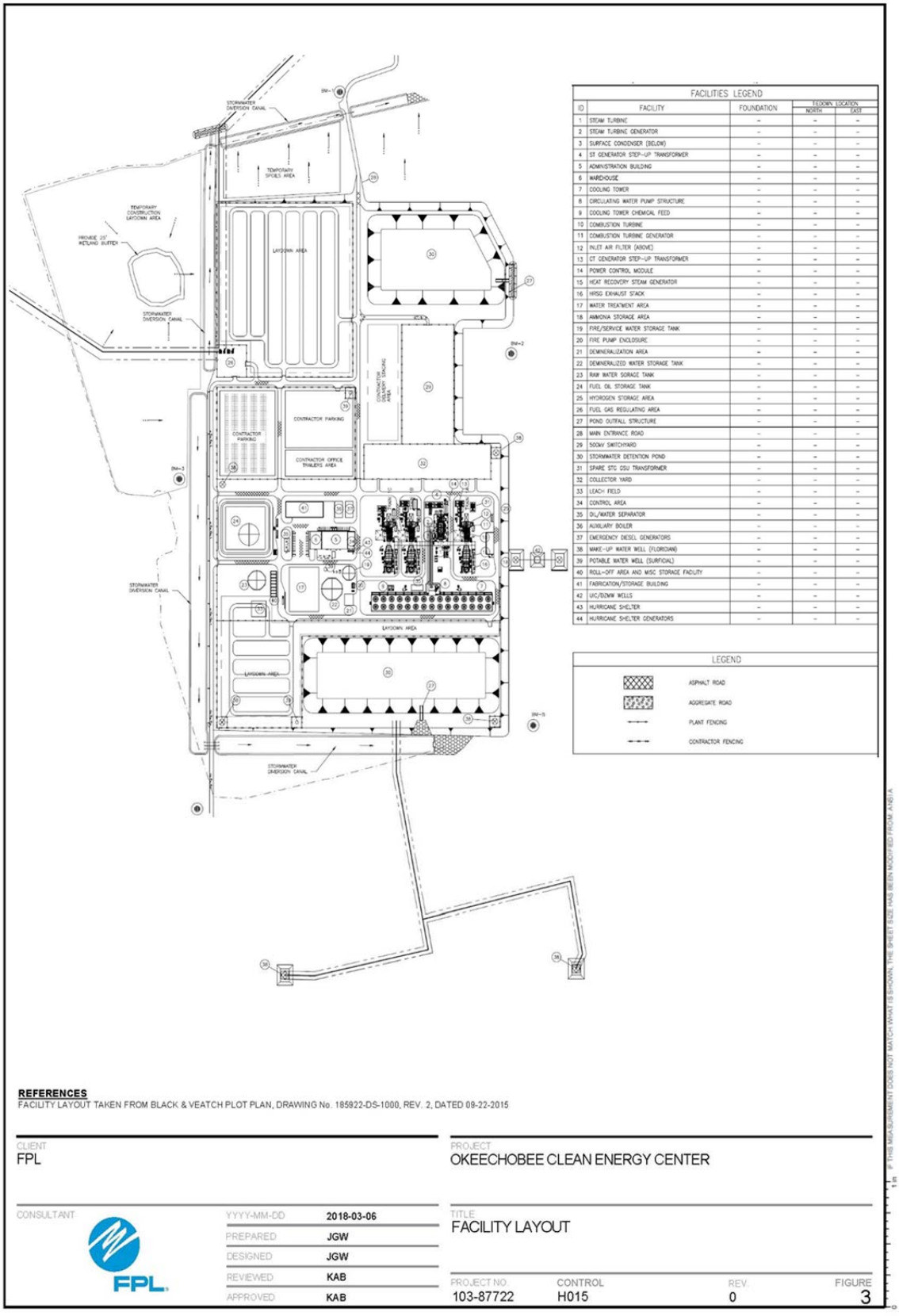

SR-44
NORRIS-VOLUSIA 230kV [209]
Legend
FPL Transmission
Solar Layout
Project Site
Date: 2/6/2018
0 0.15 0.3 Miles
Pioneer Trail 74.5 MW Solar Site
Volusia County
Preliminary layout
Subject to final engineering
FPL

Environmental and Land Use Information: Supplemental Information

Preferred Site # 5: Okeechobee Site, Okeechobee County


80°50'0"W
80°49'0"W
80°48'0"W
80°47'0"W
80°46'0"W
80°45'0"W
27°40'0"N
27°39'0"N
27°38'0"N
27°37'0"N
27°36'0"N
Okeechobee Clean Energy Center
Hog Island
Copyright © 2013 National Geographic Society, i-cubed
LEGEND
Okeechobee Clean Energy Center
OKEECHOBEE COUNTY
0 2,000 4,000 8,000
1:48,000 Feet
REFERENCE(S)
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
OKEECHOBEE CLEAN ENERGY CENTER
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-06
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL H013
REV. 0
FIGURE 1


80°50'0"W
80°49'0"W
80°48'0"W
80°47'0"W
80°46'0"W
80°45'0"W
27°40'0"N
27°39'0"N
27°38'0"N
27°37'0"N
27°36'0"N
N
60
91
Okeechobee Clean Energy Center
LEGEND
Okeechobee Clean Energy Center
SJRWMD Land Use (2009)
Urban
Agriculture
Upland nonforested
Forest
Water
Wetland
Barren land
Transportation, Communication, Utilities
0 2,000 4,000 8,000
1:48,000 Feet
REFERENCE(S)
1. LAND USE, ST. JOHNS RIVER WATER MANAGEMENT DISTRICT (SJRWMD), 2009.
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
OKEECHOBEE CLEAN ENERGY CENTER
TITLE
LAND USE / LAND COVER MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-06
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL H014
REV. 0
FIGURE 2



FACILITIES LEGEND

ID	FACILITY	FOUNDATION	FLOOR% LOCATION NORTH	FLOOR% LOCATION EAST
1	STEAM TURBINE	–	–	–
2	STEAM TURBINE GENERATOR	–	–	–
3	SURFACE CONDENSER (BELOW)	–	–	–
4	ST GENERATOR STEP-UP TRANSFORMER	–	–	–
5	ADMINISTRATION BUILDING	–	–	–
6	WAREHOUSE	–	–	–
7	COOLING TOWER	–	–	–
8	CIRCULATING WATER PUMP STRUCTURE	–	–	–
9	COOLING TOWER CHEMICAL FEED	–	–	–
10	COMBUSTION TURBINE	–	–	–
11	COMBUSTION TURBINE GENERATOR	–	–	–
12	INLET AIR FILTER (ABOVE)	–	–	–
13	CT GENERATOR STEP-UP TRANSFORMER	–	–	–
14	POWER CONTROL MODULE	–	–	–
15	HEAT RECOVERY STEAM GENERATOR	–	–	–
16	HRSG EXHAUST STACK	–	–	–
17	WATER TREATMENT AREA	–	–	–
18	AMMONIA STORAGE AREA	–	–	–
19	FIRE/SERVICE WATER STORAGE TANK	–	–	–
20	FIRE PUMP ENCLOSURE	–	–	–
21	DEMINERALIZATION AREA	–	–	–
22	DEMINERALIZED WATER STORAGE TANK	–	–	–
23	RAW WATER SORAGE TANK	–	–	–
24	FUEL OIL STORAGE TANK	–	–	–
25	HYDROGEN STORAGE AREA	–	–	–
26	FUEL GAS REGULATING AREA	–	–	–
27	POND OUTFALL STRUCTURE	–	–	–
28	MAIN ENTRANCE ROAD	–	–	–
29	500kV SWITCHYARD	–	–	–
30	STORMWATER DETENTION POND	–	–	–
31	SPARE STG GSU TRANSFORMER	–	–	–
32	COLLECTOR YARD	–	–	–
33	LEACH FIELD	–	–	–
34	CONTROL AREA	–	–	–
35	OIL/WATER SEPARATOR	–	–	–
36	AUXILIARY BOILER	–	–	–
37	EMERGENCY DIESEL GENERATORS	–	–	–
38	MAKE-UP WATER WELL (FLORIDAN)	–	–	–
39	POTABLE WATER WELL (SURFICIAL)	–	–	–
40	ROLL-OFF AREA AND MISC STORAGE FACILITY	–	–	–
41	FABRICATION/STORAGE BUILDING	–	–	–
42	UIC/D2MW WELLS	–	–	–
43	HURRICANE SHELTER	–	–	–
44	HURRICANE SHELTER GENERATORS	–	–	–

LEGEND

- ASPHALT ROAD
- AGGREGATE ROAD
- PLANT FENCING
- CONTRACTOR FENCING

REFERENCES
FACILITY LAYOUT TAKEN FROM BLACK & VEATCH PLOT PLAN, DRAWING No. 185922-DS-1000, REV. 2, DATED 09-22-2015

CLIENT: FPL

PROJECT: OKEECHOBEE CLEAN ENERGY CENTER

CONSULTANT:

YYYY-MM-DD	2018-03-06
PREPARED	JGW
DESIGNED	JGW
REVIEWED	KAB
APPROVED	KAB

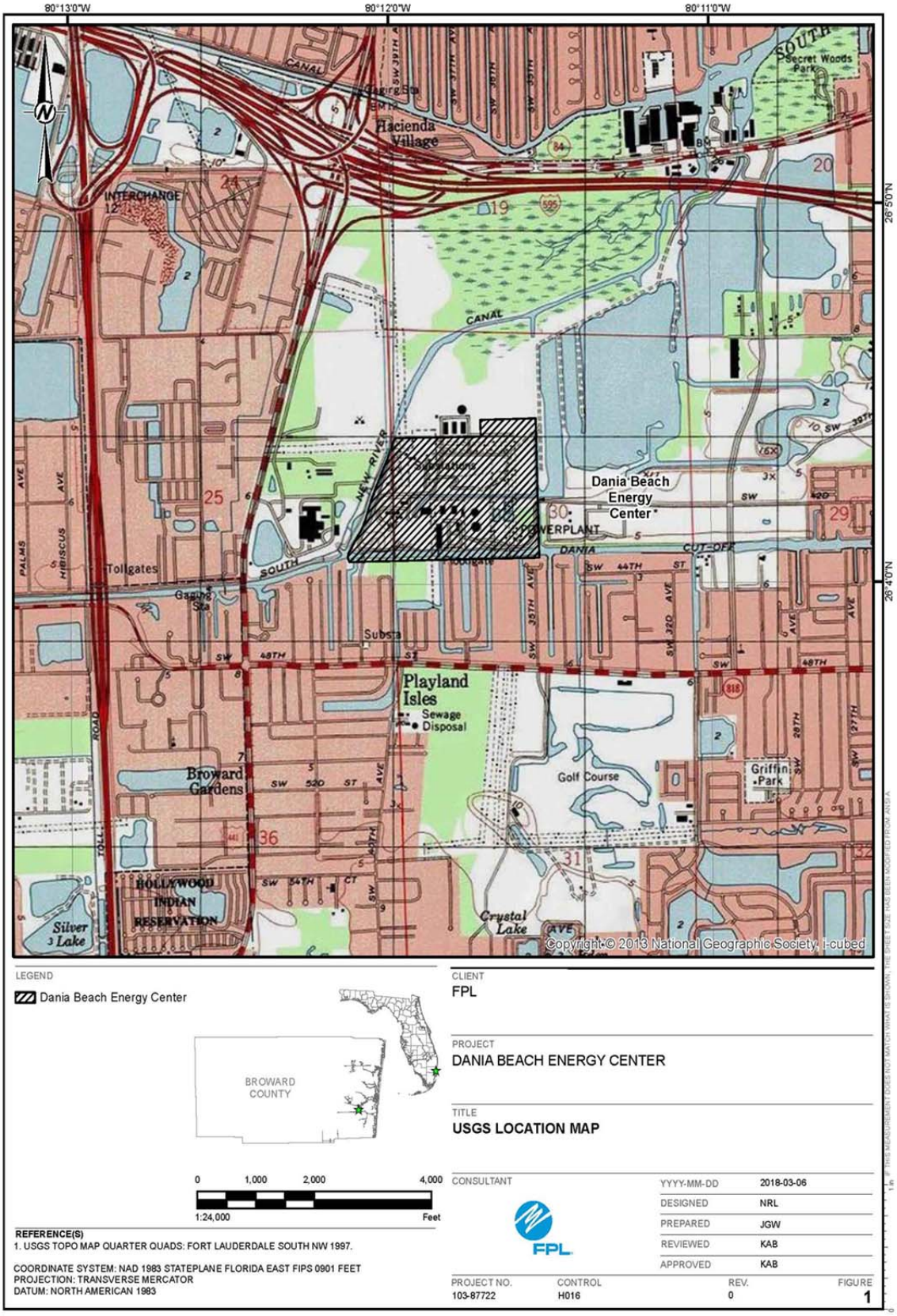
TITLE: FACILITY LAYOUT

PROJECT NO.	CONTROL	REV.	FIGURE
103-87722	H015	0	3

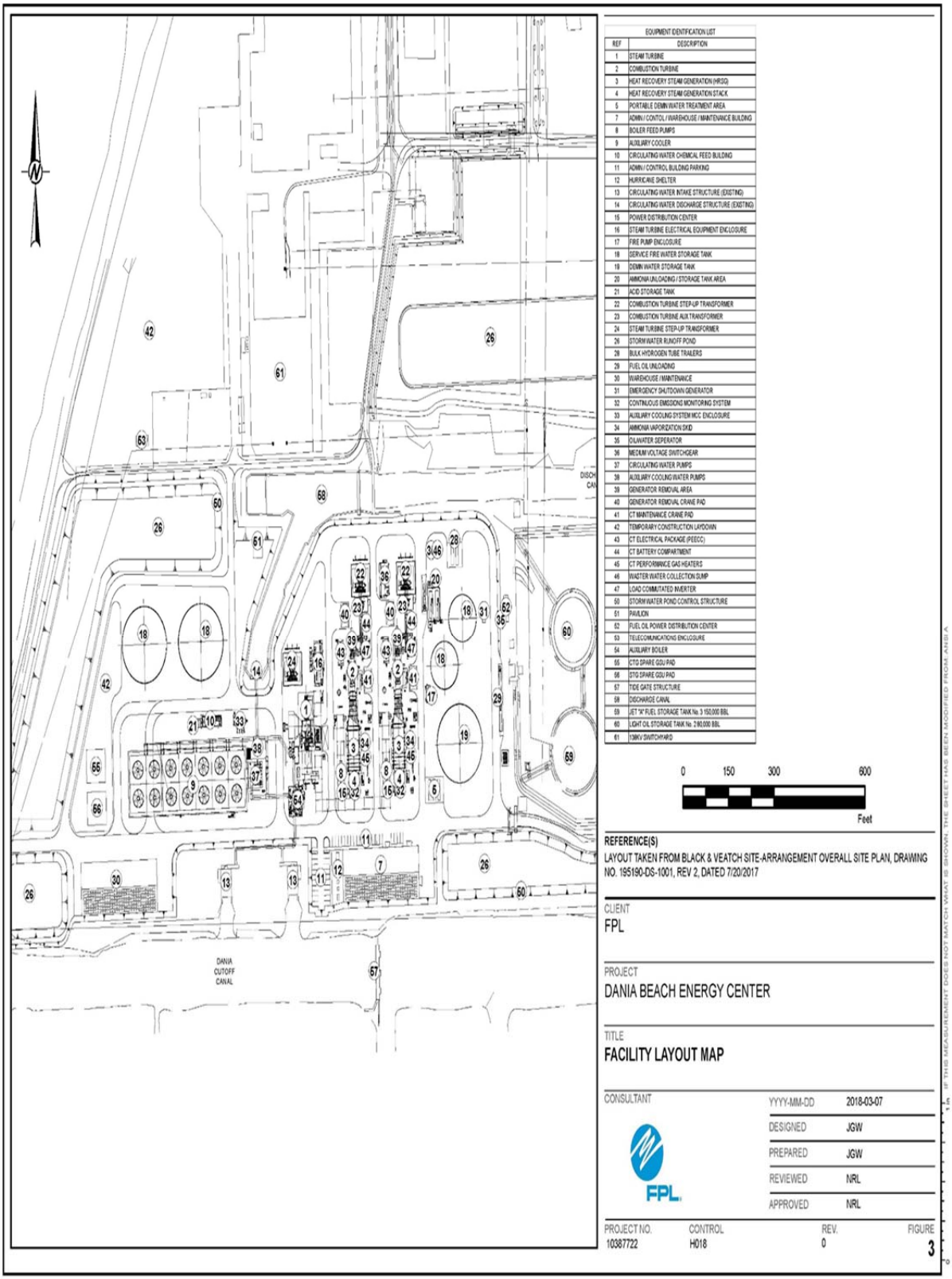
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI A

Environmental and Land Use Information: Supplemental Information

Preferred Site # 6: Lauderdale Plant Modernization (Dania Beach Clean Energy Center Unit 7), Broward County


80°13'0"W
80°12'0"W
80°11'0"W
26°5'0"N
26°4'0"N
Hacienda Village
Secret Woods Park
INTERCHANGE 12
CANAL
NEW RIVER
Dania Beach Energy Center
POWERPLANT
DANIA CUT-OFF
Tollgates
SOUTH
Gasing Sta
Substa
Playland Isles
Sewage Disposal
Broward Gardens
Golf Course
Griffin Park
HOLLYWOOD INDIAN RESERVATION
Silver Lake
Crystal Lake
Copyright © 2013 National Geographic Society, i-cubed
LEGEND
Dania Beach Energy Center
BROWARD COUNTY
0 1,000 2,000 4,000
1:24,000 Feet
REFERENCE(S)
1. USGS TOPO MAP QUARTER QUADS: FORT LAUDERDALE SOUTH NW 1997.
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
DANIA BEACH ENERGY CENTER
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-06
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL H016
REV. 0
FIGURE 1


80°12'0"W
26°4'0"N
441
7
818
Dania Beach Energy Center
LEGEND
Dania Beach Energy Center
SFWMD Land Use (2008)
Medium Density Urban
High Density Urban
Commercial
Industrial
Open Land
Rangeland
Upland Forests
Water
Wetlands
Transportation, Communication, Utilities
0 500 1,000 2,000
1:12,000 Feet
REFERENCE(S)
1. LAND USE, SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD), 2008.
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
DANIA BEACH ENERGY CENTER
TITLE
LAND USE / LAND COVER MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-06
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL H017
REV. 0
FIGURE 2
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI A
1 in
0



EQUIPMENT IDENTIFICATION LIST

REF	DESCRIPTION
1	STEAM TURBINE
2	COMBUSTION TURBINE
3	HEAT RECOVERY STEAM GENERATION (HRSG)
4	HEAT RECOVERY STEAM GENERATION STACK
5	PORTABLE DEMIN WATER TREATMENT AREA
7	ADMIN / CONTOL / WAREHOUSE / MAINTENANCE BUILDING
8	BOILER FEED PUMPS
9	AUXILIARY COOLER
10	CIRCULATING WATER CHEMICAL FEED BUILDING
11	ADMIN / CONTROL BUILDING PARKING
12	HURRICANE SHELTER
13	CIRCULATING WATER INTAKE STRUCTURE (EXISTING)
14	CIRCULATING WATER DISCHARGE STRUCTURE (EXISTING)
15	POWER DISTRIBUTION CENTER
16	STEAM TURBINE ELECTRICAL EQUIPMENT ENCLOSURE
17	FIRE PUMP ENCLOSURE
18	SERVICE FIRE WATER STORAGE TANK
19	DEMIN WATER STORAGE TANK
20	AMMONIA UNLOADING / STORAGE TANK AREA
21	ACID STORAGE TANK
22	COMBUSTION TURBINE STEP-UP TRANSFORMER
23	COMBUSTION TURBINE AUX TRANSFORMER
24	STEAM TURBINE STEP-UP TRANSFORMER
26	STORM WATER RUNOFF POND
28	BULK HYDROGEN TUBE TRAILERS
29	FUEL OIL UNLOADING
30	WAREHOUSE / MAINTENANCE
31	EMERGENCY SHUTDOWN GENERATOR
32	CONTINUOUS EMISSIONS MONITORING SYSTEM
33	AUXILIARY COOLING SYSTEM MCC ENCLOSURE
34	AMMONIA VAPORIZATION SKID
35	OILWATER SEPERATOR
36	MEDIUM VOLTAGE SWITCHGEAR
37	CIRCULATING WATER PUMPS
38	AUXILIARY COOLING WATER PUMPS
39	GENERATOR REMOVAL AREA
40	GENERATOR REMOVAL CRANE PAD
41	CT MAINTENANCE CRANE PAD
42	TEMPORARY CONSTRUCTION LAYDOWN
43	CT ELECTRICAL PACKAGE (PEECC)
44	CT BATTERY COMPARTMENT
45	CT PERFORMANCE GAS HEATERS
46	WASTER WATER COLLECTION SUMP
47	LOAD COMMUTATED INVERTER
50	STORM WATER POND CONTROL STRUCTURE
51	PAVILION
52	FUEL OIL POWER DISTRIBUTION CENTER
53	TELECOMMUNICATIONS ENCLOSURE
54	AUXILIARY BOILER
55	CTG SPARE GSU PAD
56	STG SPARE GSU PAD
57	TIDE GATE STRUCTURE
58	DISCHARGE CANAL
59	JET "A" FUEL STORAGE TANK No. 3 150,000 BBL
60	LIGHT OIL STORAGE TANK No. 2 80,000 BBL
61	138KV SWITCHYARD

0 150 300 600

Feet

REFERENCE(S)

LAYOUT TAKEN FROM BLACK & VEATCH SITE-ARRANGEMENT OVERALL SITE PLAN, DRAWING NO. 195190-DS-1001, REV 2, DATED 7/20/2017

CLIENT

FPL

PROJECT

DANIA BEACH ENERGY CENTER

TITLE

FACILITY LAYOUT MAP

CONSULTANT

FPL

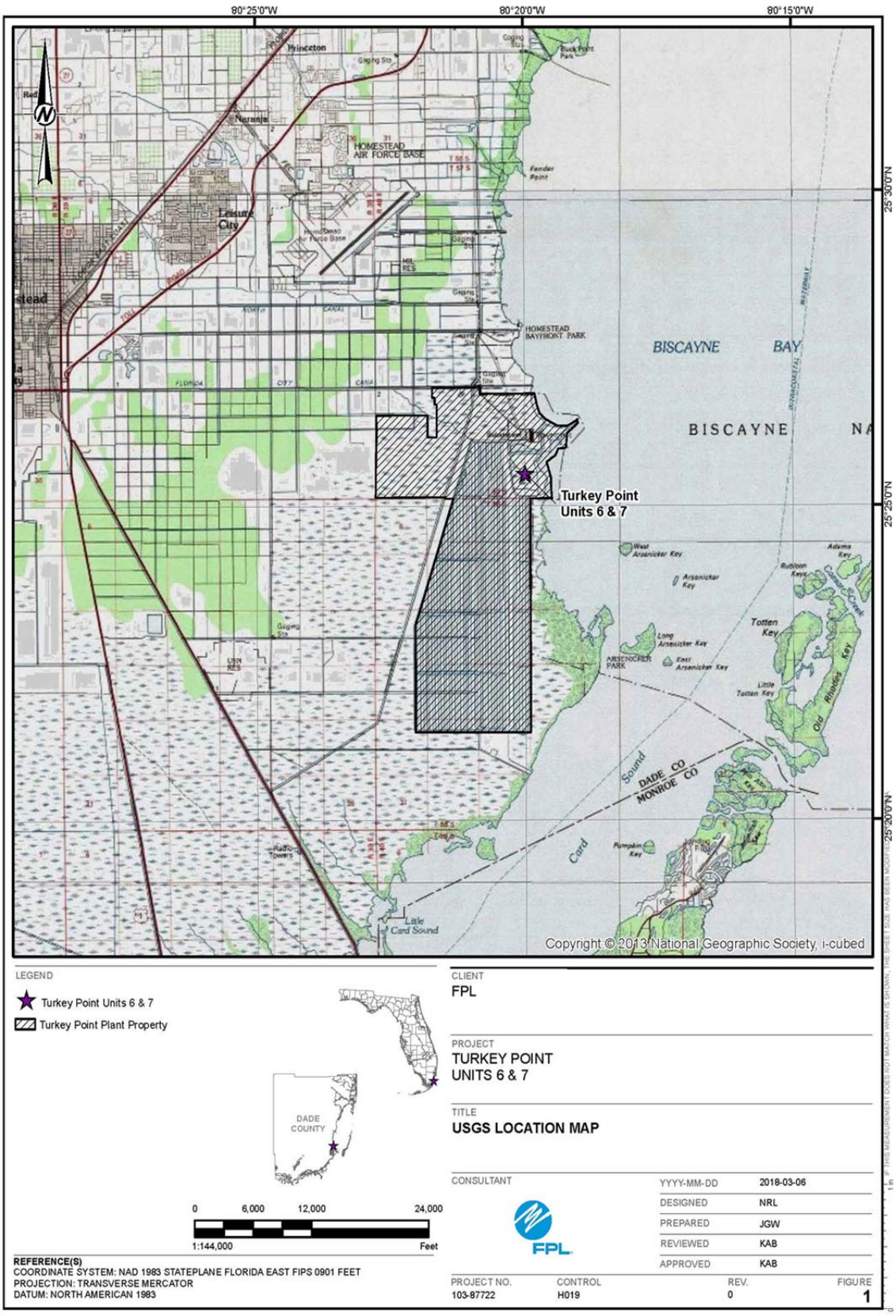
YYYY-MM-DD	2018-03-07
DESIGNED	JGW
PREPARED	JGW
REVIEWED	NRL
APPROVED	NRL

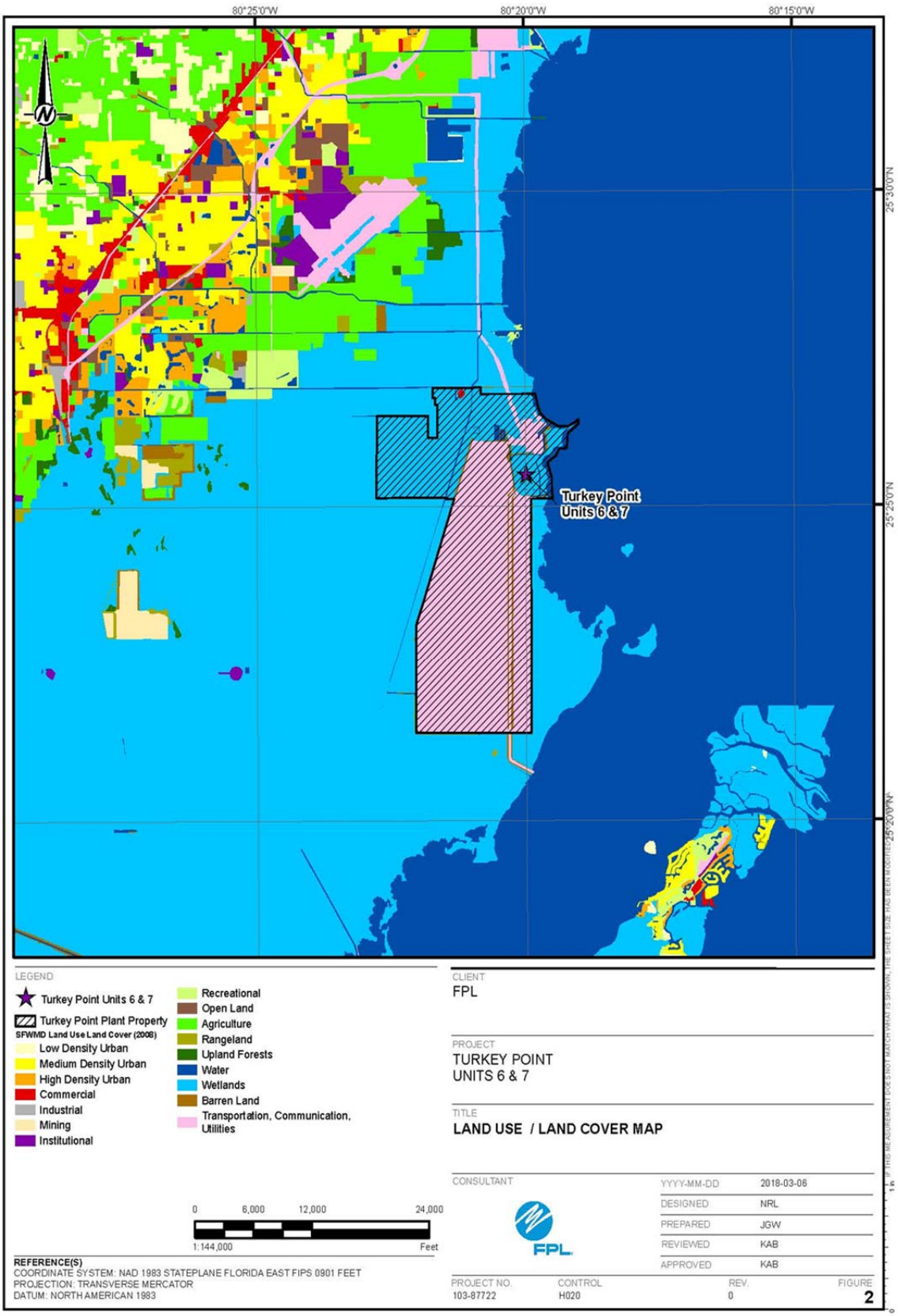
PROJECT NO.	CONTROL	REV.	FIGURE
10387722	H018	0	3

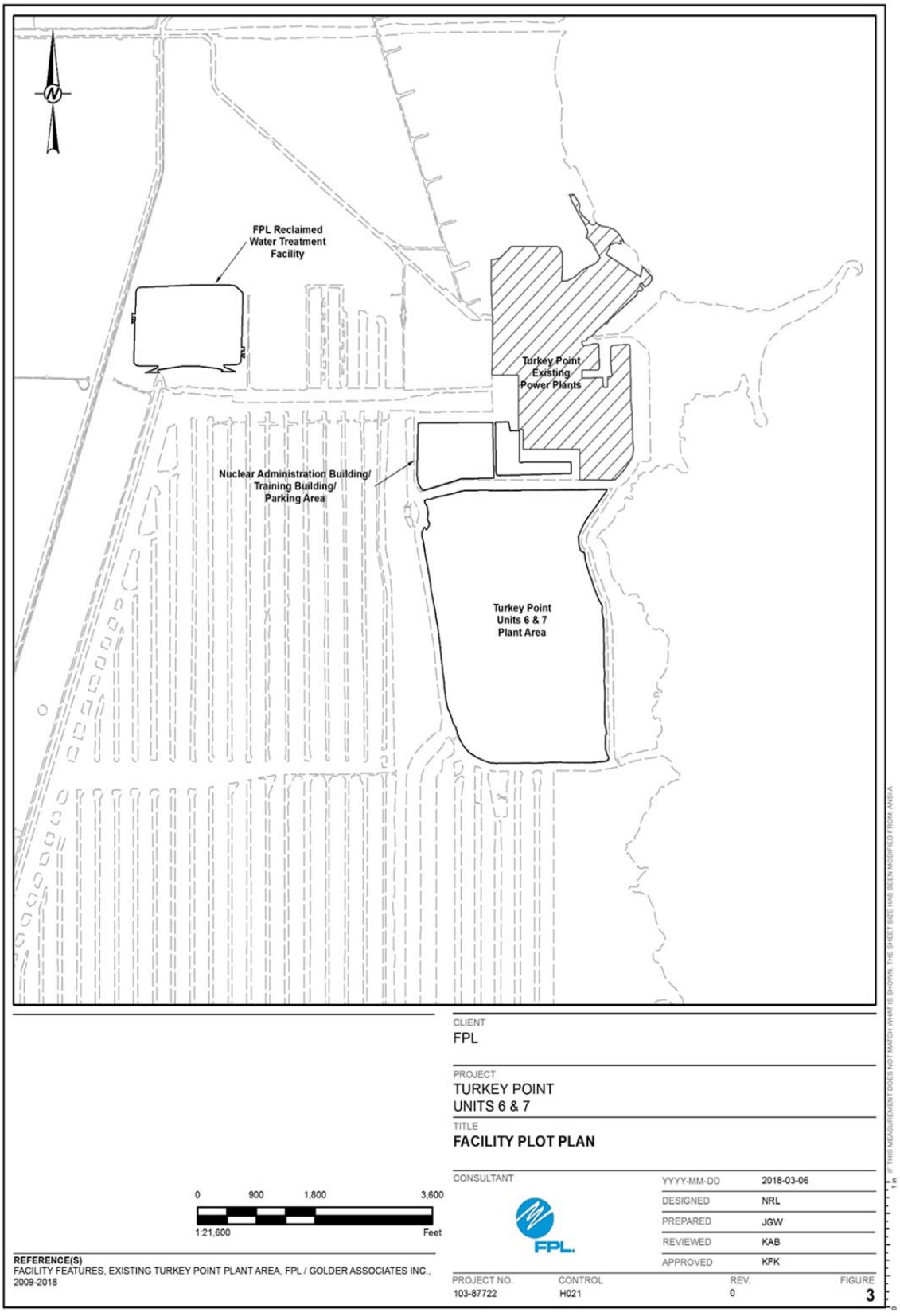
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET HAS BEEN MODIFIED FROM ANSI A

Environmental and Land Use Information: Supplemental Information

Preferred Site # 7: Turkey Point Plant, Miami-Dade County

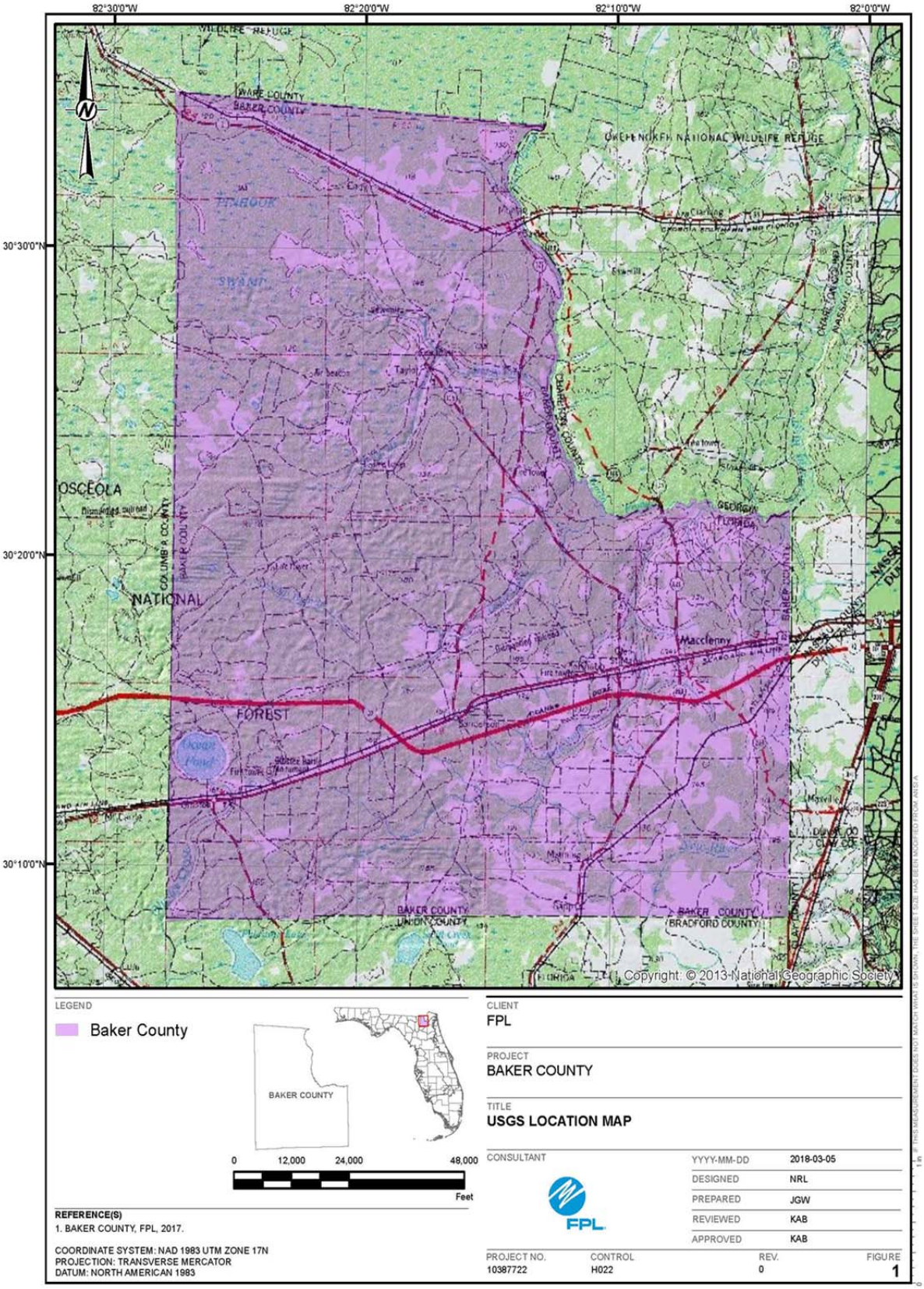

80°25'0"W
80°20'0"W
80°15'0"W
25°30'0"N
25°25'0"N
25°20'0"N
Princeton
Naranja
HOMESTEAD AIR FORCE BASE
Florida City
HOMESTEAD BAYFRONT PARK
BISCAYNE BAY
BISCAYNE NA
Turkey Point Units 6 & 7
Totten Key
Old Rhodes Key
DADE CO
MONROE CO
Sound
Card
Little Card Sound
Copyright © 2013 National Geographic Society, i-cubed
LEGEND
Turkey Point Units 6 & 7
Turkey Point Plant Property
DADE COUNTY
0 6,000 12,000 24,000
1:144,000 Feet
REFERENCE(S)
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
TURKEY POINT
UNITS 6 & 7
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-06
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL H019
REV. 0
FIGURE 1

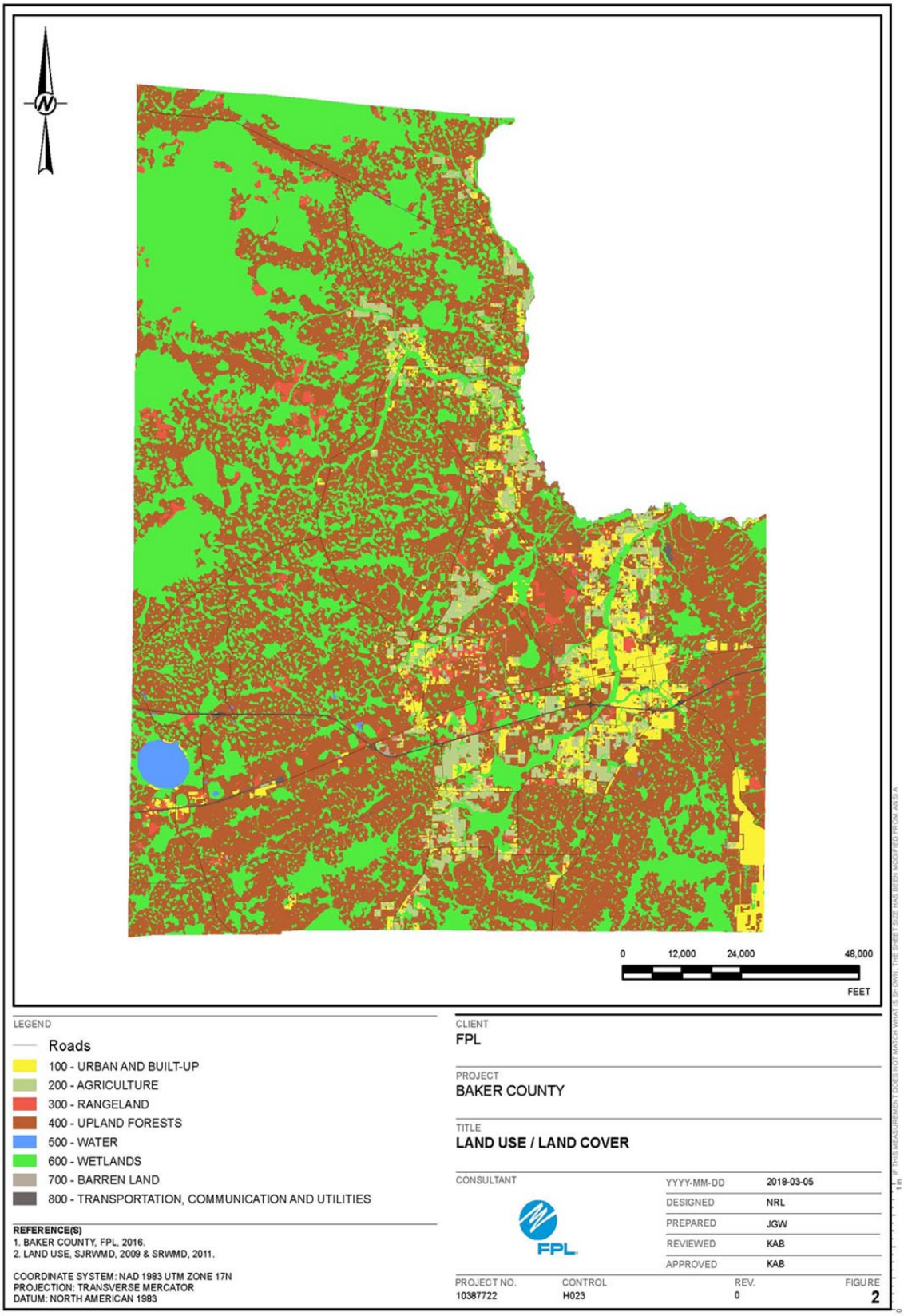

80°25'0"W
80°20'0"W
80°15'0"W
25°30'0"N
25°25'0"N
25°20'0"N
N
Turkey Point
Units 6 & 7
LEGEND
Turkey Point Units 6 & 7
Turkey Point Plant Property
SFWMD Land Use Land Cover (2008)
Low Density Urban
Medium Density Urban
High Density Urban
Commercial
Industrial
Mining
Institutional
Recreational
Open Land
Agriculture
Rangeland
Upland Forests
Water
Wetlands
Barren Land
Transportation, Communication, Utilities
0
6,000
12,000
24,000
1:144,000
Feet
REFERENCE(S)
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
TURKEY POINT
UNITS 6 & 7
TITLE
LAND USE / LAND COVER MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-06
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL H020
REV. 0
FIGURE 2


FPL Reclaimed
Water Treatment
Facility
Turkey Point
Existing
Power Plants
Nuclear Administration Building/
Training Building/
Parking Area
Turkey Point
Units 6 & 7
Plant Area
0
900
1,800
3,600
1:21,600
Feet
REFERENCE(S)
FACILITY FEATURES, EXISTING TURKEY POINT PLANT AREA, FPL / GOLDER ASSOCIATES INC., 2009-2018
CLIENT
FPL
PROJECT
TURKEY POINT
UNITS 6 & 7
TITLE
FACILITY PLOT PLAN
CONSULTANT
FPL
YYYY-MM-DD 2018-03-06
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KFK
PROJECT NO. 103-87722
CONTROL H021
REV. 0
FIGURE 3
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI A
1 in
0

Environmental and Land Use Information: Supplemental Information

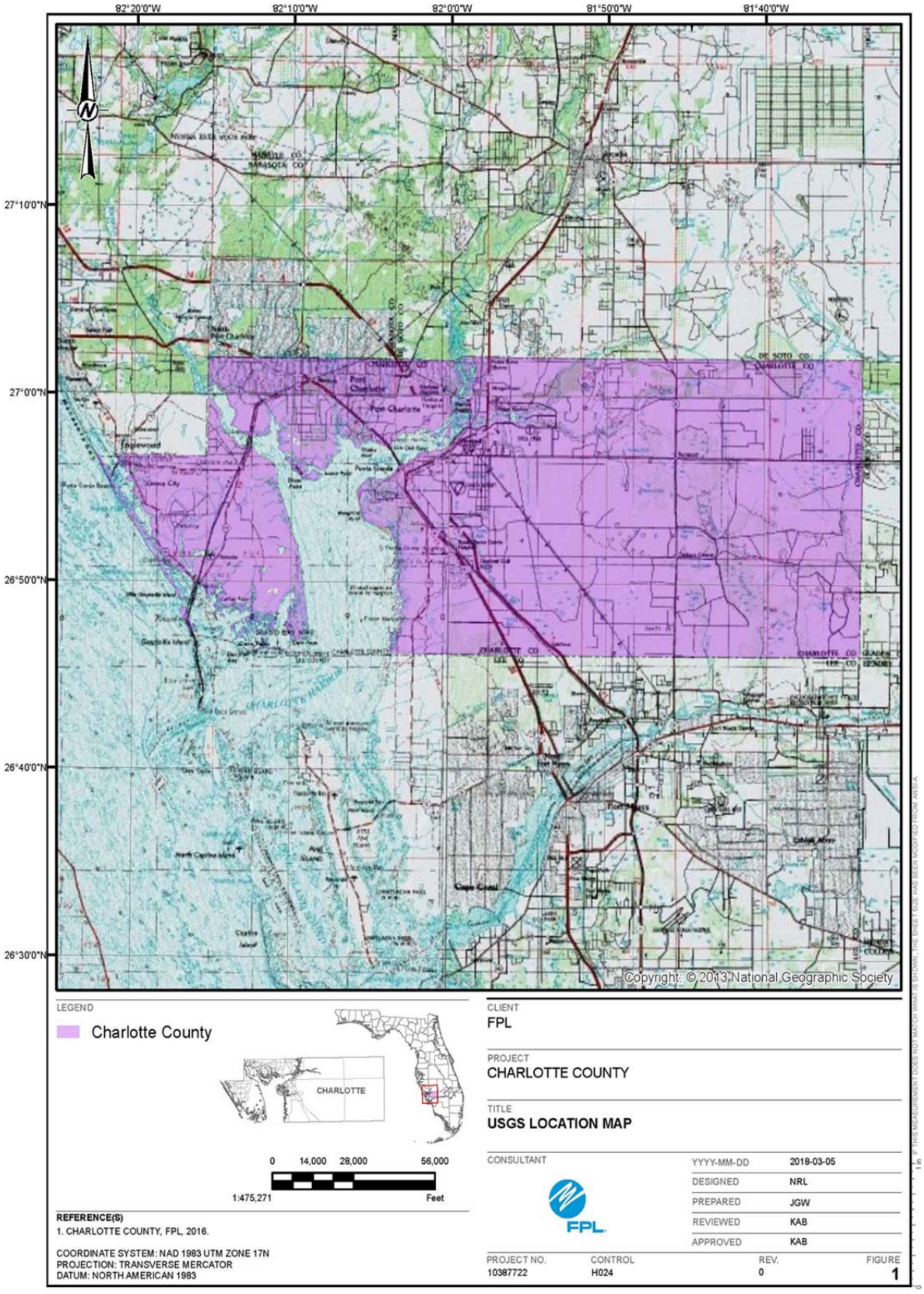
Potential Site # 1: Baker County

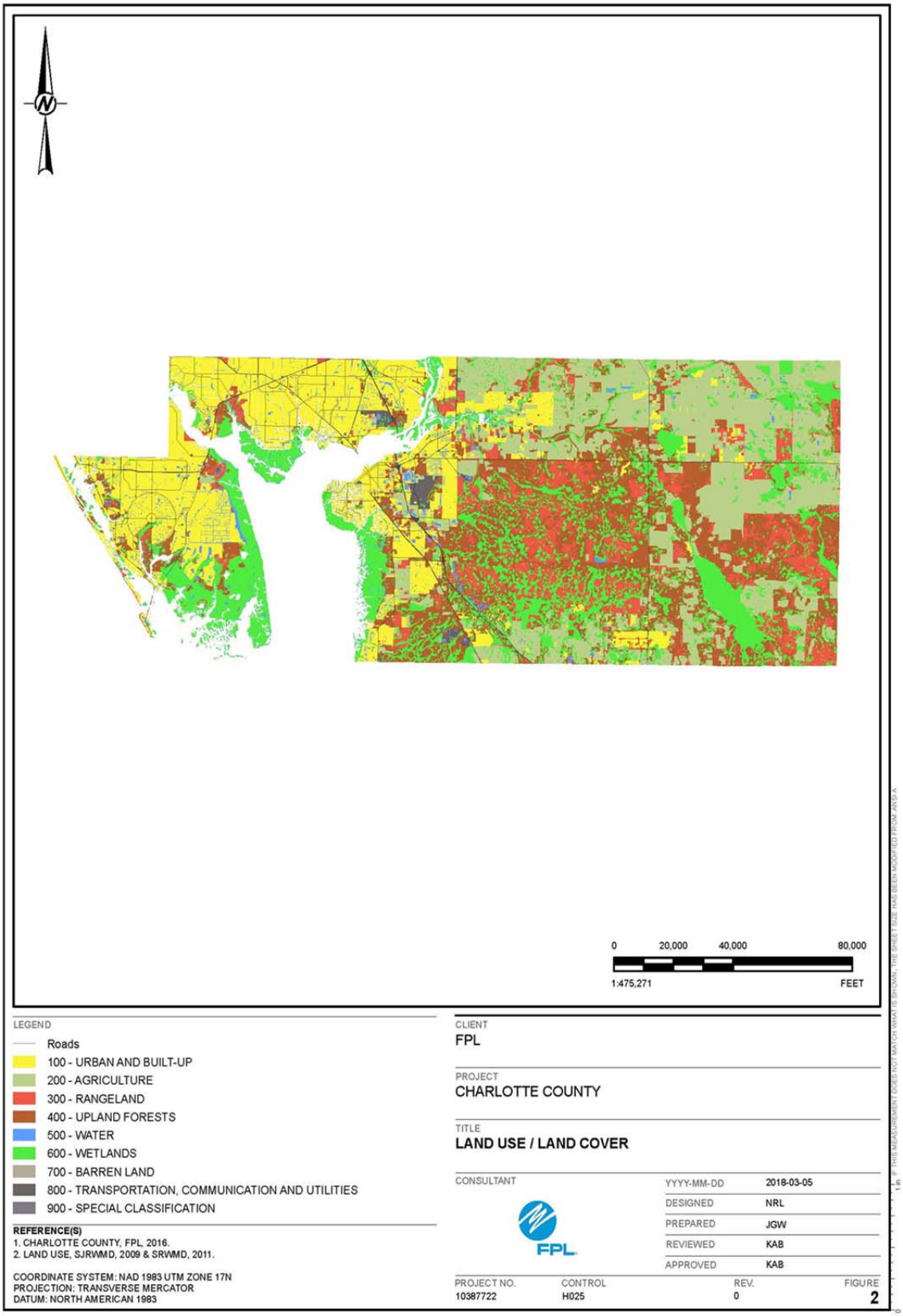

82°30'0"W
82°20'0"W
82°10'0"W
82°0'0"W
30°30'0"N
30°20'0"N
30°10'0"N
OSCEOLA
NATIONAL
FOREST
Macclenny
OKEFENOKEE NATIONAL WILDLIFE REFUGE
Copyright: © 2013 National Geographic Society
LEGEND
Baker County
BAKER COUNTY
0
12,000
24,000
48,000
Feet
REFERENCE(S)
1. BAKER COUNTY, FPL, 2017.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
BAKER COUNTY
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H022
REV. 0
FIGURE 1


0
12,000
24,000
48,000
FEET
LEGEND
Roads
100 - URBAN AND BUILT-UP
200 - AGRICULTURE
300 - RANGELAND
400 - UPLAND FORESTS
500 - WATER
600 - WETLANDS
700 - BARREN LAND
800 - TRANSPORTATION, COMMUNICATION AND UTILITIES
REFERENCE(S)
1. BAKER COUNTY, FPL, 2016.
2. LAND USE, SJRWMD, 2009 & SRWMD, 2011.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
BAKER COUNTY
TITLE
LAND USE / LAND COVER
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H023
REV. 0
FIGURE 2
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI A
1 in
0

Environmental and Land Use Information: Supplemental Information

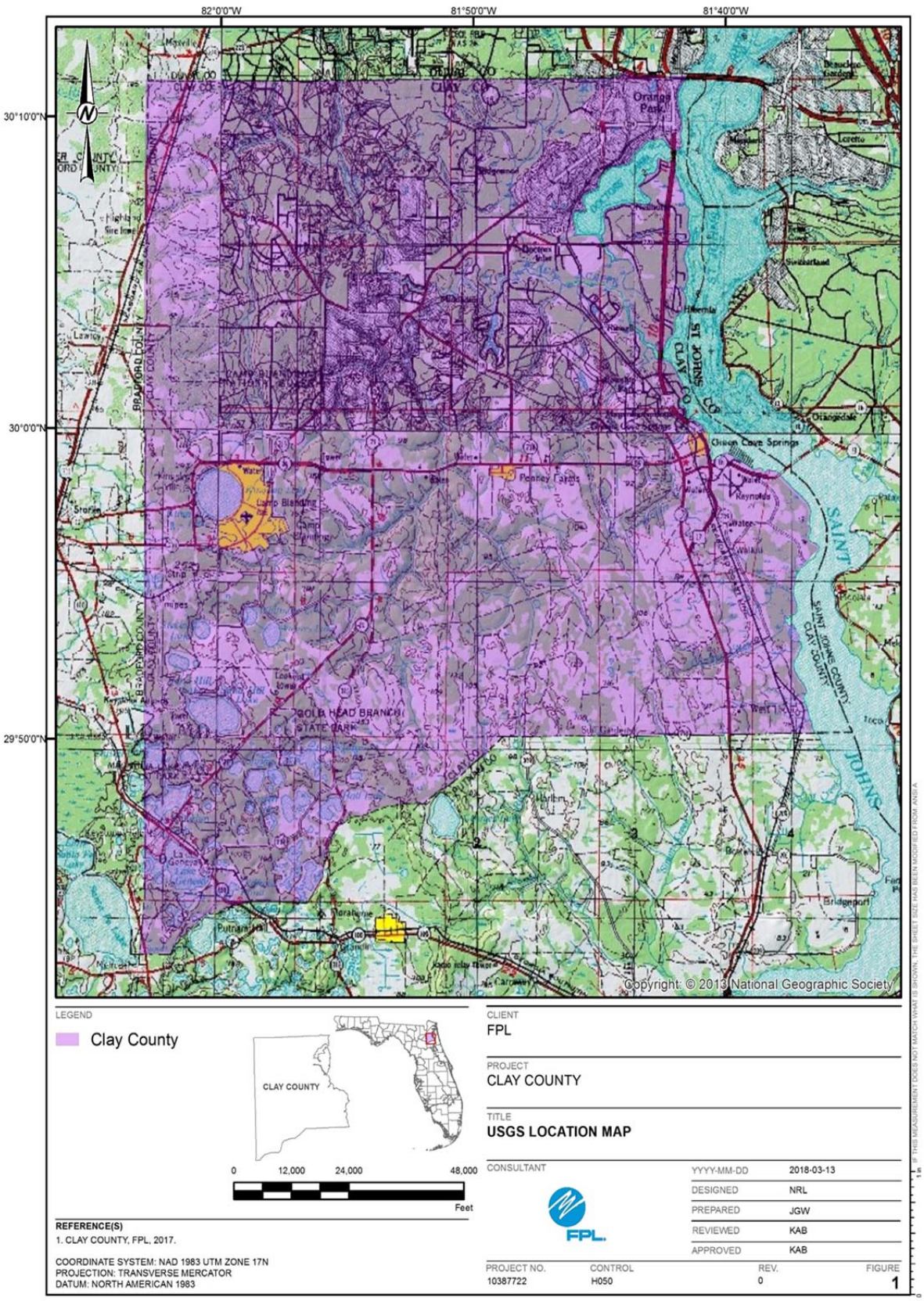
Potential Site # 2: Charlotte County

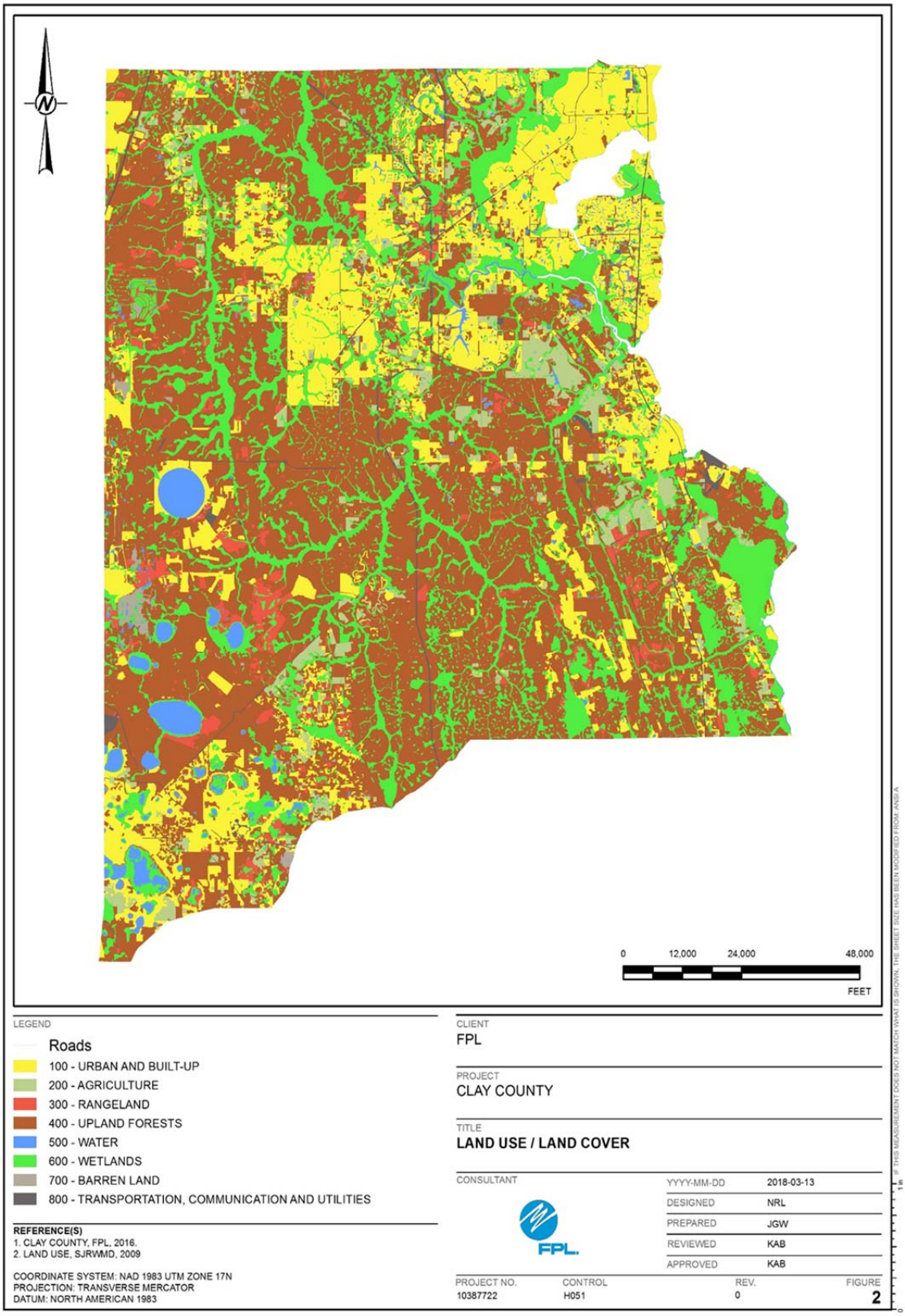

82°20'0"W
82°10'0"W
82°0'0"W
81°50'0"W
81°40'0"W
27°10'0"N
27°0'0"N
26°50'0"N
26°40'0"N
26°30'0"N
Copyright: © 2013 National Geographic Society
LEGEND
Charlotte County
CHARLOTTE
0 14,000 28,000 56,000
1:475,271 Feet
REFERENCE(S)
1. CHARLOTTE COUNTY, FPL, 2016.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
CHARLOTTE COUNTY
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H024
REV. 0
FIGURE 1


0
20,000
40,000
80,000
1:475,271
FEET
LEGEND
Roads
100 - URBAN AND BUILT-UP
200 - AGRICULTURE
300 - RANGELAND
400 - UPLAND FORESTS
500 - WATER
600 - WETLANDS
700 - BARREN LAND
800 - TRANSPORTATION, COMMUNICATION AND UTILITIES
900 - SPECIAL CLASSIFICATION
REFERENCE(S)
1. CHARLOTTE COUNTY, FPL, 2016.
2. LAND USE, SJRWMD, 2009 & SRWMD, 2011.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
CHARLOTTE COUNTY
TITLE
LAND USE / LAND COVER
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H025
REV. 0
FIGURE 2

Environmental and Land Use Information: Supplemental Information

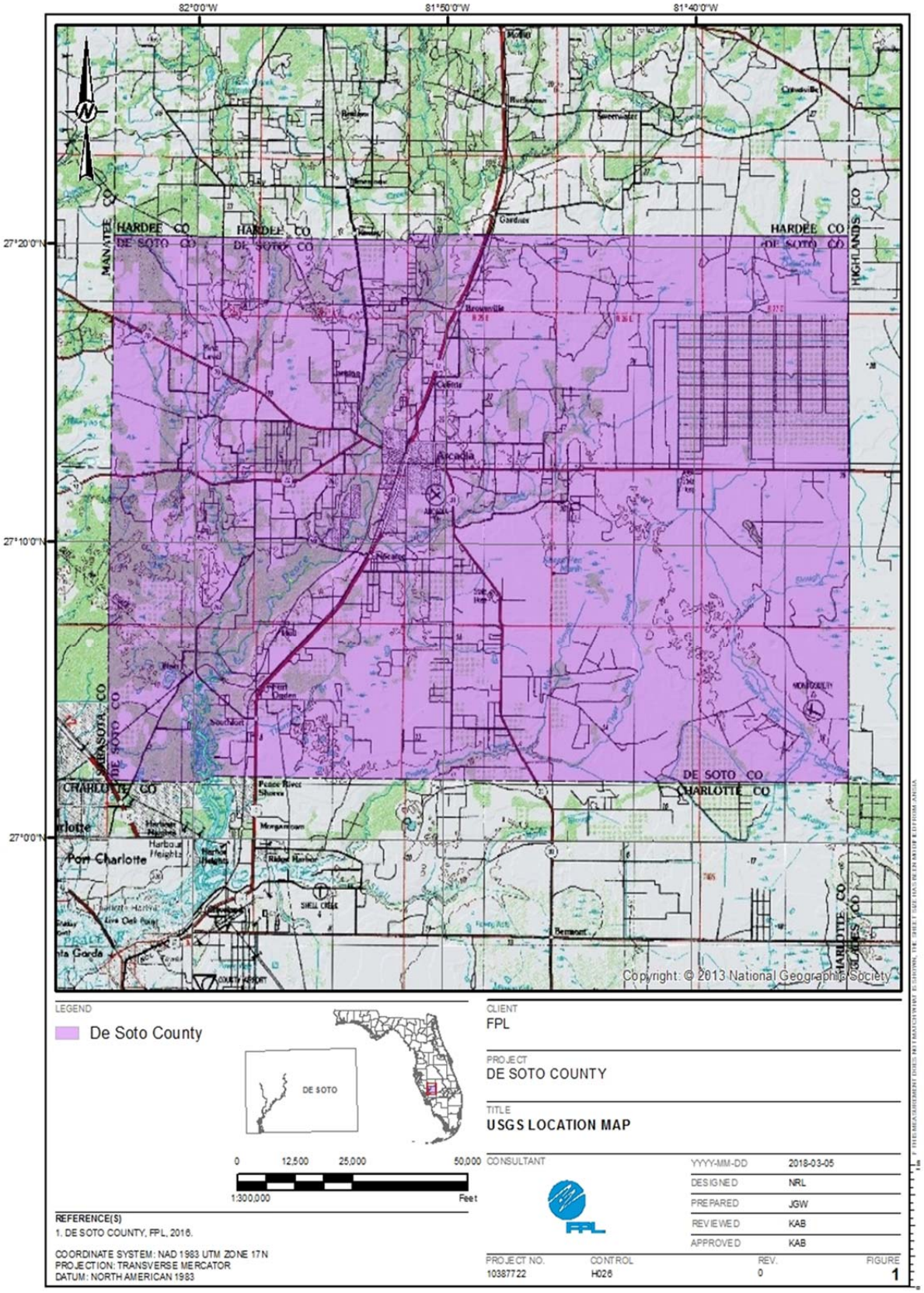
Potential Site # 3: Clay County

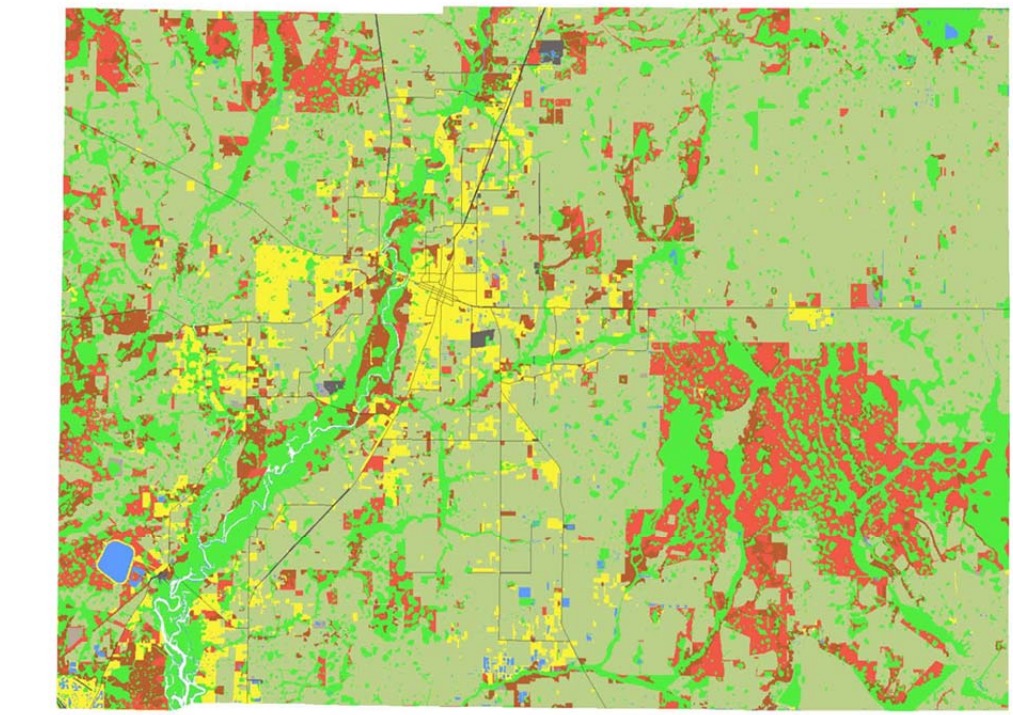

82°0'0"W
81°50'0"W
81°40'0"W
30°10'0"N
30°0'0"N
29°50'0"N
Copyright: © 2013 National Geographic Society
LEGEND
Clay County
CLAY COUNTY
0
12,000
24,000
48,000
Feet
REFERENCE(S)
1. CLAY COUNTY, FPL, 2017.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
CLAY COUNTY
TITLE
USGS LOCATION MAP
CONSULTANT
YYYY-MM-DD 2018-03-13
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H050
REV. 0
FIGURE 1


0
12,000
24,000
48,000
FEET
LEGEND
Roads
100 - URBAN AND BUILT-UP
200 - AGRICULTURE
300 - RANGELAND
400 - UPLAND FORESTS
500 - WATER
600 - WETLANDS
700 - BARREN LAND
800 - TRANSPORTATION, COMMUNICATION AND UTILITIES
REFERENCE(S)
1. CLAY COUNTY, FPL, 2016.
2. LAND USE, SJRWMD, 2009
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
CLAY COUNTY
TITLE
LAND USE / LAND COVER
CONSULTANT
FPL
YYYY-MM-DD 2018-03-13
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H051
REV. 0
FIGURE 2
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

Environmental and Land Use Information: Supplemental Information

Potential Site # 4: Desoto County


82°0'0"W
81°50'0"W
81°40'0"W
27°20'0"N
27°10'0"N
27°0'0"N
HARDEE CO
DE SOTO CO
MANATEE CO
HIGHLANDS CO
SARASOTA CO
CHARLOTTE CO
Arcadia
Port Charlotte
Copyright: © 2013 National Geographic Society
LEGEND
De Soto County
DE SOTO
0 12,500 25,000 50,000
1:300,000
Feet
REFERENCE(S)
1. DE SOTO COUNTY, FPL, 2016.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
DE SOTO COUNTY
TITLE
USGS LOCATION MAP
CONSULTANT
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H026
REV. 0
FIGURE 1



0 12,500 25,000 50,000

1:300,000 FEET

LEGEND

- Roads
- 100 - URBAN AND BUILT-UP
- 200 - AGRICULTURE
- 300 - RANGELAND
- 400 - UPLAND FORESTS
- 500 - WATER
- 600 - WETLANDS
- 700 - BARREN LAND
- 800 - TRANSPORTATION, COMMUNICATION AND UTILITIES

REFERENCE(S)
1. DE SOTO COUNTY, FPL, 2016.
2. LAND USE, SJRWMD, 2009.

COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983

CLIENT
FPL

PROJECT
DE SOTO COUNTY

TITLE
LAND USE / LAND COVER

CONSULTANT

FPL

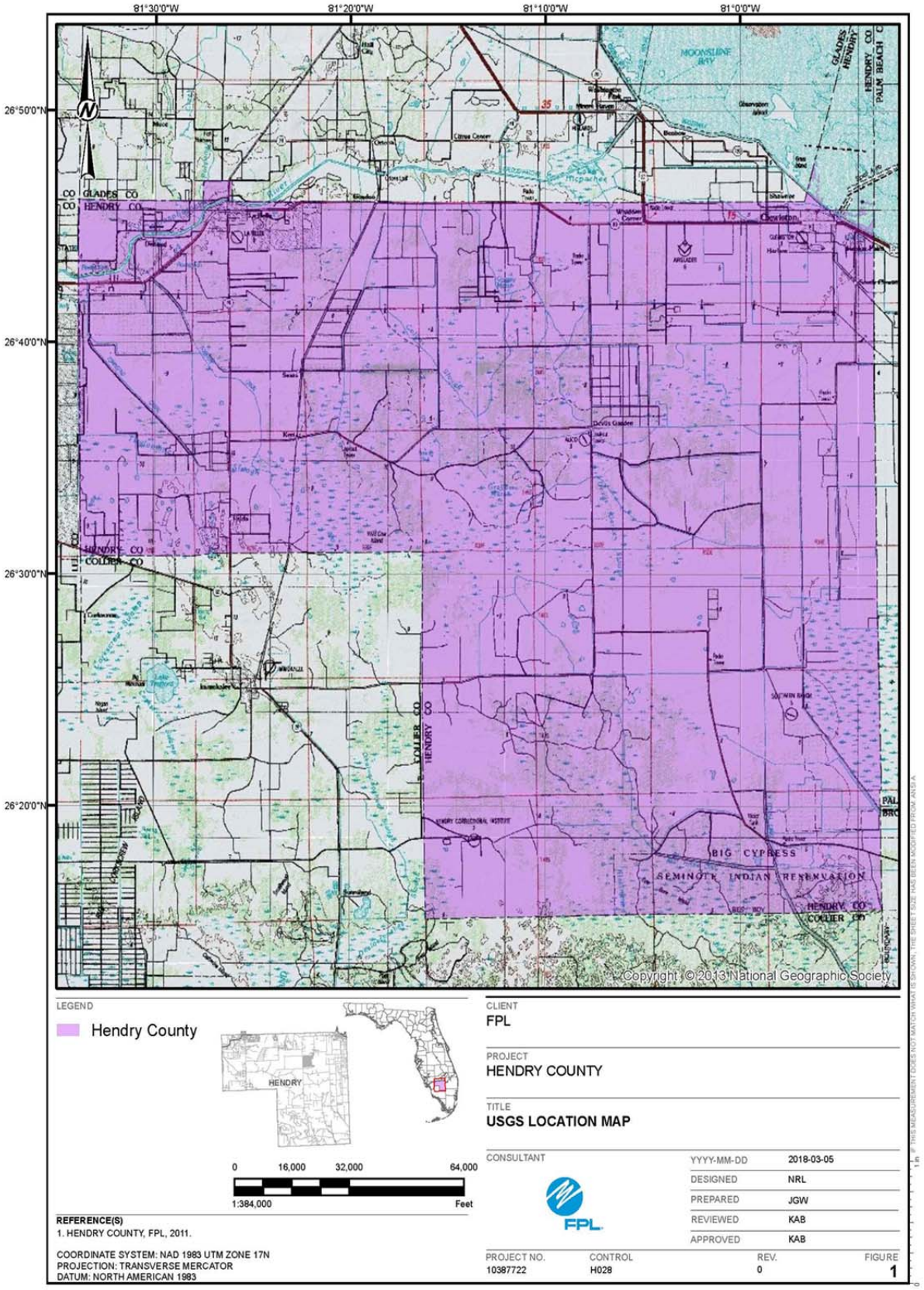
YYYY-MM-DD	2018-03-05
DESIGNED	NRL
PREPARED	JGW
REVIEWED	KAB
APPROVED	KAB

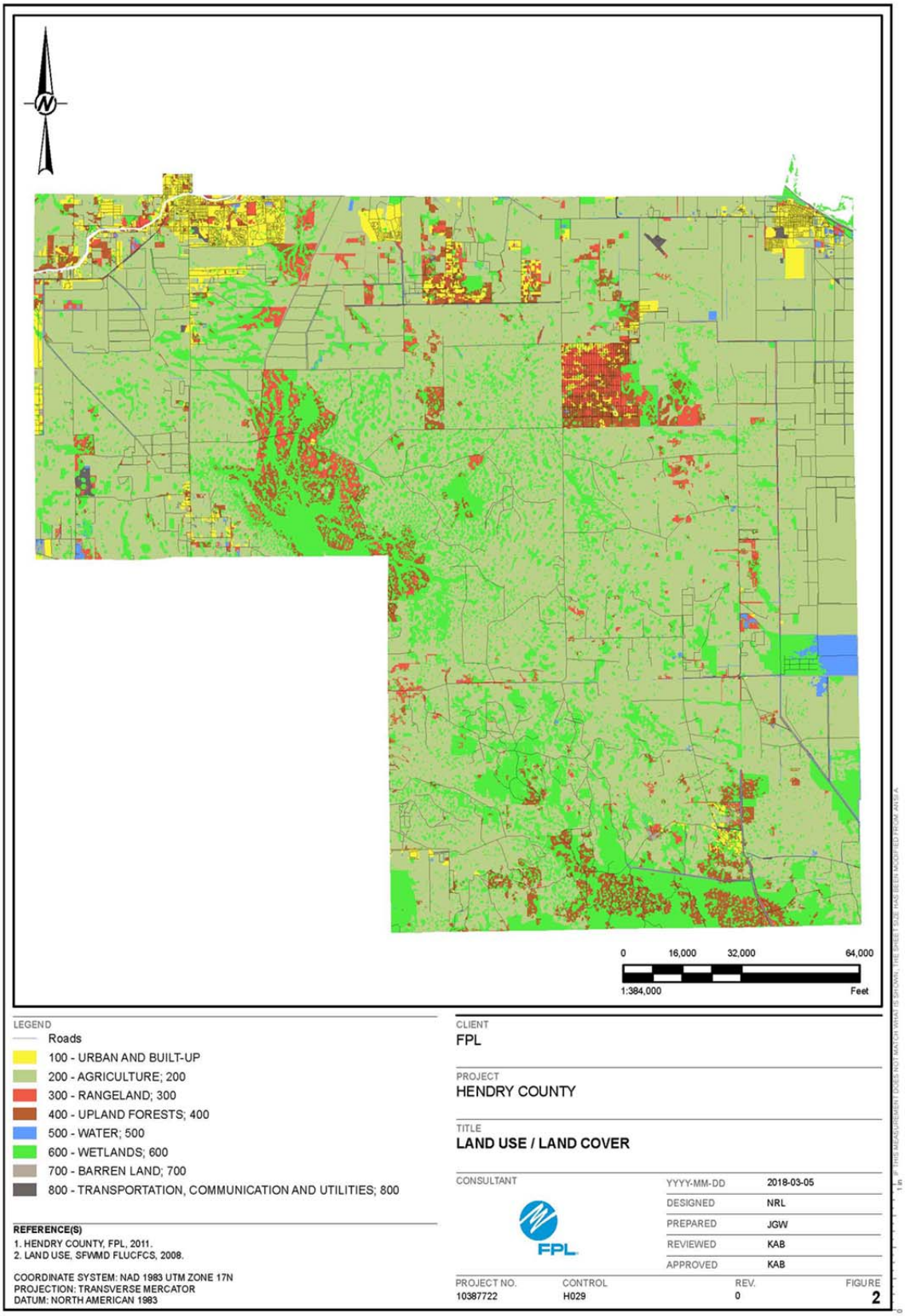
PROJECT NO.	CONTROL	REV.	FIGURE
10387722	H027	0	2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI A

Environmental and Land Use Information: Supplemental Information

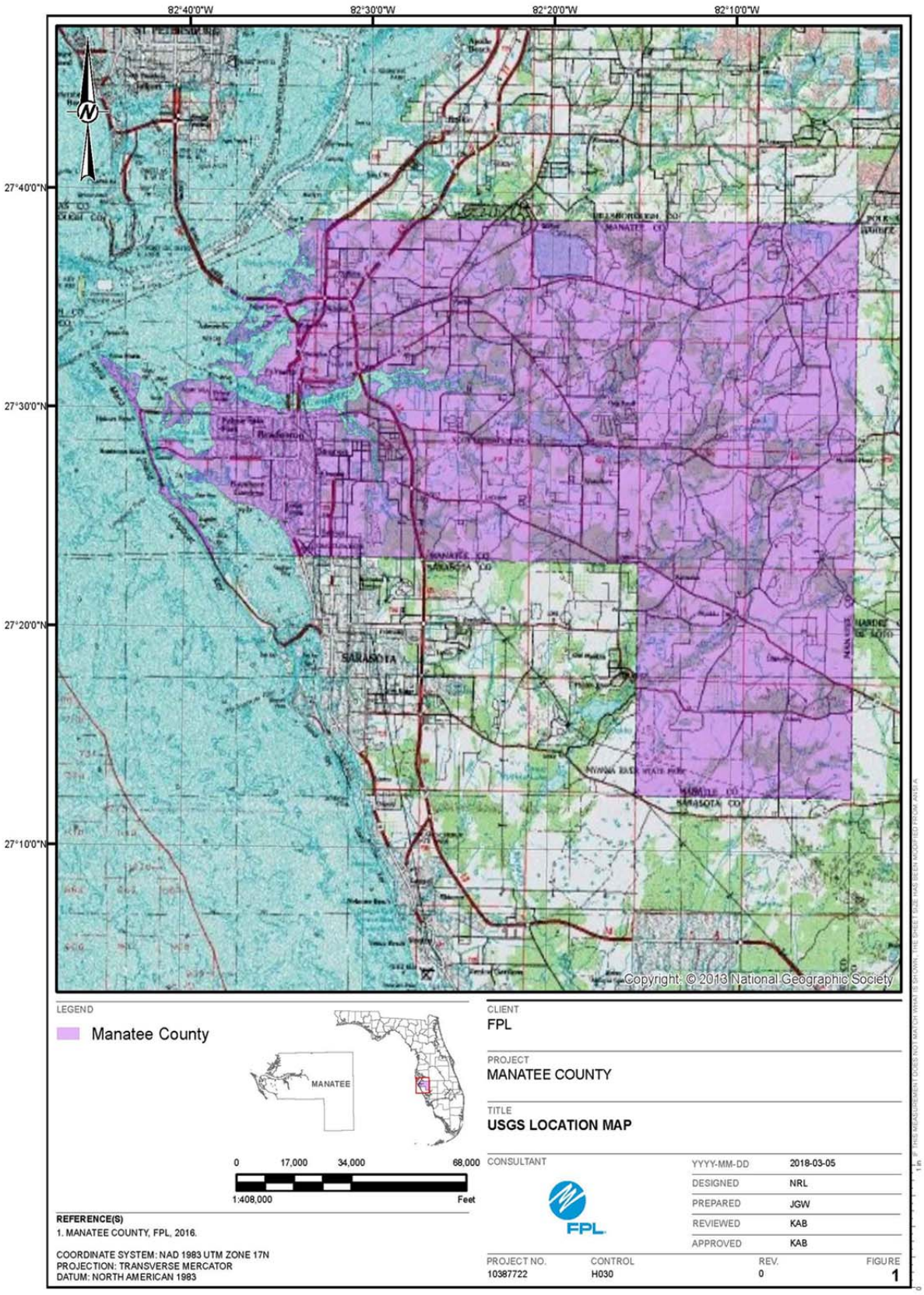
Potential Site # 5: Hendry County

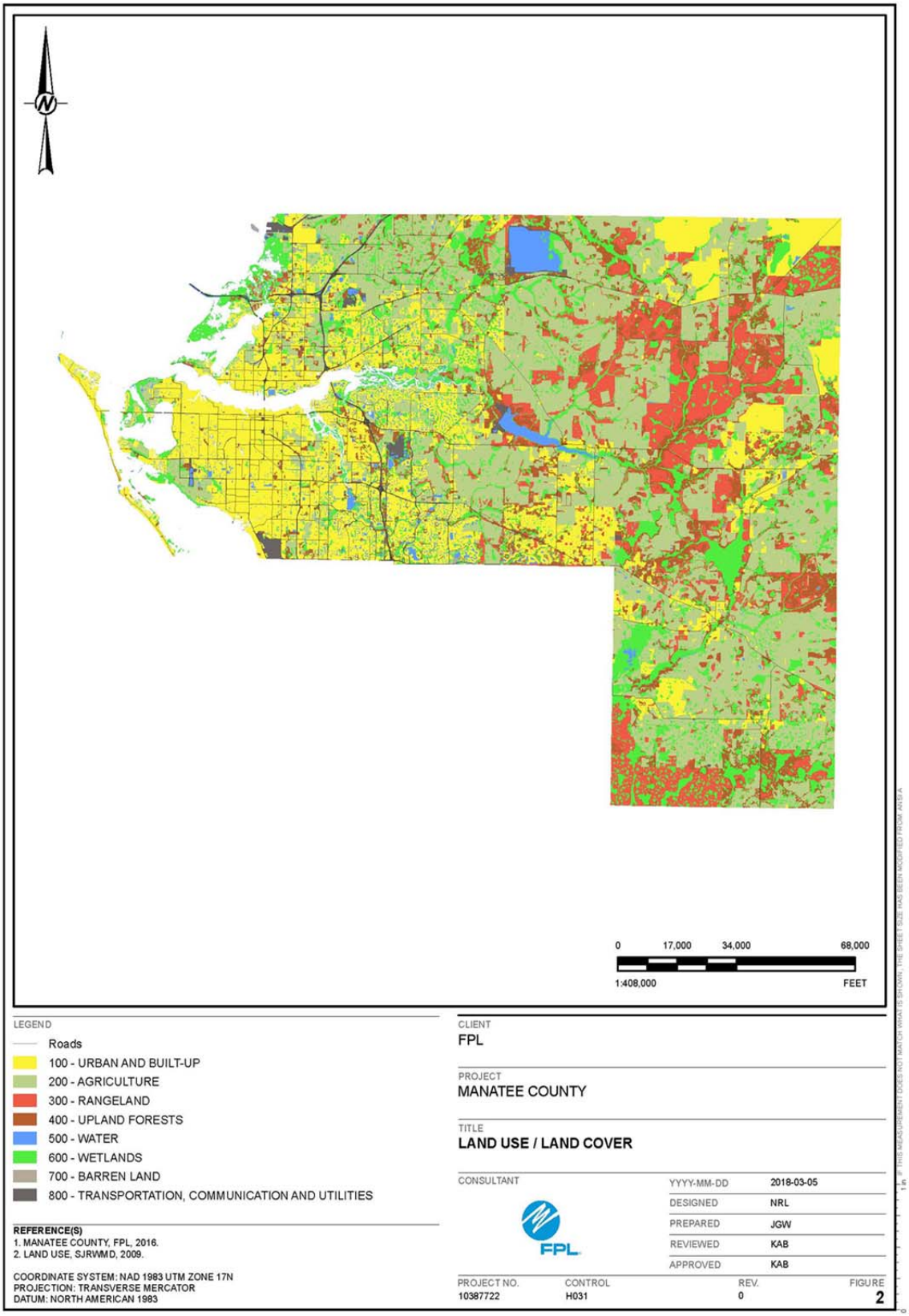

81°30'0"W
81°20'0"W
81°10'0"W
81°0'0"W
26°50'0"N
26°40'0"N
26°30'0"N
26°20'0"N
N
MOONSHINE BAY
Caloosahatchee River
GLADES CO
HENDRY CO
COLLIER CO
HENDRY CO
PALM BEACH CO
Clewiston
Devils Garden
BIG CYPRESS
SEMINOLE INDIAN RESERVATION
HENDRY CORRECTIONAL INSTITUTE
Copyright © 2013 National Geographic Society
LEGEND
Hendry County
HENDRY
0 16,000 32,000 64,000
1:384,000 Feet
REFERENCE(S)
1. HENDRY COUNTY, FPL, 2011.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
HENDRY COUNTY
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H028
REV. 0
FIGURE 1


0
16,000
32,000
64,000
1:384,000
Feet
LEGEND
Roads
100 - URBAN AND BUILT-UP
200 - AGRICULTURE; 200
300 - RANGELAND; 300
400 - UPLAND FORESTS; 400
500 - WATER; 500
600 - WETLANDS; 600
700 - BARREN LAND; 700
800 - TRANSPORTATION, COMMUNICATION AND UTILITIES; 800
REFERENCE(S)
1. HENDRY COUNTY, FPL, 2011.
2. LAND USE, SFWMD FLUCFCS, 2008.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
HENDRY COUNTY
TITLE
LAND USE / LAND COVER
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H029
REV. 0
FIGURE 2

Environmental and Land Use Information: Supplemental Information

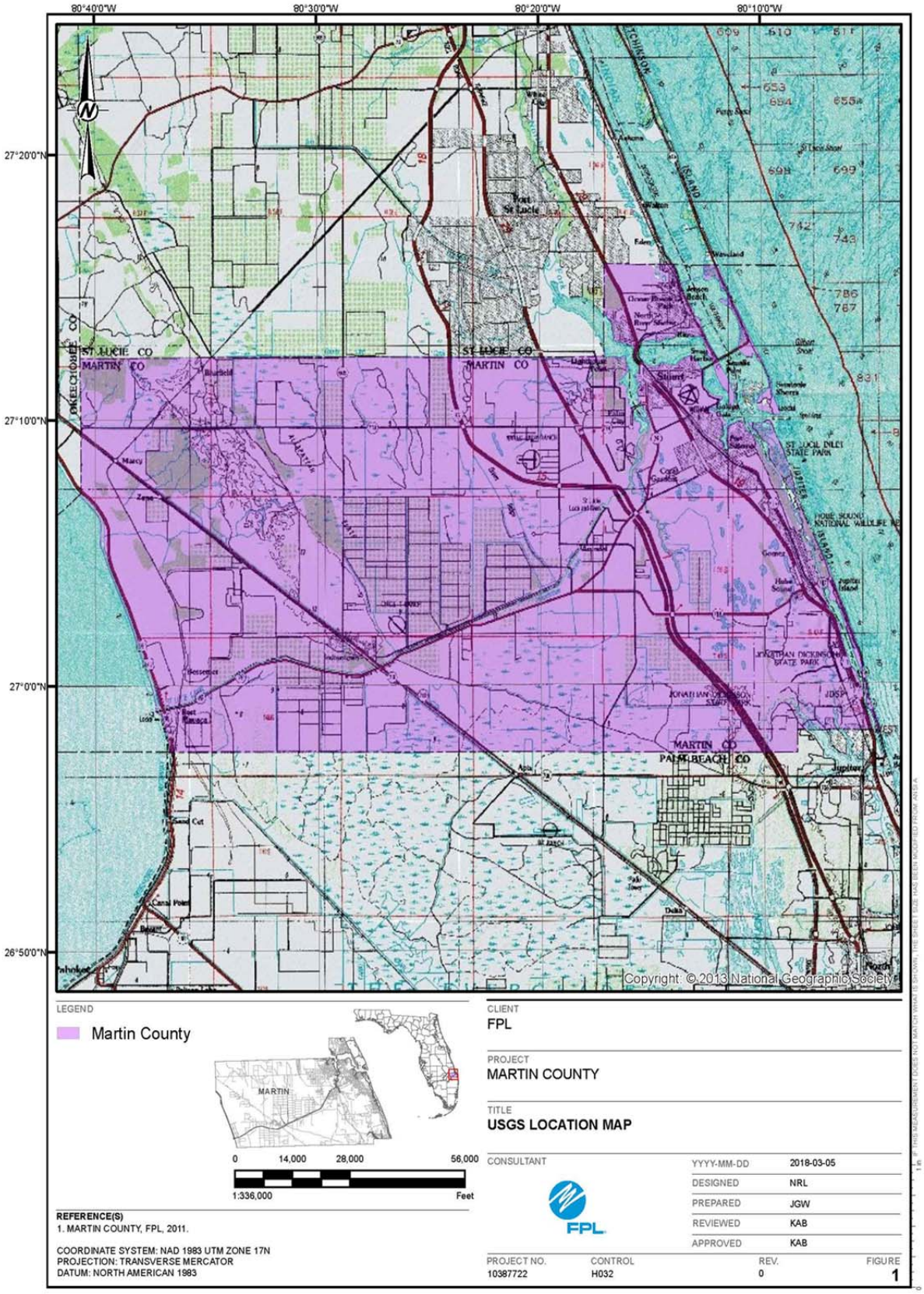
Potential Site # 6: Manatee County

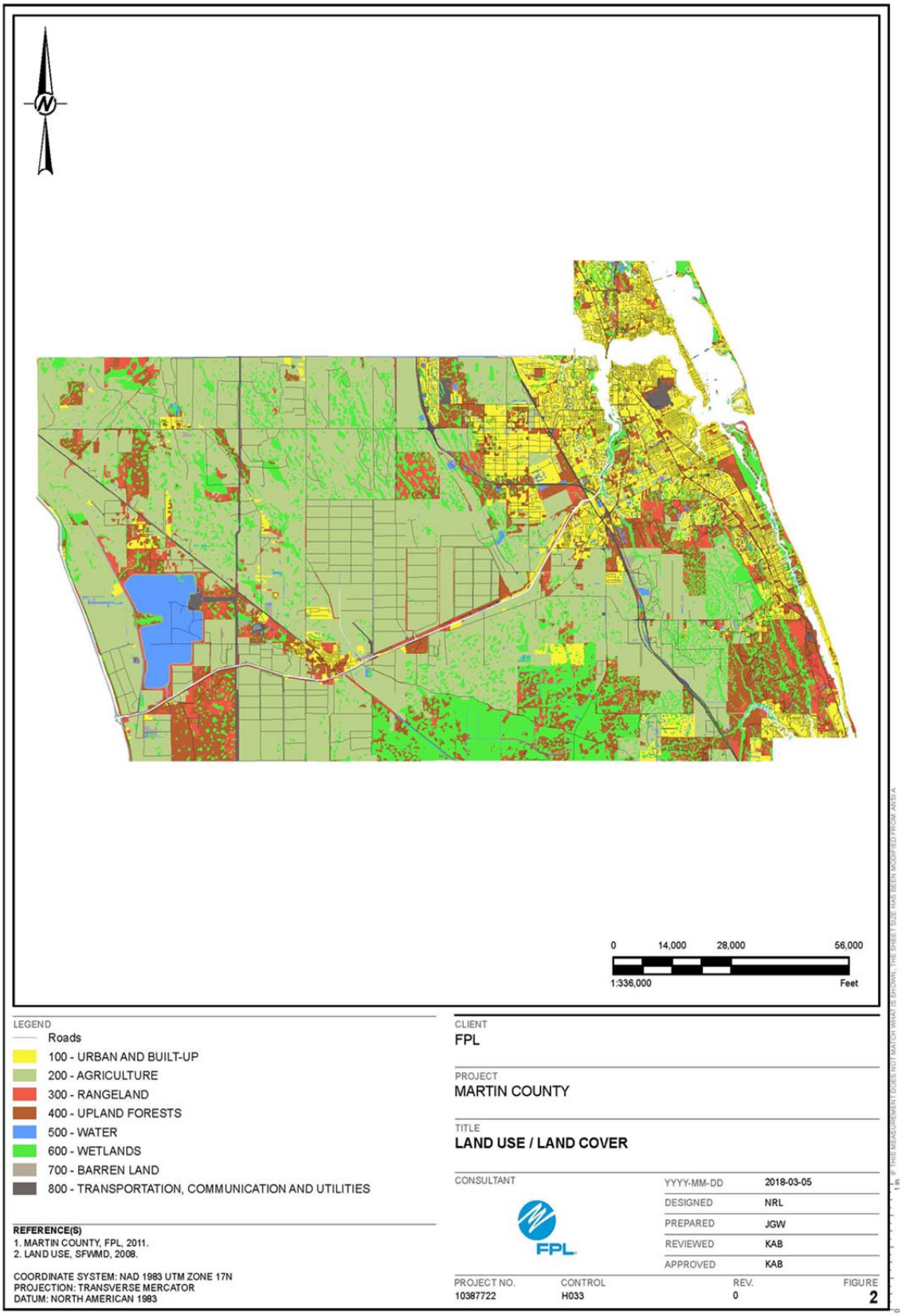

82°40'0"W
82°30'0"W
82°20'0"W
82°10'0"W
27°40'0"N
27°30'0"N
27°20'0"N
27°10'0"N
N
MANATEE CO
SARASOTA CO
SARASOTA
Copyright © 2013 National Geographic Society
LEGEND
Manatee County
MANATEE
0 17,000 34,000 68,000
1:408,000 Feet
REFERENCE(S)
1. MANATEE COUNTY, FPL, 2016.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
MANATEE COUNTY
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H030
REV. 0
FIGURE 1


0
17,000
34,000
68,000
1:408,000
FEET
LEGEND
Roads
100 - URBAN AND BUILT-UP
200 - AGRICULTURE
300 - RANGELAND
400 - UPLAND FORESTS
500 - WATER
600 - WETLANDS
700 - BARREN LAND
800 - TRANSPORTATION, COMMUNICATION AND UTILITIES
REFERENCE(S)
1. MANATEE COUNTY, FPL, 2016.
2. LAND USE, SJRWMD, 2009.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
MANATEE COUNTY
TITLE
LAND USE / LAND COVER
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H031
REV. 0
FIGURE 2

Environmental and Land Use Information: Supplemental Information

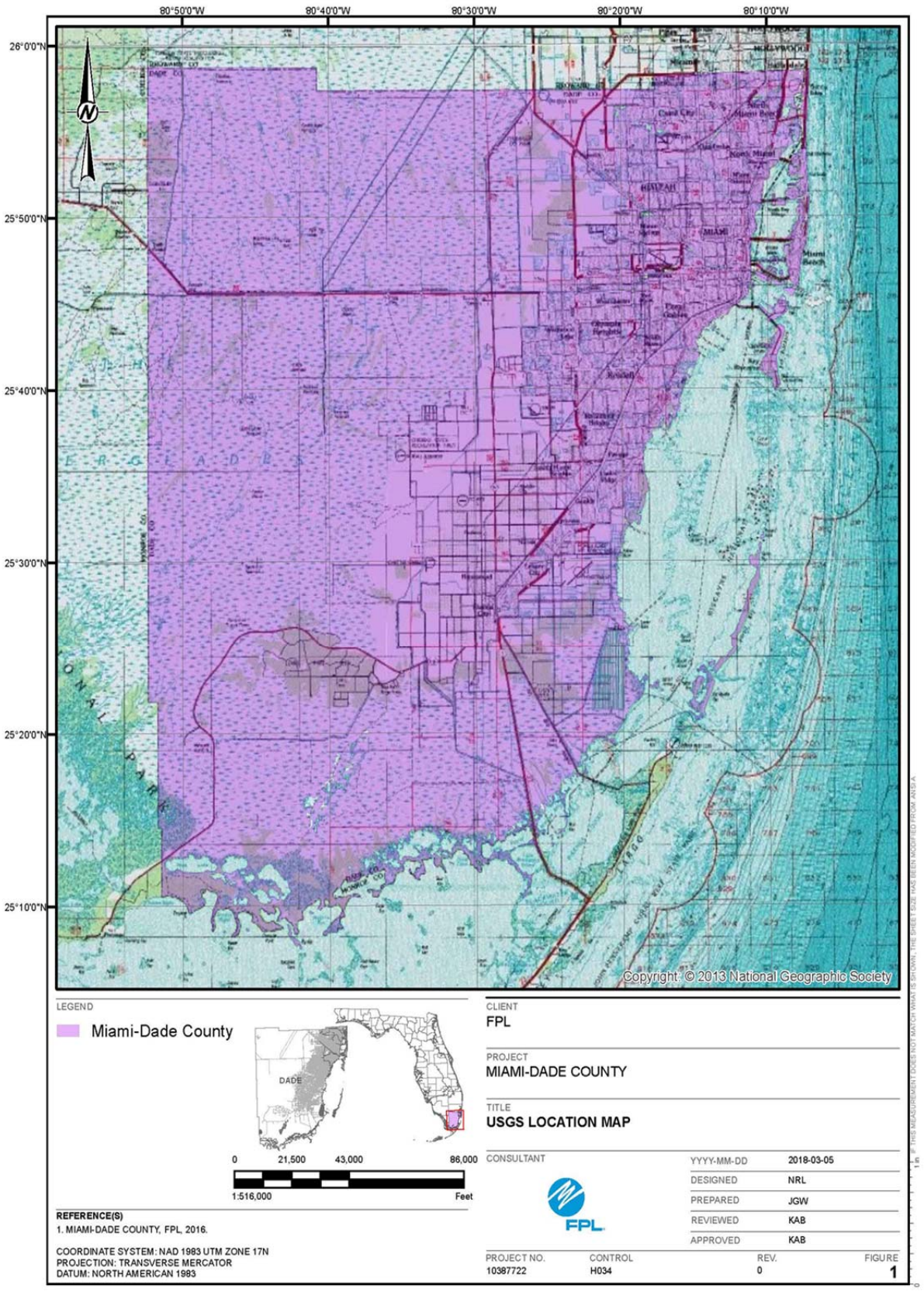
Potential Site # 7: Martin County

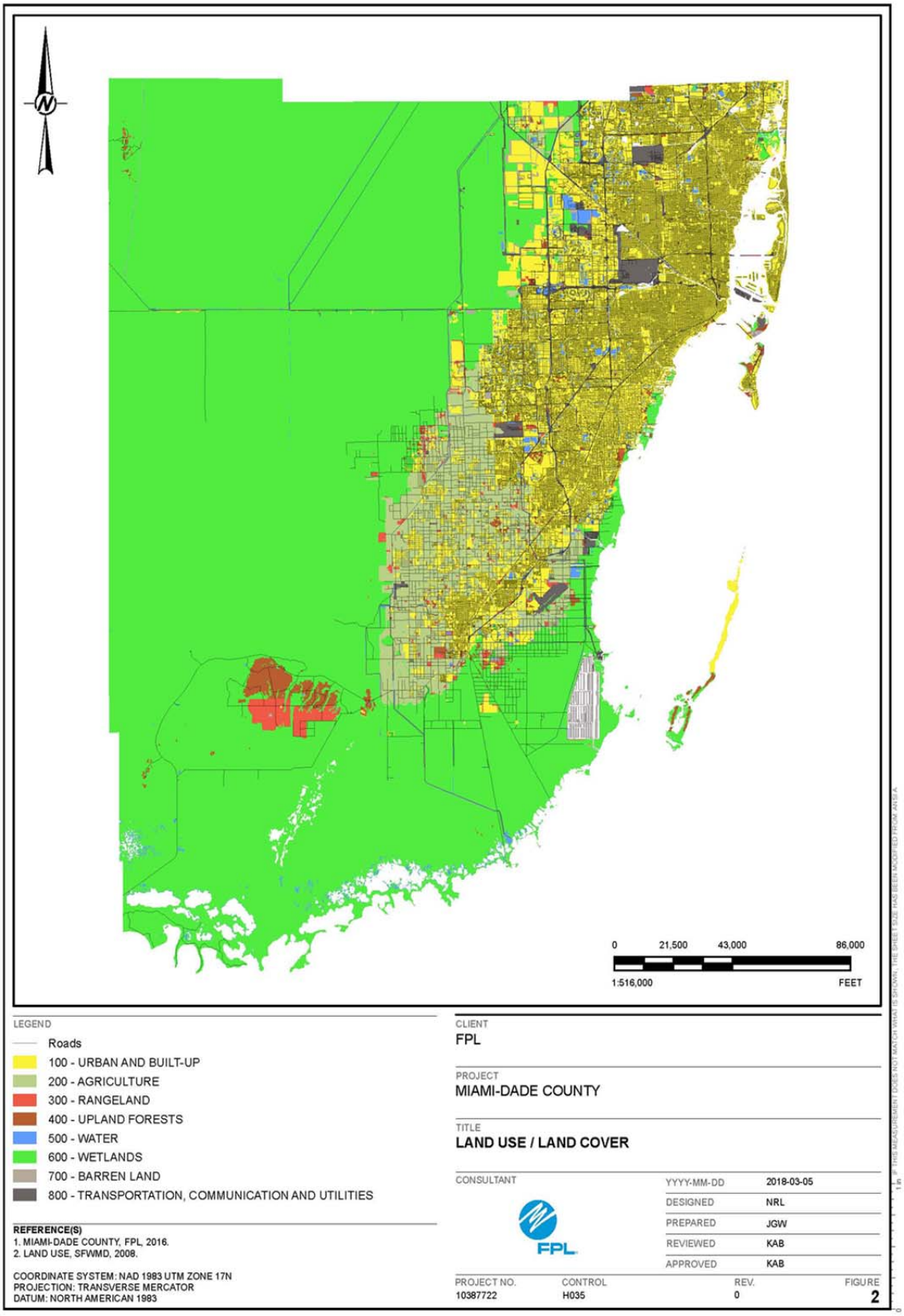

80°40'0"W
80°30'0"W
80°20'0"W
80°10'0"W
27°20'0"N
27°10'0"N
27°0'0"N
26°50'0"N
N
ST LUCIE CO
MARTIN CO
PALM BEACH CO
Copyright: © 2013 National Geographic Society
LEGEND
Martin County
MARTIN
0
14,000
28,000
56,000
1:336,000
Feet
REFERENCE(S)
1. MARTIN COUNTY, FPL, 2011.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
MARTIN COUNTY
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H032
REV. 0
FIGURE 1


0 14,000 28,000 56,000
1:336,000 Feet
LEGEND
Roads
100 - URBAN AND BUILT-UP
200 - AGRICULTURE
300 - RANGELAND
400 - UPLAND FORESTS
500 - WATER
600 - WETLANDS
700 - BARREN LAND
800 - TRANSPORTATION, COMMUNICATION AND UTILITIES
REFERENCE(S)
1. MARTIN COUNTY, FPL, 2011.
2. LAND USE, SFWMD, 2008.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
MARTIN COUNTY
TITLE
LAND USE / LAND COVER
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H033
REV. 0
FIGURE 2
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI A
1 in
0

Environmental and Land Use Information: Supplemental Information

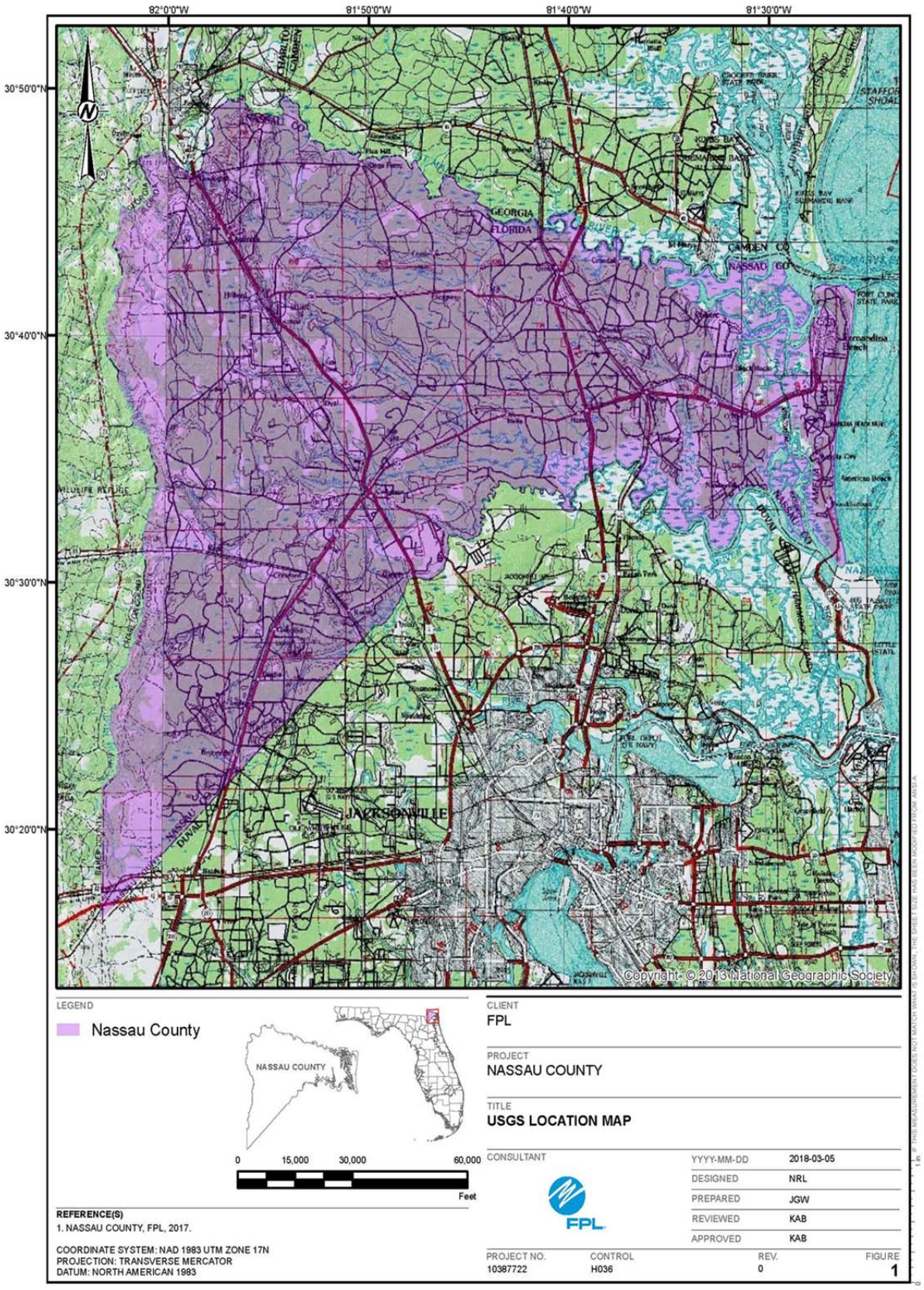
Potential Site # 8: Miami-Dade County

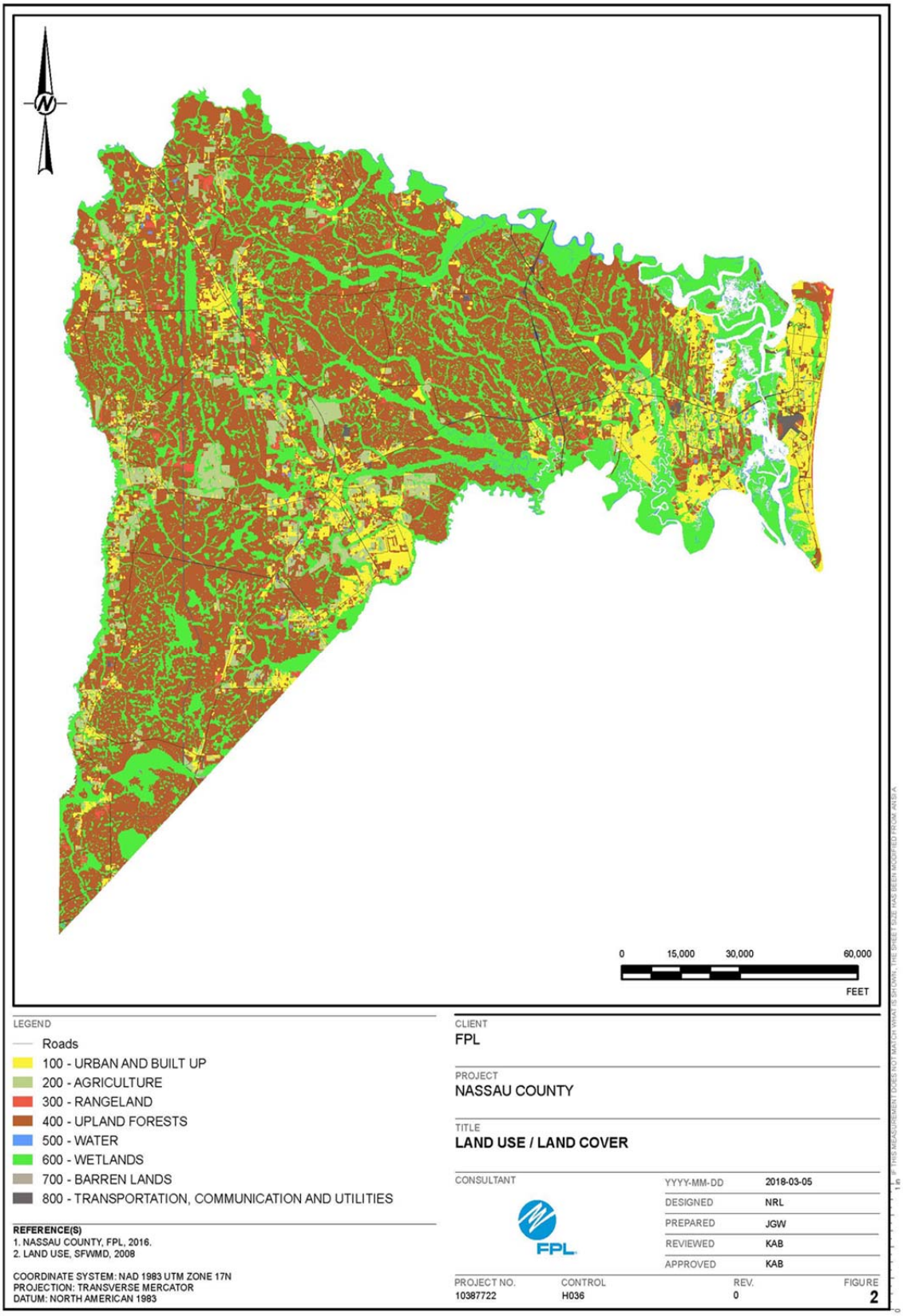

80°50'0"W
80°40'0"W
80°30'0"W
80°20'0"W
80°10'0"W
26°0'0"N
25°50'0"N
25°40'0"N
25°30'0"N
25°20'0"N
25°10'0"N
N
EVERGLADES
NATIONAL PARK
Copyright © 2013 National Geographic Society
LEGEND
Miami-Dade County
DADE
0
21,500
43,000
86,000
1:516,000
Feet
REFERENCE(S)
1. MIAMI-DADE COUNTY, FPL, 2016.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
MIAMI-DADE COUNTY
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H034
REV. 0
FIGURE 1
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI A
1 in
0


0 21,500 43,000 86,000
1:516,000 FEET
LEGEND
Roads
100 - URBAN AND BUILT-UP
200 - AGRICULTURE
300 - RANGELAND
400 - UPLAND FORESTS
500 - WATER
600 - WETLANDS
700 - BARREN LAND
800 - TRANSPORTATION, COMMUNICATION AND UTILITIES
REFERENCE(S)
1. MIAMI-DADE COUNTY, FPL, 2016.
2. LAND USE, SFWMD, 2008.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
MIAMI-DADE COUNTY
TITLE
LAND USE / LAND COVER
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H035
REV. 0
FIGURE 2

Environmental and Land Use Information: Supplemental Information

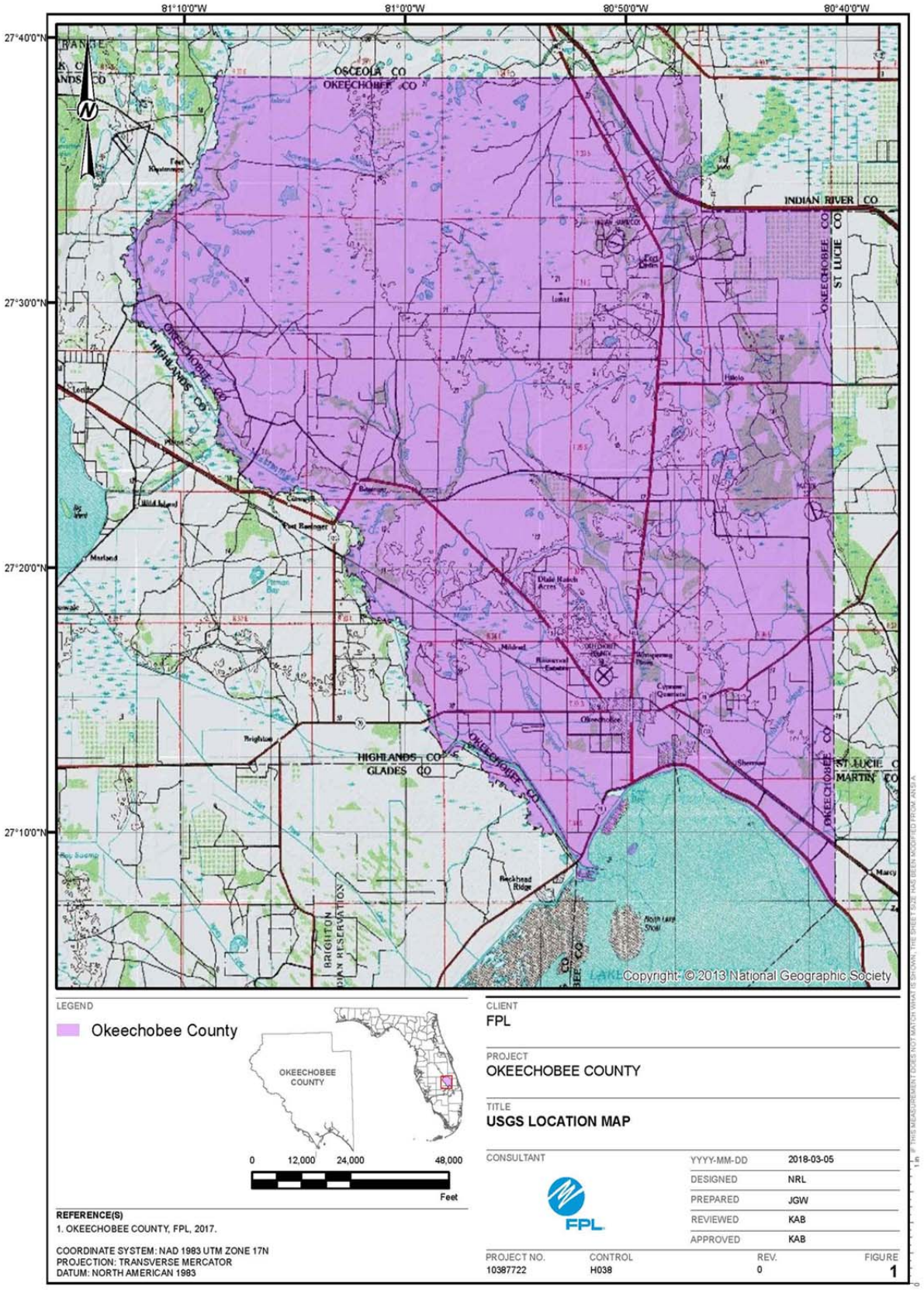
Potential Site # 9: Nassau County

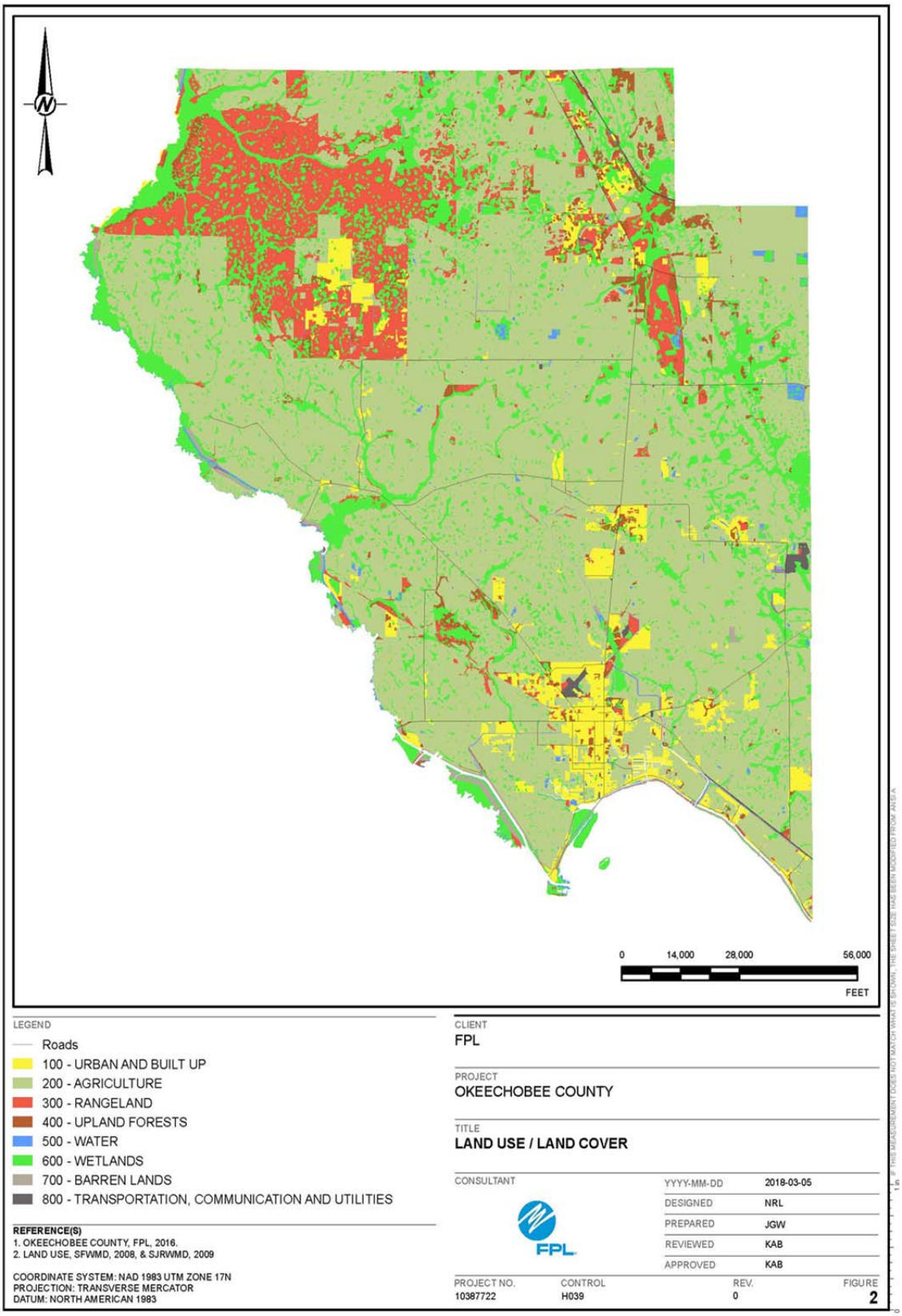

82°0'0"W
81°50'0"W
81°40'0"W
81°30'0"W
30°50'0"N
30°40'0"N
30°30'0"N
30°20'0"N
N
GEORGIA
FLORIDA
CAMDEN CO
NASSAU CO
JACKSONVILLE
DUVAL
Copyright © 2013 National Geographic Society
LEGEND
Nassau County
NASSAU COUNTY
0
15,000
30,000
60,000
Feet
REFERENCE(S)
1. NASSAU COUNTY, FPL, 2017.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
NASSAU COUNTY
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H036
REV. 0
FIGURE 1


0
15,000
30,000
60,000
FEET
LEGEND
Roads
100 - URBAN AND BUILT UP
200 - AGRICULTURE
300 - RANGELAND
400 - UPLAND FORESTS
500 - WATER
600 - WETLANDS
700 - BARREN LANDS
800 - TRANSPORTATION, COMMUNICATION AND UTILITIES
REFERENCE(S)
1. NASSAU COUNTY, FPL, 2016.
2. LAND USE, SFWMD, 2008
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
NASSAU COUNTY
TITLE
LAND USE / LAND COVER
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H036
REV. 0
FIGURE 2
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI A
1 in
0

Environmental and Land Use Information: Supplemental Information

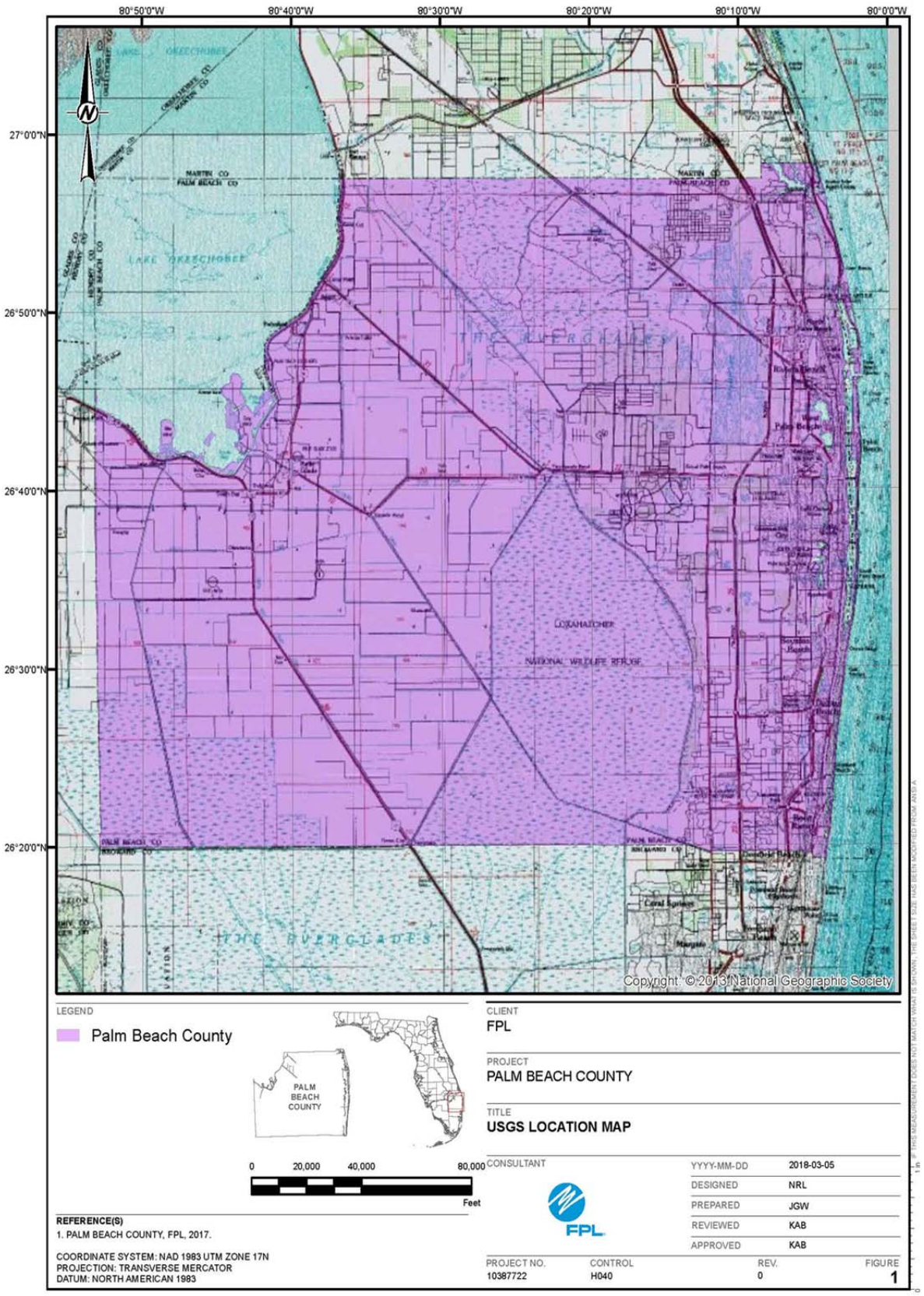
Potential Site # 10: Okeechobee County


81°10'0"W
81°0'0"W
80°50'0"W
80°40'0"W
27°40'0"N
27°30'0"N
27°20'0"N
27°10'0"N
N
OSCEOLA CO
OKEECHOBEE CO
INDIAN RIVER CO
ST LUCIE CO
OKEECHOBEE CO
HIGHLANDS CO
GLADES CO
OKEECHOBEE CO
ST LUCIE CO
MARTIN CO
BRIGHTON INDIAN RESERVATION
Copyright © 2013 National Geographic Society
LEGEND
Okeechobee County
OKEECHOBEE COUNTY
0
12,000
24,000
48,000
Feet
REFERENCE(S)
1. OKEECHOBEE COUNTY, FPL, 2017.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
OKEECHOBEE COUNTY
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H038
REV. 0
FIGURE 1


0
14,000
28,000
56,000
FEET
LEGEND
Roads
100 - URBAN AND BUILT UP
200 - AGRICULTURE
300 - RANGELAND
400 - UPLAND FORESTS
500 - WATER
600 - WETLANDS
700 - BARREN LANDS
800 - TRANSPORTATION, COMMUNICATION AND UTILITIES
REFERENCE(S)
1. OKEECHOBEE COUNTY, FPL, 2016.
2. LAND USE, SFWMD, 2008, & SJRWMD, 2009
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
OKEECHOBEE COUNTY
TITLE
LAND USE / LAND COVER
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H039
REV. 0
FIGURE 2

Environmental and Land Use Information: Supplemental Information

Potential Site # 11: Palm Beach County


80°50'0"W
80°40'0"W
80°30'0"W
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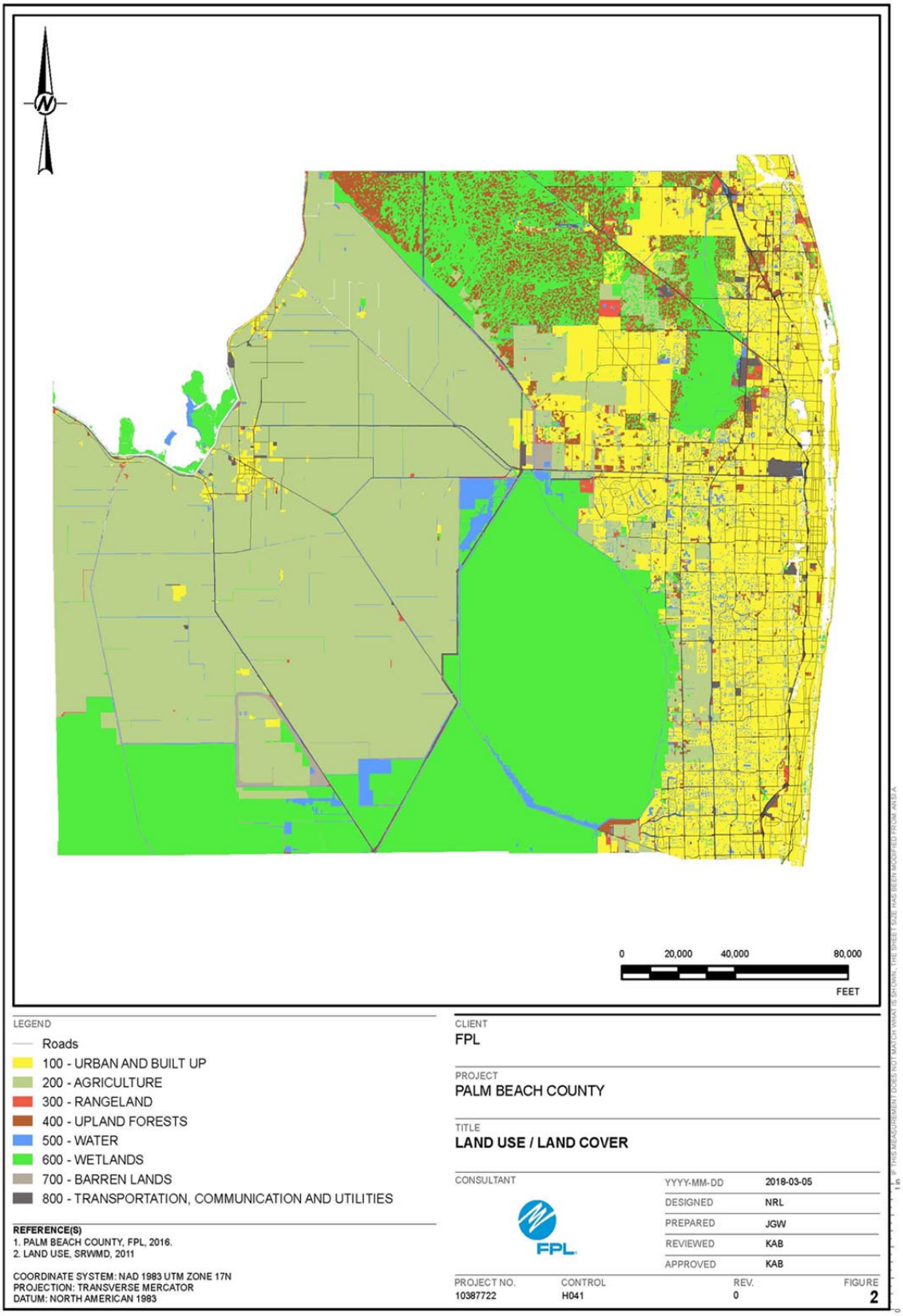
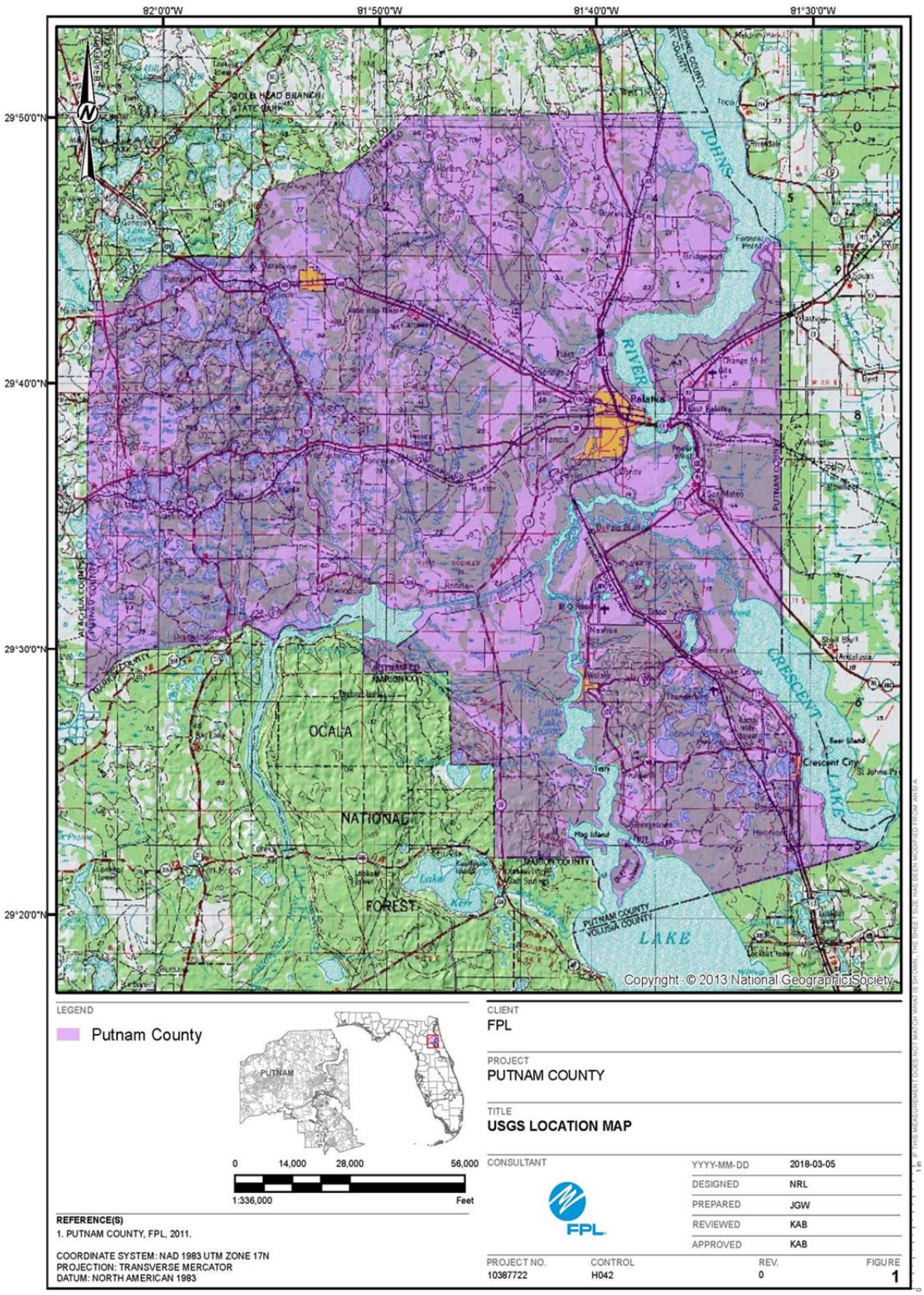
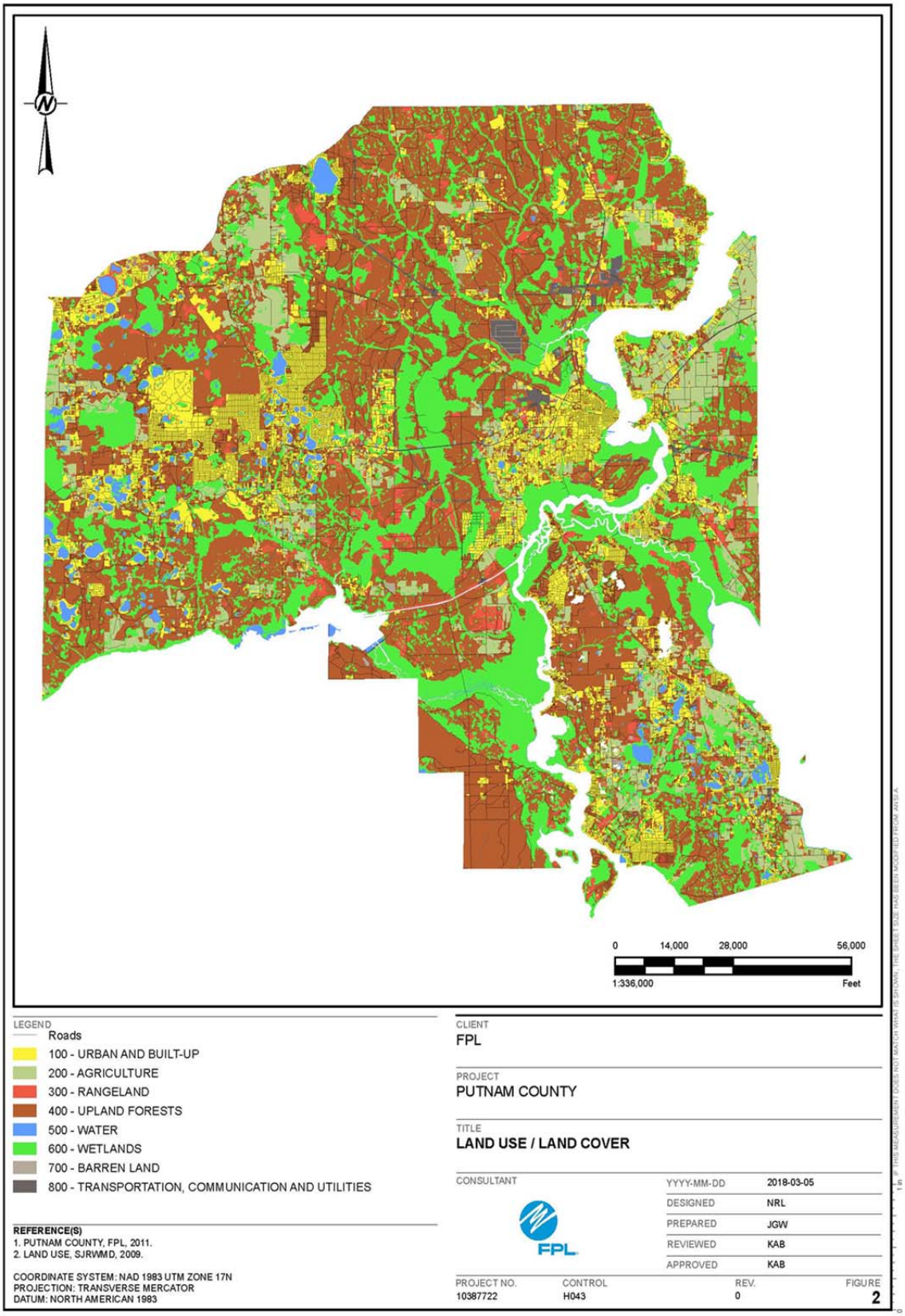
80°10'0"W
80°0'0"W
27°0'0"N
26°50'0"N
26°40'0"N
26°30'0"N
26°20'0"N
LAKE OKEECHOBEE
THE EVERGLADES
LOXAHATCHEE
NATIONAL WILDLIFE REFUGE
Copyright © 2013 National Geographic Society
LEGEND
Palm Beach County
PALM BEACH COUNTY
0 20,000 40,000 80,000
Feet
REFERENCE(S)
1. PALM BEACH COUNTY, FPL, 2017.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
PALM BEACH COUNTY
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H040
REV. 0
FIGURE 1


0
20,000
40,000
80,000
FEET
LEGEND
Roads
100 - URBAN AND BUILT UP
200 - AGRICULTURE
300 - RANGELAND
400 - UPLAND FORESTS
500 - WATER
600 - WETLANDS
700 - BARREN LANDS
800 - TRANSPORTATION, COMMUNICATION AND UTILITIES
REFERENCE(S)
1. PALM BEACH COUNTY, FPL, 2016.
2. LAND USE, SRWMD, 2011
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
PALM BEACH COUNTY
TITLE
LAND USE / LAND COVER
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H041
REV. 0
FIGURE 2
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI A
1 in
0

Environmental and Land Use Information: Supplemental Information

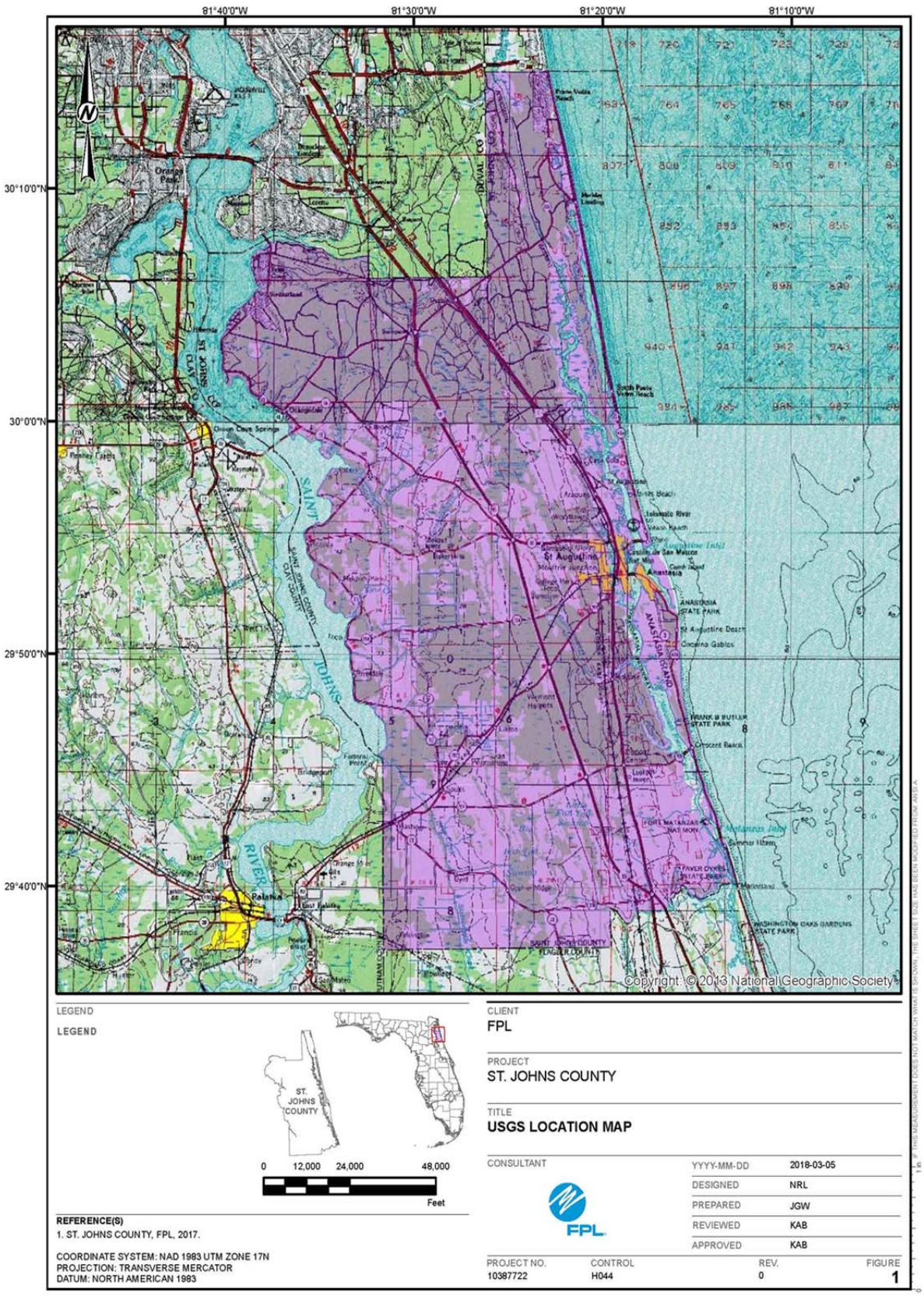
Potential Site # 12: Putnam County


82°0'0"W
81°50'0"W
81°40'0"W
81°30'0"W
29°50'0"N
29°40'0"N
29°30'0"N
29°20'0"N
N
GOLD HEAD BRANCH STATE PARK
JOHNS
RIVER
Palatka
Crescent City
OCALA
NATIONAL
FOREST
LAKE
Copyright © 2013 National Geographic Society
LEGEND
Putnam County
PUTNAM
0 14,000 28,000 56,000
1:336,000 Feet
REFERENCE(S)
1. PUTNAM COUNTY, FPL, 2011.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
PUTNAM COUNTY
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H042
REV. 0
FIGURE 1


0
14,000
28,000
56,000
1:336,000
Feet
LEGEND
Roads
100 - URBAN AND BUILT-UP
200 - AGRICULTURE
300 - RANGELAND
400 - UPLAND FORESTS
500 - WATER
600 - WETLANDS
700 - BARREN LAND
800 - TRANSPORTATION, COMMUNICATION AND UTILITIES
REFERENCE(S)
1. PUTNAM COUNTY, FPL, 2011.
2. LAND USE, SJRWMD, 2009.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
PUTNAM COUNTY
TITLE
LAND USE / LAND COVER
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H043
REV. 0
FIGURE 2

Environmental and Land Use Information: Supplemental Information

Potential Site # 13: St. Johns County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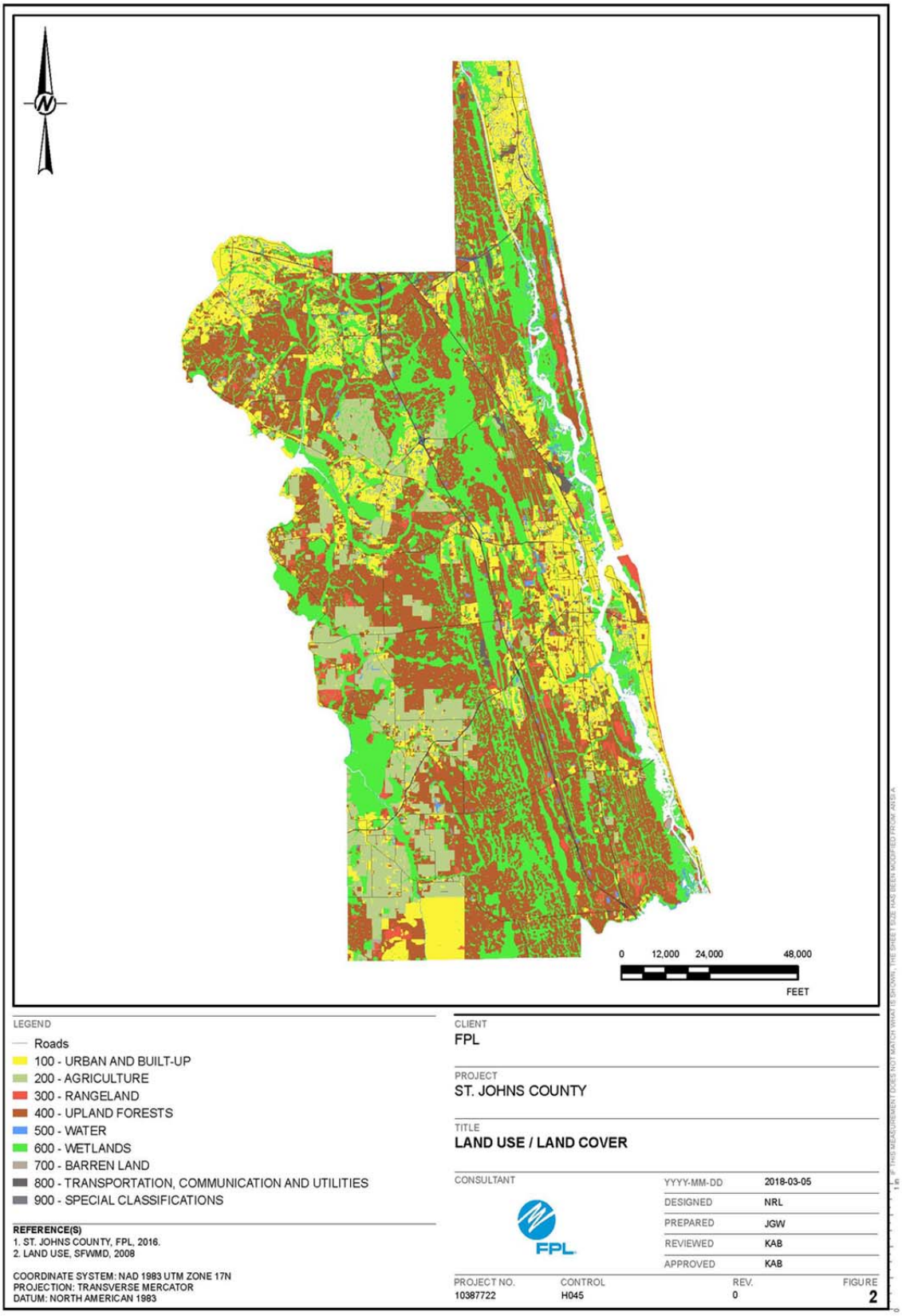
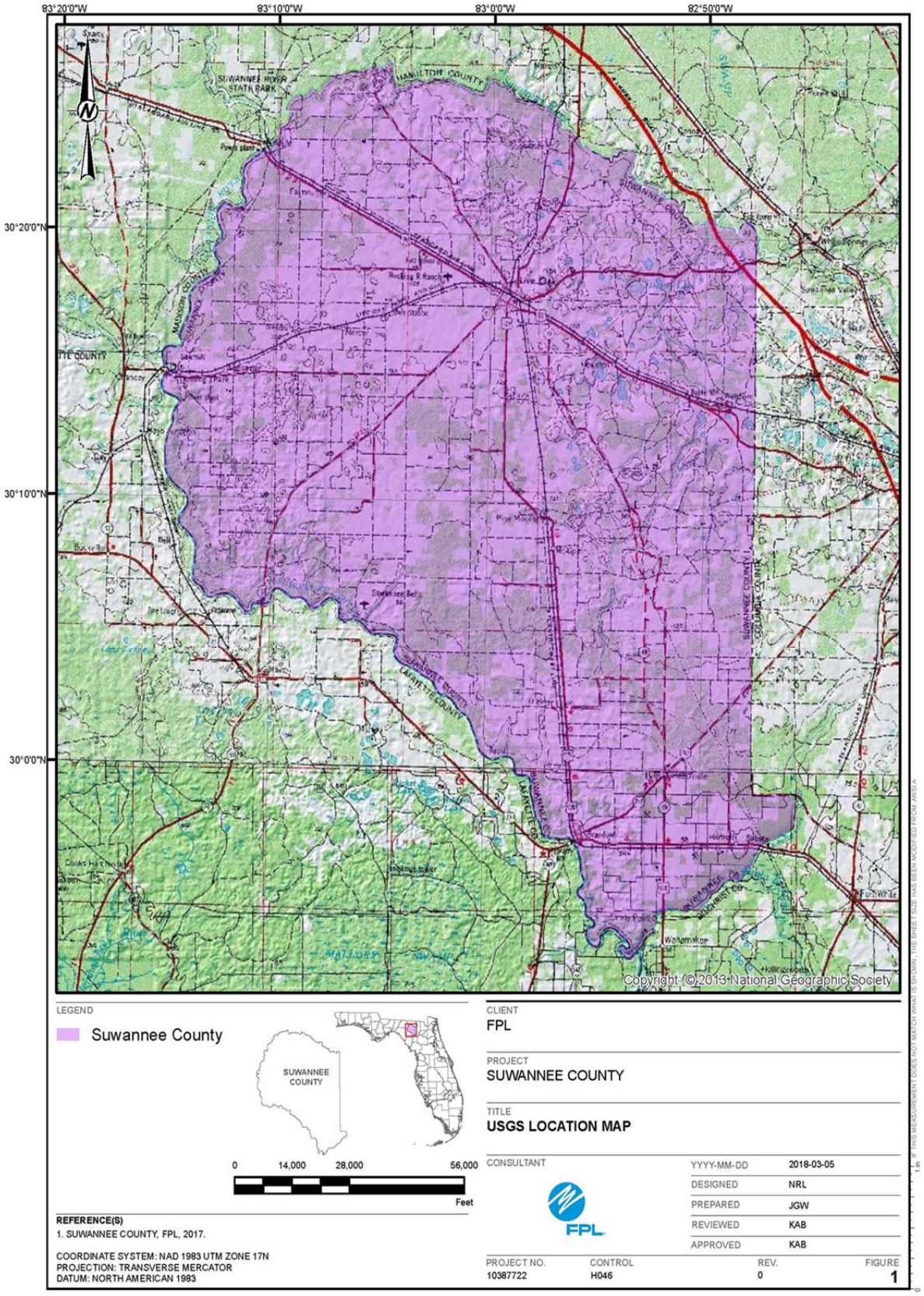
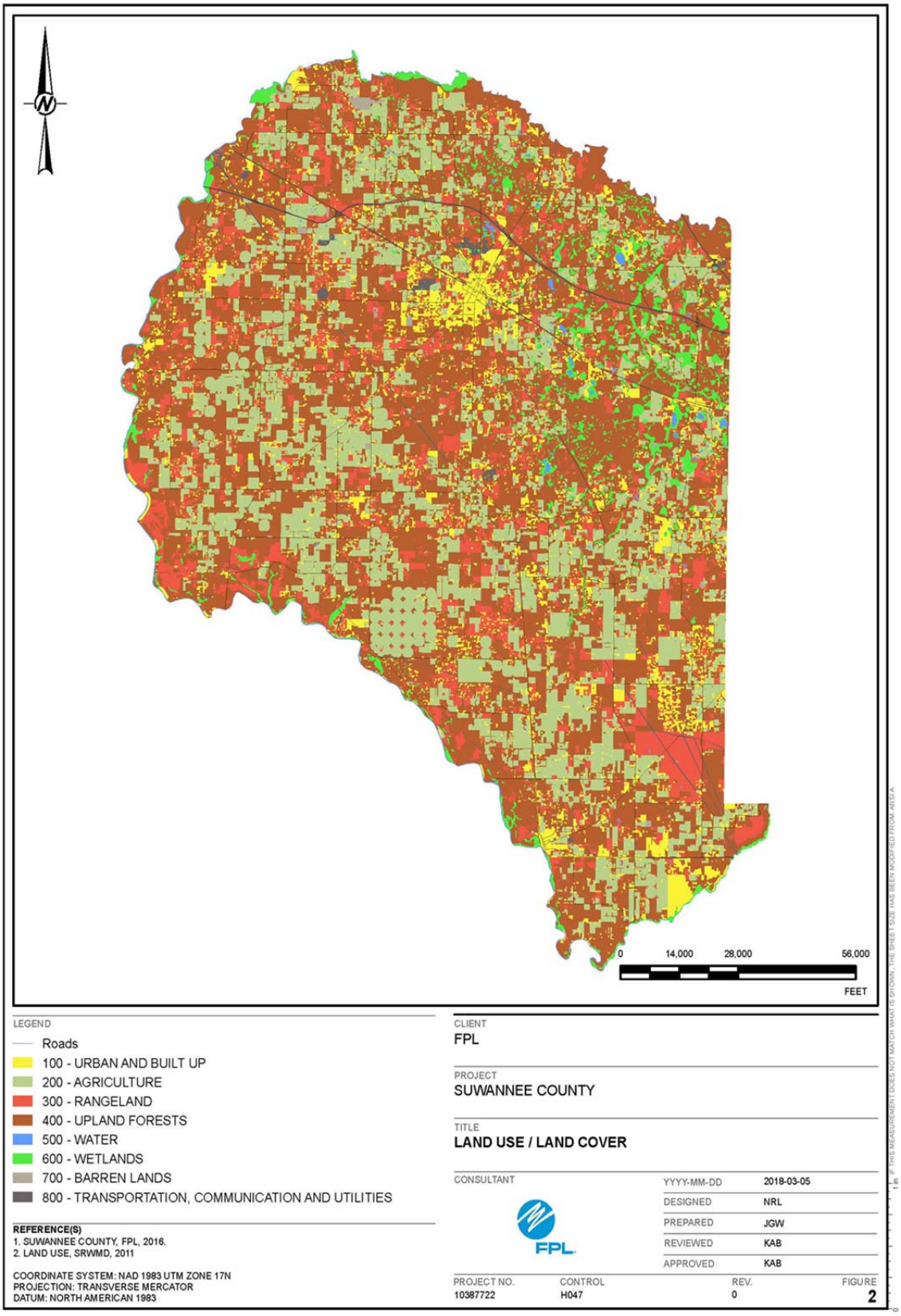
81°30'0"W
81°20'0"W
81°10'0"W
30°10'0"N
30°0'0"N
29°50'0"N
29°40'0"N
N
Orange Park
Palatka
St Augustine
Anastasia
Bridgeport
Copyright © 2013 National Geographic Society
LEGEND
LEGEND
ST. JOHNS COUNTY
0 12,000 24,000 48,000
Feet
REFERENCE(S)
1. ST. JOHNS COUNTY, FPL, 2017.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
ST. JOHNS COUNTY
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H044
REV. 0
FIGURE 1


0 12,000 24,000 48,000
FEET
LEGEND
Roads
100 - URBAN AND BUILT-UP
200 - AGRICULTURE
300 - RANGELAND
400 - UPLAND FORESTS
500 - WATER
600 - WETLANDS
700 - BARREN LAND
800 - TRANSPORTATION, COMMUNICATION AND UTILITIES
900 - SPECIAL CLASSIFICATIONS
REFERENCE(S)
1. ST. JOHNS COUNTY, FPL, 2016.
2. LAND USE, SFWMD, 2008
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
ST. JOHNS COUNTY
TITLE
LAND USE / LAND COVER
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H045
REV. 0
FIGURE 2

Environmental and Land Use Information: Supplemental Information

Potential Site # 14: Suwannee County


83°20'0"W
83°10'0"W
83°0'0"W
82°50'0"W
30°20'0"N
30°10'0"N
30°0'0"N
SUWANNEE RIVER STATE PARK
HAMILTON COUNTY
SUWANNEE COUNTY
MADISON COUNTY
LAFAYETTE COUNTY
COLUMBIA COUNTY
Copyright © 2013 National Geographic Society
LEGEND
Suwannee County
SUWANNEE COUNTY
0 14,000 28,000 56,000
Feet
REFERENCE(S)
1. SUWANNEE COUNTY, FPL, 2017.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
SUWANNEE COUNTY
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H046
REV. 0
FIGURE 1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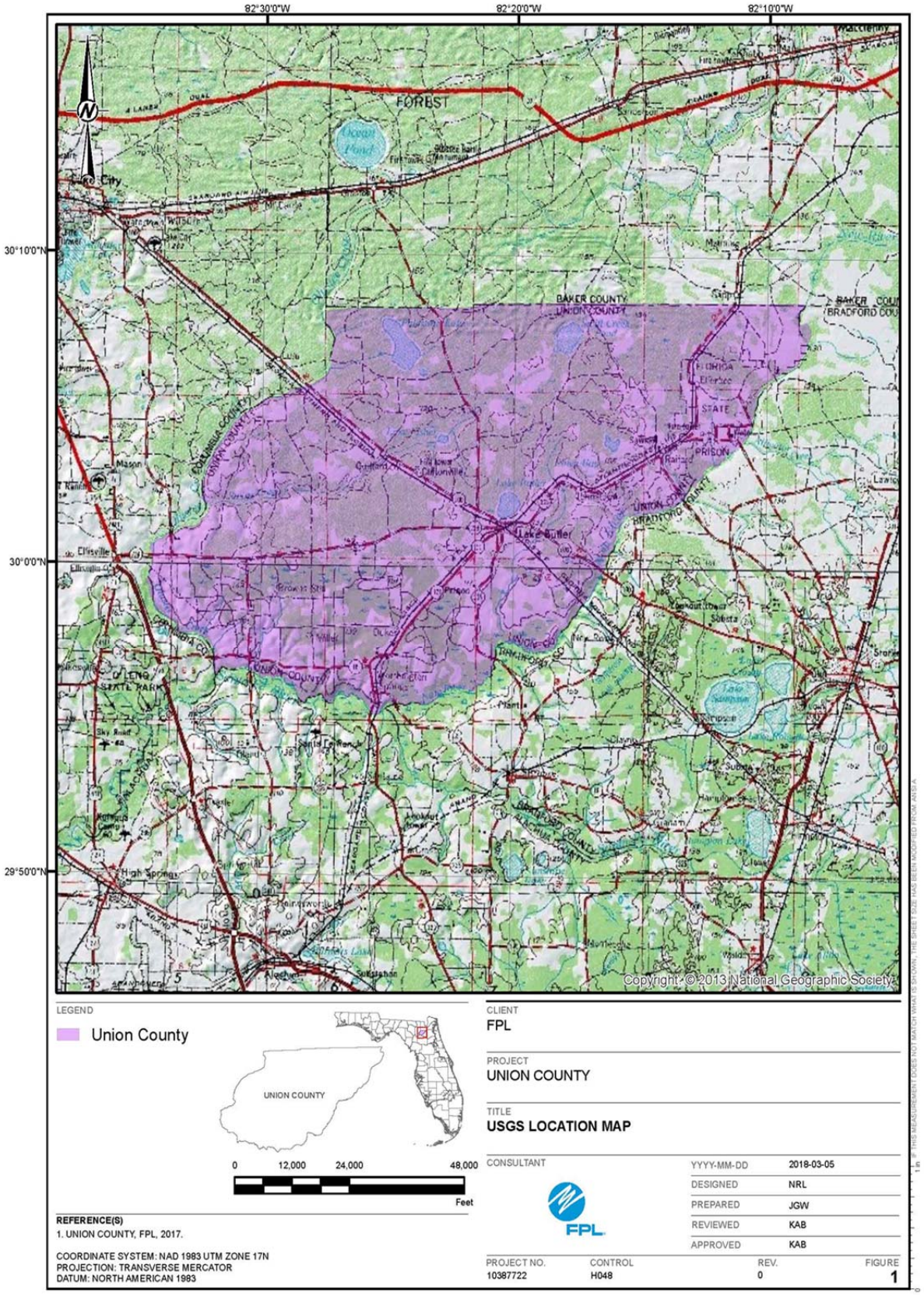
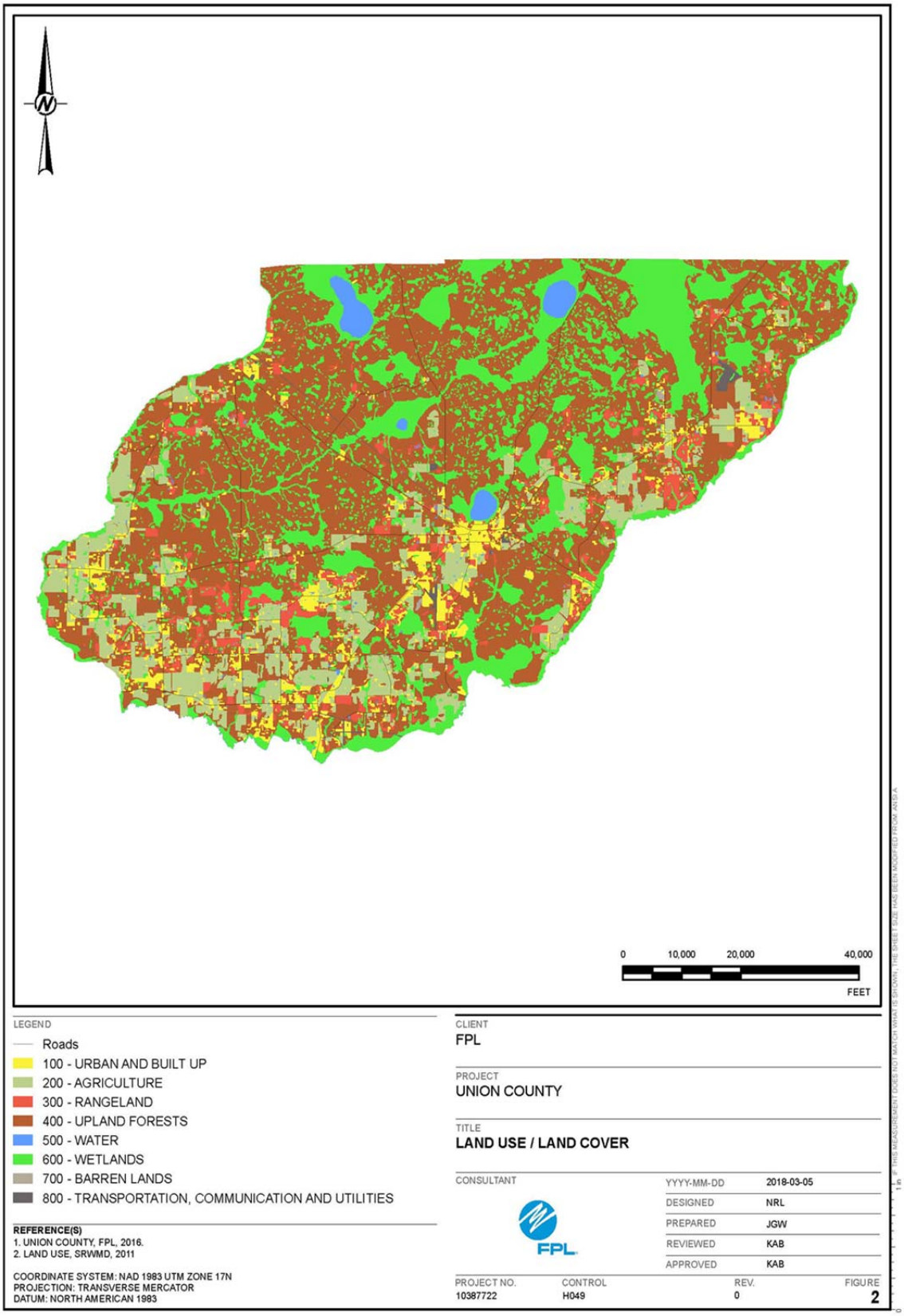
14,000
28,000
56,000
FEET
LEGEND
Roads
100 - URBAN AND BUILT UP
200 - AGRICULTURE
300 - RANGELAND
400 - UPLAND FORESTS
500 - WATER
600 - WETLANDS
700 - BARREN LANDS
800 - TRANSPORTATION, COMMUNICATION AND UTILITIES
REFERENCE(S)
1. SUWANNEE COUNTY, FPL, 2016.
2. LAND USE, SRWMD, 2011
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
SUWANNEE COUNTY
TITLE
LAND USE / LAND COVER
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H047
REV. 0
FIGURE 2

Environmental and Land Use Information: Supplemental Information

Potential Site # 15: Union County


82°30'0"W
82°20'0"W
82°10'0"W
30°10'0"N
30°0'0"N
29°50'0"N
FOREST
Lake City
BAKER COUNTY
UNION COUNTY
Lake Butler
Mason
Ellisville
O'LENO STATE PARK
High Springs
Copyright © 2013 National Geographic Society
LEGEND
Union County
UNION COUNTY
0 12,000 24,000 48,000
Feet
REFERENCE(S)
1. UNION COUNTY, FPL, 2017.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
UNION COUNTY
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H048
REV. 0
FIGURE 1


0
10,000
20,000
40,000
FEET
LEGEND
Roads
100 - URBAN AND BUILT UP
200 - AGRICULTURE
300 - RANGELAND
400 - UPLAND FORESTS
500 - WATER
600 - WETLANDS
700 - BARREN LANDS
800 - TRANSPORTATION, COMMUNICATION AND UTILITIES
REFERENCE(S)
1. UNION COUNTY, FPL, 2016.
2. LAND USE, SRWMD, 2011
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
UNION COUNTY
TITLE
LAND USE / LAND COVER
CONSULTANT
FPL
YYYY-MM-DD 2018-03-05
DESIGNED NRL
PREPARED JGW
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL H049
REV. 0
FIGURE 2

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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's resource planning work considers two types of transmission limitations/constraints: external limitations and internal limitations. External limitations involve FPL'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 system 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 FPL from outside its system as well as historical levels of available assistance. In the loss of load probability (LOLP) portion of its reliability analyses, FPL models this amount of external assistance as an additional generator within FPL's 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.

FPL addresses internal transmission limitations in economic analyses by identifying potential geographic locations for potential new generating units that minimize adverse impacts to the flow of electricity within FPL's 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 units in the FPL 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, FPL also examines the potential to avoid or defer regional transmission additions that might otherwise be needed. In addition, transfer limits for capacity and energy that can be imported into the Southeastern Florida region (Miami-Dade and Broward Counties) of FPL's system are also developed, as applicable, for use in FPL's reliability analyses and production costing analyses. (A further discussion of the Southeastern Florida region of FPL's system, and the need to maintain a regional balance between generation and transmission contributions to meet regional load, is found in Chapter III.)

FPL's annual transmission planning work determines transmission additions needed to address limitations and maintain/enhance system and regional reliability. FPL's planned transmission facilities to interconnect and integrate generating units in FPL's resource plans, 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 typically performs economic analyses of competing resource plans using FPL's 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, FPL uses the equivalent criterion of the cumulative present value of revenue requirements (CPVRR) for its system.[11]

In January 2018, FPL developed the load forecast that is presented in this 2018 Site Plan. The only load forecast sensitivities analyzed during 2017/early 2018 were extreme-weather sensitivities 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 scenario did not result in a change in the resource plan.

[11] 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, FPL evaluates resource options 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 scenario. 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 that FPL used to derive its fuel price forecasts are discussed in Chapter III of this document. FPL 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 FPL's 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 January 2018.

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 2017 and early 2018 resource planning work, FPL did not utilize a forecast scenario in which the differential between oil/gas and coal was held constant. This is, in part, because FPL is currently using, and is projected to use, very little oil or coal (as 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 on FPL's system was 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 FPL's

existing units. The values used for outages and heat rates are generally consistent with the values FPL has used in its planning studies in recent years.

In regard to new unit performance, FPL utilized current projections for the capital costs, fixed and variable operating & 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.

FPL used the following financial assumptions in its 2017 analyses: (i) an incremental capital structure of 40.38% debt and 59.62% equity; (ii) a 5.21% cost of debt; (iii) a 10.55% return on equity; and (iv) an after-tax discount rate of 7.57%. In 2018, the incremental capital structure is 40.40% debt and 59.60% equity. In addition, the cost of debt has changed to 4.88%, the cost of capital remains unchanged at 10.55%, and the after-tax discount rate has changed to 7.76%. No sensitivities of these financial assumptions were used in FPL's late 2017/early 2018 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 FPL's electricity rate levels, with the objective generally being to minimize FPL's 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 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 uses three system reliability criteria in its resource planning work 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 its transmission reliability analysis, FPL has adopted transmission planning criteria that are consistent with those established by the Florida Reliability Coordinating Council (FRCC). The FRCC has 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, FPL has developed a *Facility Interconnection Requirements* (FIR) document. This document 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. Furthermore, all new transmission facilities within the FPL service territory used to meet FPL load are planned to comply with Extreme Wind Loading Criteria as implemented in FPL Design Guidelines.

FPL 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 FPL may have determined that 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[12]

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

Discussion Item # 9: Discuss how the electric utility verifies the durability of energy savings for its DSM programs.

FPL periodically revises 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 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 the load management equipment to 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 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.

[12] 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 0.88pu 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.

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 FPL system, including environmental compliance costs. Technologies regarded as more acceptable from an environmental perspective for FPL's resource plan are those that minimize environmental impacts for the FPL 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 few barriers to successful development.

All of these factors play a part in FPL's planning and decision-making, including its 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 2018 Site Plan, FPL's current resource plan reflects the following major supply-side or generation resource additions: ongoing upgrading of the combustion turbine (CT) components at various existing CCs throughout FPL's system, projected addition of new PV facilities, projected addition of new CC capacity at the FPL Okeechobee Clean Energy Center, and additional new CC capacity from the Dania Beach Energy Center Unit 7 through the modernization of FPL's existing Lauderdale plant site.

CT upgrades are currently taking place at various CC units throughout the FPL system. The original equipment manufacturer (OEM) of the CTs approached FPL regarding the possibility of upgrading these units. Following negotiations with the OEM and economic analyses that showed upgrading was cost-effective for FPL's customers, FPL decided to proceed with the CT upgrades and the supporting balance of plant modifications. FPL completed the first series of upgrades in 2015. Additional upgrades are in progress and will continue for several years as discussed in other chapters of this Site Plan.

For new solar facilities, the selection of equipment and installation contractors has been, and will continue to be, done via competitive bidding. FPL consistently seeks bids from multiple suppliers for major components such as PV panels, inverters, and step-up transformers. Where possible, FPL 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, FPL strategically manages the bundling of purchases over the planned construction horizon.

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 suppliers to determine the best value. Based on its extensive experience in building new, highly efficient universal solar facilities, FPL may elect to self-perform the engineering, procurement, and construction (EPC) of PV project execution if the company determines it can self-manage the EPC work at a lower cost than the bids it receives.

FPL selected the Okeechobee CC, which is scheduled to begin commercial operation in 2019, after analyses of other potential FPL self-build generation options and after issuing a capacity Request for Proposals (RFP) in accordance with the FPSC's Bid Rule.

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 will utilize 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.

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.

FPL has identified the need for three new transmission lines that require certification under the Transmission Line Siting Act (as shown on Table III.E.1 in Chapter III). The first is a 230 kV line that was certified in April 2006. The new line will connect FPL's St. Johns Substation to its Pringle Substation. The line is being constructed in two phases. Phase 1 was completed in May 2009 and consisted of a new line

connecting Pringle to the new Pellicer Substation. Phase 2, which will connect St. Johns to Pellicer, is scheduled to be completed by December 2018. The construction of this line is necessary to reliably serve existing and future customers in the Flagler and St. Johns areas.

The second new transmission line is a 500 kV line corridor that was certified in April 1990. The line(s), when fully constructed, will provide an additional connection between FPL's Midway Substation and its Levee Substation in Miami-Dade County. A portion of this corridor was utilized in 1994 to connect FPL's Corbett Substation (located along the corridor) in Palm Beach County to its Conservation Substation in western Broward County. The next phase, called the Corbett-Sugar-Quarry (CSQ) line project, includes adding a 500 kV line from FPL's Corbett Substation in western Palm Beach County to a new 500 kV section of FPL's existing Sugar Substation (also in western Palm Beach County) and adding a 500 kV line from Sugar to FPL's Quarry Substation in Miami-Dade County. The Quarry 500/230 kV Substation is adjacent and connected to FPL's Levee Substation. The CSQ project, which will utilize another portion of the corridor from Corbett to Levee, is currently scheduled to be in service by June 2019. The CSQ line project is needed to increase transmission import capability into the Southeastern Florida region.

The third new transmission line is another 230 kV line that will connect FPL's Duval Substation to a new, 230/115 kV Raven Substation. The FPSC approved a determination of need for the line on March 4, 2016, and issued a Final Order on June 29, 2016 certifying the corridor for the project. The new transmission project is scheduled to be completed by December 2018. The construction of this line and substation is necessary to reliably serve existing and future FPL customers in the northern Florida areas in and near Columbia County.

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