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April 3, 2017

-VIA ELECTRONIC FILING-

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

RE: Florida Power & Light Company's 2017 Ten Year Power Plant Site Plan

Dear Ms. Stauffer:

Please find enclosed for electronic filing Florida Power & Light Company's 2017-2026 Ten Year Power Plant Site Plan. Per Commission Staff's request, fifteen (15) 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
2017 – 2026

FPL

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FPL

Ten Year Power Plant Site Plan

2017-2026

Submitted To:

***Florida Public
Service Commission***

April 2017

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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 2016 and that were on-going in the first Quarter of 2017. The forecasted information presented in this plan addresses the years 2017 through 2026.

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, 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 2016 and early 2017. 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 demand side management (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) 2017 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 meet FPL's projected incremental resource needs for the 2017 through 2026 time period. 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 demand side management (DSM) resource 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 November 2014 by the Florida Public Service Commission (FPSC). Consequently, the level of DSM additions that FPL reflects in the 2017 Site Plan is consistent with these DSM Goals through the year 2024 and includes a continuation of the same annual level of DSM during the years 2025 and 2026. DSM is discussed in 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 similarities when comparing FPL's 2016 and 2017 Site Plans as well as meaningful differences between the two plans. In addition, there are a number of factors that either have influenced, or may influence, FPL's on-going resource planning efforts. These factors could result in future changes to the resource plan presented in this document. A brief discussion of these three topics is provided below. Additional information regarding these topics is presented in Chapters II and III.

I. Similarities Between the 2017 and 2016 Site Plans:

There are four important similarities between the 2017 and 2016 Site Plans. These similarities reflect FPL's continuing effort to utilize cost-effective solar and nuclear energy, move away from coal-fired generation, and further modernize its fleet of generating units. FPL already has one of the cleanest emission profiles of any electric utility in the U.S., but through the actions discussed in this document, FPL is projected to become even cleaner. In 2016, FPL delivered approximately 94% 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 97%.

Similarity # 1: FPL continues to pursue new cost-effective solar generation (and plans to substantially increase its investment in solar)

In its 2016 Site Plan, FPL announced that it was adding three new photovoltaic (PV) facilities by the end of 2016. Each of the PV facilities is approximately 74.5 MW[1], and they are sited in Manatee, Charlotte, and DeSoto counties. When the three new solar plants were commissioned near the end of 2016, FPL's solar generation capacity tripled from 110 MW to approximately 333 MW. Of that amount, approximately 258 MW is from PV and 75 MW is from solar thermal.

In its 2017 Site Plan, due in large part to actual and expected declining costs for PV equipment, FPL is projecting an additional 2,086 MW of PV by the end of 2023. This increase will consist of 298 MW of PV each year starting in 2017 through 2023. The cost-effective PV additions for the years 2017 through 2020 are contemplated under the Solar Base Rate Adjustment (SoBRA) mechanism in the settlement of FPL's 2016 base rate case in Docket No. 160021-EI. Similar PV additions under SoBRA in 2019 and 2020 are also expected. For planning purposes, FPL also currently projects the addition of another 298 MW of PV annually for the next three years (2021 through 2023).[2] Information regarding the siting of the solar additions, particularly for the years 2017 and 2018, is presented in Chapter IV.

The addition of all of this new, projected PV will result in FPL's total solar capability increasing to approximately 2,420 MW by the end of 2023, consisting of approximately 2,345 MW of PV and 75 MW of solar thermal. In regard to PV, this represents a PV capability that is nine times the amount of PV FPL had at the end of 2016.

With this rapid increase in solar generating capability, FPL projects that it will reach an historic milestone by the year 2020, when it begins – for the first time in its history – to produce more energy (MWh) from solar than from coal and oil combined.

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

In 2016, subsequent to commercial negotiations and upon approval of the FPSC, FPL acquired the rights to two coal-fired generation units and the related power purchase contracts, under which FPL received firm capacity and energy, with the intention of closing the two facilities. The two units are the Cedar Bay

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

[2] FPL's long-term plans for solar extend beyond the 2,086 MW of additional PV presented in this Site Plan. However, only this amount of PV is shown in the 2017 Site Plan for several reasons. One reason is that the firm capacity that is projected to be provided by the 2,086 MW, in combination with other resource changes described in this chapter, results in FPL having no additional resource need through the year 2026, the last year of the 10-year reporting period for this Site Plan as shown in Table ES-1 at the end of this chapter. Another reason is that the solar investment tax credit (ITC) currently applies only to solar projects placed in-service before 12/31/2023.

facility (250 MW) and the Indiantown Cogeneration (ICL) facility (330 MW). FPL has since closed the Cedar Bay facility. In regard to ICL, FPL plans to terminate the power purchase agreement by the 1st quarter of 2019. These two contracts were no longer cost-effective for FPL's customers. In addition, based on an arrangement with Jacksonville Electric Authority (JEA), FPL projects that by the first quarter of 2019 it will no longer receive 636 MW of coal-fired generation from the St. John's River Power Park (SJRPP) that it has been receiving from the SJRPP units.[3]

Similarity # 3: FPL continues to further modernize its fleet of fossil-fueled generating units

FPL has an ongoing program to modernize its fossil fuel generating units as analyses have shown it is cost-effective for FPL's customers. These efforts have benefited FPL customers through substantially improved fuel efficiency and increased capacity – while also significantly reducing system air emissions and fuel costs. FPL will continue its investments to further improve the efficiency and capabilities of its power generation fleet in 2017 and beyond.

In 2016, FPL retired a number of its existing older gas turbine (GTs) peaking units, including: 22 of 24 GTs at the Lauderdale site; all 12 GTs at the Port Everglades site; and 10 of 12 GTs at the Fort Myers site. Two of the existing GTs at the Lauderdale site, and two of the existing GTs at the Ft. Myers site, were retained for "black start" capability. FPL replaced the retired peaking units with 7 new, larger and more fuel-efficient combustion turbines (CTs) (including 5 at the Lauderdale site and 2 at the Fort Myers site), to maintain the needed operational capability of fast-starting generating units. Also in 2016, an older generating unit, Turkey Point Unit 1, was converted from generation mode to operate in synchronous condenser mode to provide voltage support for the crucial transmission system in Southeastern Florida. A companion unit, Turkey Point 2, had previously undergone a similar conversion. In addition, the CT components of various combined cycle (CC) units were upgraded.

FPL's 2017 Site Plan demonstrates the company's continued commitment to cost-effective improvements to its power generation fleet in two ways. First, FPL plans to modernize its existing Lauderdale power plant site. The site currently contains two 442 MW combined cycle (CC) units (for a total capacity of approximately 884 MW) that resulted from a repowering program approximately 25 years ago -- but which contain certain outdated plant components that date back to the 1950s. FPL plans to retire these existing units in the 4th Quarter of 2018 and replace them with a new, modern 2x1 CC unit by mid-2022. The new, high-efficiency CC unit will be named the Dania Beach Clean Energy Center. This modernization is driven in large part by its projected significant cost savings for FPL's customers. The modernization project also will result in an improvement in system fuel efficiency. The current units' 884 MW of capacity has a heat

[3] Subject to JEA Board and ultimately FPSC approval, SJRPP may cease operation as early as January 1, 2018.

rate of approximately 7,800 BTU/kWh. In contrast, the new CC unit is projected to have a capacity of 1,163 MW and a heat rate of approximately 6,119 BTU/kWh. The 279 MW capacity increase is especially important because it occurs in the critical Southeastern Florida region (Miami-Dade and Broward counties) where FPL has an on-going planning concern regarding growing electrical load relative to generation as described later in this chapter.

Second, FPL will continue its fleet modernization program by upgrading CT components in more of its CC units. This planned upgrade is projected to continue through the year 2020. Information regarding the specific years in which these upgrades will occur, and the associated enhanced capacity (MW) impacts of these upgrades, is presented in Schedule 8 in Chapter III. In addition to benefitting FPL customers by cost-effectively increasing capacity, these upgrades are projected to also increase the fuel efficiency of these CC units.

Similarity # 4: FPL continues to pursue cost-effective new nuclear energy generating capacity

Since June 2009, FPL has worked to secure federal Combined Operating Licenses (COL) for two new 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 2017 Site Plan is being prepared, FPL projects that it will receive a decision on its COL applications in late 2017 or early 2018. In addition, FPL determined in 2016 that once a COL has been issued the company will pause before moving forward with construction of the new nuclear units in order to incorporate the construction experience of two first-wave nuclear projects currently under construction by Georgia Power and SCANA. Construction of those units is expected to be completed in approximately 2021. As a result, the earliest in-service dates for Turkey Point 6 & 7 are beyond the 2017 through 2026 time period addressed in this Site Plan. Additional nuclear capacity remains an important factor in FPL's resource planning, and this Site Plan continues to present the Turkey Point location as a Preferred Site for the new nuclear units.

II. Differences Between the 2017 and 2016 Site Plans:

There are two important resource planning-related differences between the 2017 and 2016 Site Plans:

Difference # 1: Projected compliance costs for carbon dioxide (CO_2) emissions begin later and are lower.

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 has always been an unavoidable level of uncertainty regarding the timing and magnitude of the cost impacts of the potential regulation/legislation. The result of the 2016 presidential election has increased the uncertainty regarding both the timing and magnitude of potential CO_2-related compliance costs. As a result, the forecast of potential CO_2 compliance costs that FPL is now using in its resource planning work projects a longer timeframe until compliance costs begin, and lower costs thereafter.

Difference # 2: A biomass-based power purchase agreement is no longer included in FPL's resource plan.

FPL's 2016 Site Plan included three 60 MW biomass-based purchase power agreements with EcoGen that resulted in FPL projecting it would receive 180 MW of firm capacity starting in 2021. However, EcoGen has defaulted on those agreements and, therefore, this capacity is no longer included in the resource plan presented in the 2017 Site Plan.

III. Factors That Have Impacted, or Could Impact, FPL's Resource Plan:

In addition to the important similarities and differences described above, there are a number of factors that have impacted, or may impact, FPL's resource plan. Six such factors, some of which have been mentioned above, are summarized in the text below (presented in no particular order). These factors, and/or their potential impacts to 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 (in Miami-Dade and Broward counties). This balance has both reliability and economic implications for FPL's system and customers.

Factor # 2: The desire to maintain/enhance fuel diversity in the FPL system. Diversity is sought both in terms of the types of fuel that FPL utilizes and how these fuels are supplied to the company. 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 are projected to reduce both FPL's forecasted Summer peak load by approximately 2,041 MW, and its annual energy consumption by more than 8,000 GWh, by 2026. 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 increasing cost competitiveness of universal (utility-scale) PV facilities. Universal PV facilities are the most efficient and economical way to utilize PV technology. The declining costs of PV modules and the 2016 extension of federal tax credits have made universal PV competitive on FPL's system. As a result, FPL is planning to dramatically expand its solar generation capability by adding 2,086 MW of additional PV facilities in 2017 through 2023, as discussed above. Similarly, costs for battery storage technology are also projected to decline, and FPL is actively evaluating the potential for cost-effective future uses for energy storage on its system.

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 will be lower, and will begin later, than in previous projections. If the compliance cost projections significantly change in the future, it is possible that the resource plan presented in this 2017 Site Plan may change.

FPL will continue to examine each of these factors in its on-going resource planning work in 2017 and future years.

Table ES-1 presents a current projection of major changes to specific generating units and firm capacity purchases for 2017 through 2026. 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 they have been extended at that same level through 2026. Thus, DSM impacts are fully accounted for in the resource plan in this Site Plan.

Table ES-1 shows the addition of an FPL CC in Okeechobee County in 2019. The FPSC issued a determination of need order approving this CC unit on January 19, 2016. The table also shows: the addition of a total of 2,086 MW of additional PV beginning in 2017 through the end of 2023 (with the impact on FPL's Summer reserve margin accounted for in the year following the installation), the planned end of the 636 MW of coal-fired generation that FPL now receives from the SJRPP plant, the projected end of the 330 MW ICL power purchase agreement also in early 2019, and the planned modernization of the existing Lauderdale power plant site in mid-2022 with the new combined cycle unit to be named the

Dania Beach Clean Energy Center. With these planned capacity changes, FPL does not have any remaining unmet capacity needs through the end of the 10-year reporting period of this Site Plan.

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

Year [1/]	Projected Capacity & Firm Purchase Power Changes	Summer MW (Appr.)	Date	Summer Reserve Margin [2/]
2017	Cedar Bay	(250)	January 2017	
	Ft. Myers - 2 CT Upgrade	40	May 2017	
	Lauderdale - 5 CT Upgrade	100	May 2017	
	Manatee 3	13	June 2017	
	Martin 4	9	March 2017	
	Martin 8	7	March 2017	
	Total of MW changes to Summer firm capacity:	**(81)**		**21.3%**
2018	Sanford 4	8	August 2017	
	Sanford 5	8	November 2017	
	Turkey Point 5	(40)	December 2017	
	Additional PV Sited [3/]	322	December 2017 and February 2018	
	Total of MW changes to Summer firm capacity:	**299**		**21.4%**
2019	Okeechobee Energy Center	1,748	June 2019	
	Turkey Point 3	20	October 2018	
	Martin 8	4	November 2018	
	Fort Myers 2	2	May 2019	
	St. Johns River Power Park 1 Partial Ownership [4/]	(127)	First Quarter 2019	
	St. Johns River Power Park 2 Partial Ownership [4/]	(127)	First Quarter 2019	
	St. Johns River Power Park PPA	(382)	First Quarter 2020	
	Indiantown 2 PPA	(330)	First Quarter 2019	
	Lauderdale 4	(442)	November 2018	
	Lauderdale 5	(442)	November 2018	
	Turkey Point 4	20	December 2018	
	Total of MW changes to Summer firm capacity:	**(57)**		**20.3%**
2020	Sanford 4	37	November 2019	
	Sanford 5	37	January 2020	
	Fort Myers 2	75	May 2020	
	Additional PV Unsited [3/]	161	Fourth Quarter 2019	
	Total of MW changes to Summer firm capacity:	**310**		**21.3%**
2021	Additional PV Unsited [3/]	161	Fourth Quarter 2020	
	Total of MW changes to Summer firm capacity:	**161**		**21.7%**
2022	Cape Canaveral Energy Center 3	88	June 2022	
	Lauderdale Modernization (Dania Beach Clean Energy Center)	1,163	June 2022	
	Additional PV Unsited [3/]	161	Fourth Quarter 2021	
	Total of MW changes to Summer firm capacity:	**1,412**		**26.7%**
2023	Riviera Beach Energy Center 5	86	June 2023	
	Additional PV Unsited [3/]	161	Fourth Quarter 2022	
	Total of MW changes to Summer firm capacity:	**247**		**26.0%**
2024	Additional PV Unsited [3/]	161	Fourth Quarter 2023	
	Total of MW changes to Summer firm capacity:	**161**		**24.7%**
2025		---	---	
	Total of MW changes to Summer firm capacity:	**0**		**22.9%**
2026		---	---	
	Total of MW changes to Summer firm capacity:	**0**		**21.1%**

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 Margin. Winter Reserve Margin 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

4/ Subject to JEA Board and ultimately FPSC approval, SJRPP may cease operation as early as January 1, 2018.

CHAPTER I

Description of Existing Resources

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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 4,828,066 customer accounts in 35 counties during 2016. 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

FPL owns generating resources located at 17 generating sites distributed geographically around 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). As of December 31, 2016, FPL's electrical generating facilities consisted of: four nuclear units, four coal units, 16 combined cycle (CC) units, four fossil steam units, four combustion gas turbines, nine simple cycle combustion turbines, and five photovoltaic facilities.[4] The locations of these 46 generating units are shown on Figure I.A.1 and in Table I.A.1.

FPL's bulk transmission system, including both overhead and underground lines, is comprised of 6,926 circuit miles of transmission lines. Integration of the generation, transmission, and distribution systems is achieved through FPL's 605 substations in Florida.

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

[4] 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	2,759
D	Fort Myers	5	2,310
E	Lauderdale	7	1,939
F	Everglades	1	1,237
G	Riviera	1	1,212
H	Martin	5	3,720
I	Cape Canaveral	1	1,210
J	Sanford	2	2,010
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	Cedar Bay	1	250
P	Babcock Ranch Solar [2/]	1	74.5
Q	Citrus Solar [2/]	1	74.5
R	Manatee Solar [2/]	1	74.5
	Scherer [3/]	1	634
	Gas Turbines	4	177
	Total System Generation =	**46**	**26,267**
	System Firm Generation =		**26,139**

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.

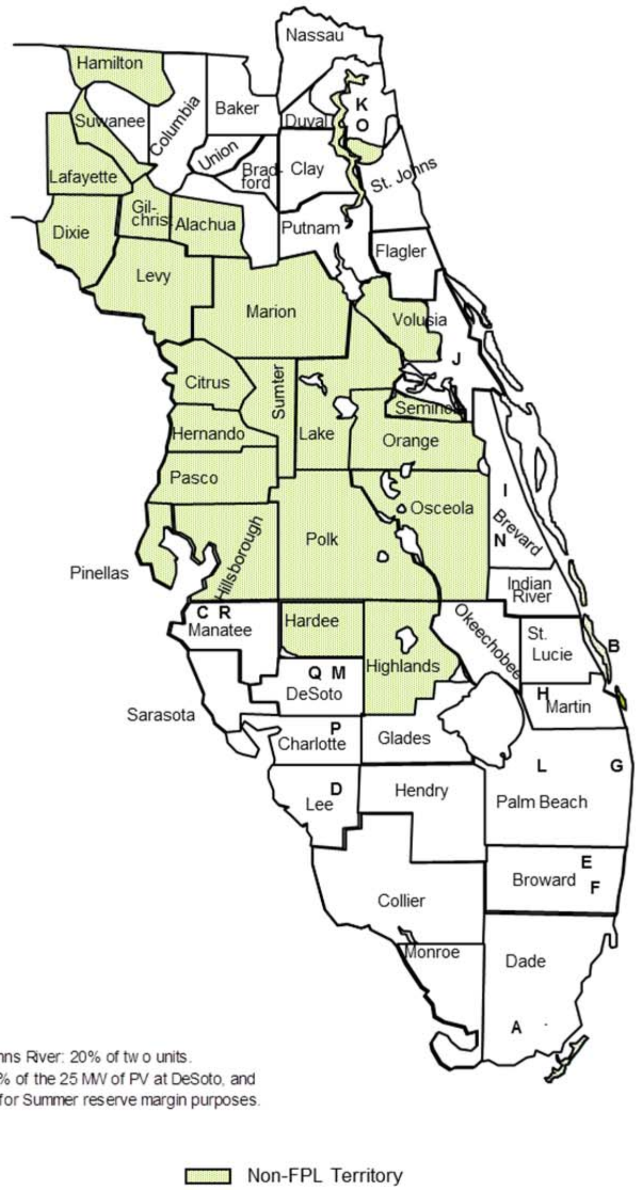

Figure I.A.1: Capacity Resources by Location (as of December 31, 2016)

Table I.A.1: Capacity Resource by Unit Type (as of December 31, 2016)

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				
Cedar Bay	Jacksonville, FL	1	Coal	250
Scherer	Monroe County, Ga	1	Coal	634
St. John's River Power Park [2/]	Jacksonville, FL	2	Coal	254
Total Coal Steam:		**4**		**1,138**
Combined-Cycle				
Fort Myers	Fort Myers, FL	1	Gas	1,524
Manatee	Parrish, FL	1	Gas	1,141
Martin	Indiantown, FL	3	Gas	2,094
Sanford	Lake Monroe, FL	2	Gas	2,010
Cape Canaveral	Cocoa, FL	1	Gas/Oil	1,210
Lauderdale	Dania, FL	2	Gas/Oil	884
Riviera Beach	City of Riviera Beach, FL	1	Gas/Oil	1,212
Port Everglades	City of Hollywood, FL	1	Gas/Oil	1,237
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**		**16,156**
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		1,055
Fort Myers	Fort Myers, FL	4	Gas/Oil	786
Total Combustion Turbines:		**9**		**1,841**
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, 2016 =		**46**		**26,267**
System Firm Generation as of December 31, 2016 =				**26,139**

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).

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

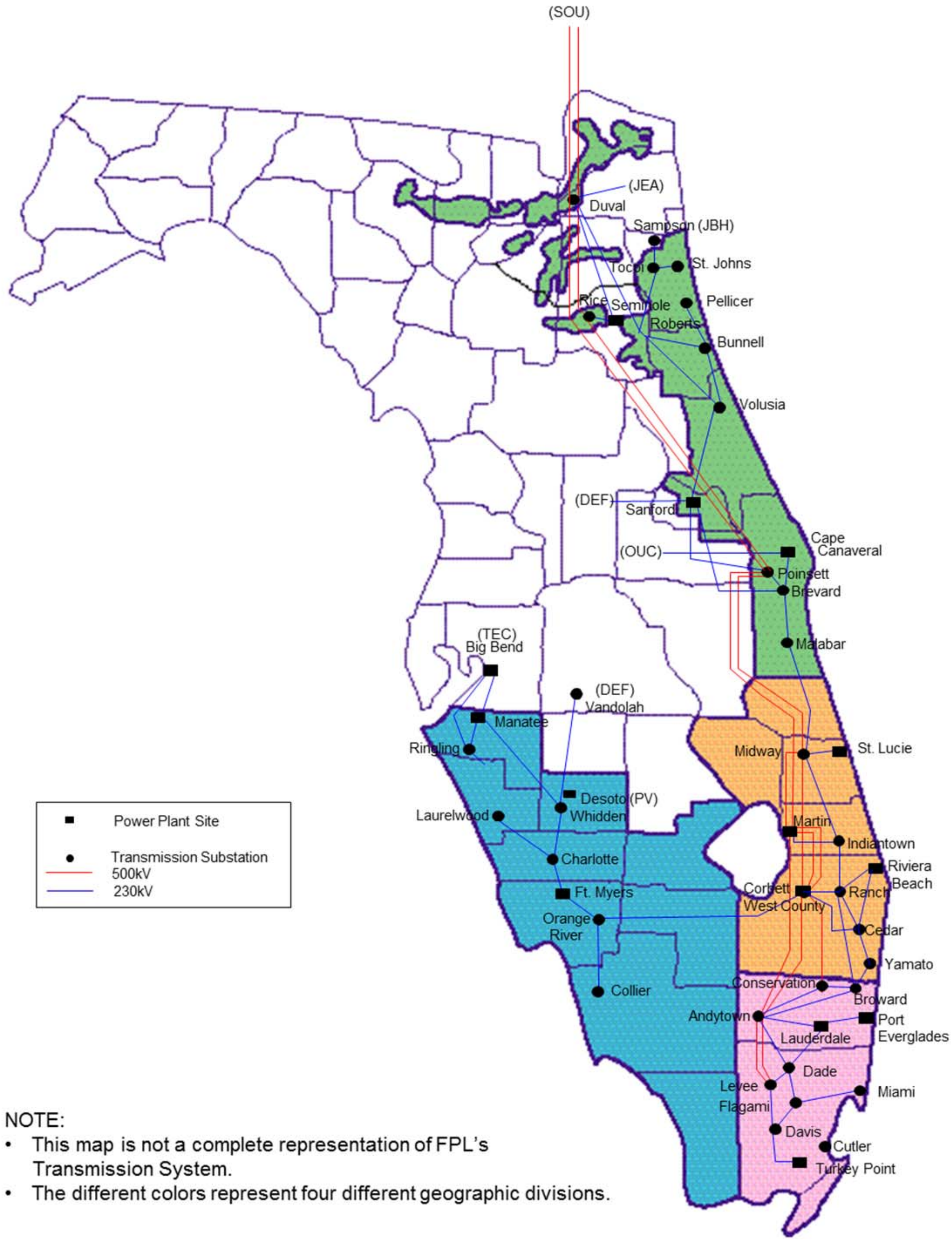

Figure I.A.2: FPL Substation and Transmission System Configuration

I.B Capacity and Energy Power Purchases

Firm Capacity: Purchases from Qualifying Facilities (QF)

Firm capacity power purchases are an important 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 2016 actual and 2017 projected future contributions from these facilities are shown in Table I.B.1, Table I.B.2, and Table I.B.3. There have been two major changes to these tables from the 2016 Site Plan to this year's Site Plan. The three biomass-based contracts between FPL and EcoGen, which were projected in the 2016 Site Plan to add a combined total of 180 MW of firm capacity in 2021, have been terminated due to default by EcoGen. In addition, there has been a change to the Indiantown Cogen LP (ICL) PPA. As approved by the FPSC (Order No. PSC-16-0506-FOF-EI), FPL has acquired the rights to the unit and the PPA for the purpose of cancelling the PPA because it is no longer cost-effective for FPL's customers. FPL currently projects the PPA will end in the 1st quarter of 2019.

Firm Capacity: Purchases from Utilities

FPL has a contract with the Jacksonville Electric Authority (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 has partial ownership of SJRPP Units 1 & 2 with FPL's ownership portion of each unit being 127 MW or 254 MW in total. However, FPL currently projects that by the 1st quarter of 2019[5] FPL will no longer receive the total of 636 MW of coal-fired generation from SJRPP that it formerly received from these units through ownership and purchase power.

The purchase power component is shown in Table I.B.1, Table I.B.2, and Table I.B.3. FPL's ownership interest in the SJRPP units is reflected in FPL's installed capacity shown on Figure I.A.1, in Table I.A.1, and on Schedule 1.

[5] Subject to JEA Board and ultimately FPSC approval, SJRPP may cease operation as early as January 1, 2018.

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 bottom half of Table I.B.1 shows the amount of energy purchased in 2016 from these facilities.

Table I.B.1: Purchase Power Resources by Contract (as of December 31, 2016)

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	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 2016
Okeelanta (known as Florida Crystals and New Hope Power Partners)*	Palm Beach	Bagasse/Wood	81,015
Miami Dade Resource Recovery*	Dade	Solid Waste	73,017
Broward South*	Broward	Solid Waste	37,660
Waste Management - Collier County Landfill*	Collier	Landfill Gas	18,800
Waste Management Renewable Energy*	Broward	Landfill Gas	8,601
Tropicana	Manatee	Natural Gas	6,589
Georgia Pacific	Putnam	Paper by-product	3,438
Customer Owned PV & Wind	Various	PV/Wind	1,921
Rothenbach Park (known as MMA Bee Ridge)*	Sarasota	PV	163
First Solar*	Dade	PV	100
INEOS Bio*	Indian River	Wood	36

*These Non-Firm Energy Purchases are renewable and are reflected on Schedule 11.1, row 8, 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 [3/]	Contract Start Date	Contract End Date	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
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	1.4
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	1.5
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	0.6
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**	**4**

II. Purchases from Utilities

	Contract Start Date	Contract End Date	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
SJRPP [2/]	04/02/82	1st Qtr/2019	382	382	0	0	0	0	0	0	0	0
		Utility Purchases Subtotal:	**382**	**382**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
		Total of QF and Utility Purchases =	**716**	**716**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**

III. Other Purchases

	Contract Start Date	Contract End Date	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
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 =	**492**	**492**	**110**	**110**	**110**	**110**	**110**	**110**	**110**	**110**

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Summer Firm Capacity Purchases Total MW:	**826**	**826**	**114**	**114**	**114**	**114**	**114**	**114**	**114**	**114**

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/ Subject to JEA Board and ultimately FPSC approval, SJRPP may cease operation as early as January 1, 2018.

3/ The Indiantown Cogen L.P. PPA is projected to end, and the generating unit to be retired, in 2019.

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 [3/]	Contract Start Date	Contract End Date	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
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	1.4
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	1.5
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	0.6
Indiantown Cogen L.P.	12/22/95	1st Qtr/2019	330	330	330	0	0	0	0	0	0	0
		QF Purchases Subtotal:	**334**	**334**	**334**	**4**	**4**	**4**	**4**	**4**	**4**	**4**

II. Purchases from Utilities

	Contract Start Date	Contract End Date	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
SJRPP [2/]	04/02/82	1st Qtr/2019	389	389	389	0	0	0	0	0	0	0
		Utility Purchases Subtotal:	**389**	**389**	**389**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
		Total of QF and Utility Purchases =	**723**	**723**	**723**	**4**	**4**	**4**	**4**	**4**	**4**	**4**

III. Other Purchases

	Contract Start Date	Contract End Date	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
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 =	**499**	**499**	**499**	**110**	**110**	**110**	**110**	**110**	**110**	**110**

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Winter Firm Capacity Purchases Total MW:	**833**	**833**	**833**	**114**	**114**	**114**	**114**	**114**	**114**	**114**

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/ Subject to JEA Board and ultimately FPSC approval, SJRPP may cease operation as early as January 1, 2018.

3/ The Indiantown Cogen L.P. PPA is projected to end, and the generating unit to be retired, in 2019.

I.C Demand Side Management (DSM)

FPL has thoroughly explored and implemented cost-effective DSM programs since 1978, and 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 2016 have resulted in a cumulative Summer peak reduction of approximately 4,843 MW at the generator and an estimated cumulative energy saving 78,400 Gigawatt-Hour (GWh) at the generator. After accounting for the 20% total reserve margin requirements, FPL's highly effective DSM efforts through 2016 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 beyond the year 2024.

Schedule 1

Existing Generating Facilities
As of December 31, 2016

(1) Plant Name	(2) Unit No.	(3) Location	(4) Unit Type	(5) Fuel Pri.	(6) Fuel Alt.	(7) Fuel Transport Pri.	(8) Fuel Transport Alt.	(9) Alt. Fuel Days Use	(10) Commercial In-Service Month/Year	(11) Actual/ Expected Retirement Month/Year	(12) Gen.Max. Nameplate KW	(13) Net Capability [1/] Winter MW	(14) Net Capability [1/] Summer MW
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									1,878,500	1,370	1,210
	3		CC	NG	FO2	PL	TK	Unknown	Apr-13	Unknown	1,295,400	1,370	1,210
Cedar Bay		Duval County									291,550	250	250
	1		ST	BIT	Other[4/]	RR	WA	Unknown	Jan-94	Jan-17	291,550	250	250
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	2,418
	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	786
	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	2,160	2,008
	4		CC	NG	FO2	PL	TK	Unknown	May-93	4th Q 2019	526,250	488	442
	5		CC	NG	FO2	PL	TK	Unknown	Jun-93	4th Q 2019	526,250	488	442
	6		CT	NG	FO2	PL	TK	Unknown	Dec-16	Unknown	1,147,500	1,110	1,055
	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	2,885	2,759
	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	1,247	1,141
Martin													
		Martin County											
		29/39S/38E									4,317,510	3,922	3,720
	1		ST	NG	FO6	PL	WA	Unknown	Dec-80	Unknown	934,500	829	823
	2		ST	NG	FO6	PL	WA	Unknown	Jun-81	Unknown	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	514	478
	8 [3/]		CC	NG	FO2	PL	TK	Unknown	Jun-05	Unknown	1,224,510	1,237	1,129
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

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, 2016

(1) Plant Name	(2) Unit No.	(3) Location	(4) Unit Type	(5) Fuel Pri.	(6) Fuel Alt.	(7) Fuel Transport Pri.	(8) Fuel Transport Alt.	(9) Alt. Fuel Days Use	(10) Commercial In-Service Month/Year	(11) Actual/ Expected Retirement Month/Year	(12) Gen.Max. Nameplate KW	(13) Net Capability [1/] Winter MW	(14) Net Capability [1/] Summer MW
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	2,194	2,010
	4		CC	NG	No	PL	No	Unknown	Oct-03	Unknown	1,188,860	1,097	1,005
	5		CC	NG	No	PL	No	Unknown	Jun-02	Unknown	1,188,860	1,097	1,005
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		Duval County											
Power Park [4/ 5/]		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 [6/]		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
		Palm Beach County											
West 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, 2016 [7/] =												**28,087**	**26,267**
System Firm Generating Capacity as of December 31, 2016 [8/] =												**27,828**	**26,139**

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/ Subject to JEA Board and ultimately FPSC approval, SJRPP may cease operation as early as January 1, 2018.

5/ The net capability ratings represent Florida Power & Light Company's share of St. Johns River Park Units 1 and 2, excluding the Jacksonville Electric Authority (JEA) share of 80%.

6/ 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.

7/ The Total System Generating Capacity value shown includes FPL-owned firm and non-firm generating capacity.

8/ 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

At FPL, long-term forecasts of sales, net energy for load (NEL), and peak loads typically are developed on an annual basis for resource planning work. FPL developed new long-term forecasts in December 2016. These new load forecasts are utilized throughout FPL's 2017 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 to develop these forecasts include population growth, economic conditions, electric prices, weather, and energy efficiency codes and standards.

The projections for the national and Florida economies are obtained from IHS Global Insight, a leading economic forecasting firm. Population projections are obtained from IHS Global Insight. This ensures 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 develops three sets of weather variables for use in its forecasting models:

1. Cooling degree-hours based on 72^o Fahrenheit (F), winter heating degree-days based on 66^o F, and heating degree-days based on 45^o F are used to forecast energy sales.
2. 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.
3. 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. Heating degree-days based on 45^o F are used to capture heating load resulting from sustained periods of unusually cold weather that are not completely captured by heating degree-days based on 66^o F. 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 2016 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 the 2016 Site Plan.

The customer forecast is based on recent population projections and the actual levels of customer growth experienced historically. Population projections are derived from IHS Global Insight's August 2016 forecast. The forecasted growth rates are generally consistent with population growth rates utilized in the 2016 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 20 million people in 2015 and is expected to exceed 23 million by the end of 2026. Overall, the state's population is expected to increase by nearly three million people from the beginning of 2017 through 2026.

The growth in FPL's customer accounts is expected to mirror the overall level of population growth in the state. From the beginning of 2017 through 2026, the total number of customer accounts is projected to increase at an annual rate of 1.4%, resulting in a cumulative increase of more than 660,000 customer accounts. By 2019, FPL expects that it will serve more than five million customer accounts. By 2026, FPL expects the total to reach approximately 5.5 million.

The economic projections incorporated into FPL's load forecast are provided by IHS Global Insight. Consistent with FPL's 2016 Site Plan, IHS Global Insight 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 the savings resulting from the use of compact fluorescent bulbs and light-emitting diodes (LEDs).[6] The impact of these savings began in 2005, and their cumulative impact on the Summer peak is expected to reach 4,365 MW by 2026, the equivalent of an approximately 14% reduction in what the forecasted Summer peak load for 2026 would have been without these energy efficiency codes and standards. The cumulative impact on NEL from these savings is expected to reach 15,823 GWh over the same period, while the cumulative impact on the Winter peak is expected to be 2,234 MW by 2026. This represents a decrease of approximately 11% in the forecasted NEL for 2026 and a 9% reduction in forecasted Winter peak load for 2026.

Consistent with the forecast presented in FPL's 2016 Site Plan, the total growth projected for the ten-year reporting period of this document is significant. The Summer peak is projected to increase to 26,552 MW by 2026, an increase of 2,694 MW over the 2016 actual Summer peak. Likewise, NEL is projected to reach 126,825 GWh in 2026, an increase of 5,206 GWh from the actual 2016 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 2017 through 2026 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, heating degree-days, electric prices, and Florida real per capita income weighted by the percentage of the population that is employed. The impact of weather is captured by the cooling degree-hours and winter heating degree-days. Two variables are used to capture the impact of electric prices on energy usage. One variable is based on increases in the price of electricity over time, and another variable is based on decreases in the price of electricity over time. By using two different price terms, the fact that consumers may have proportionately different

[6] 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.

responses to price increases as to price decreases is captured in the model. To capture economic conditions, the model includes a composite variable based on Florida real per capita income and the percent of the state's population that is employed. 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 the commercial sales forecast. The commercial class is forecast using four separate models, based on customer size, including: commercial 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
- Heating degree-hours
- Lagged cooling degree-hours
- An electric price variable based on increases in the real price of electricity over time
- Dummy variables for the specific months of November 2005 and February 2016
- An autoregressive term.

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, and autoregressive terms.

The large 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
- Electric price variable based on decreases in the real price of electricity over time
- Dummy variables for the month of December and for the specific months of January 2007 and November 2005.

Finally, the commercial lighting sales model uses a lag of commercial lighting sales, dummy variables for August 2004 and September 2004, and 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 three distinct groups: 1) small accounts (less than 20 kW of demand), 2) medium accounts (21 kW to 499 kW of demand), and 3) large accounts (demands of 500 kW or higher).

- The small industrial sales model utilizes the following variables: Florida housing starts, cooling degree-hours, heating degree-hours, a dummy variable for August 2004, 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 nine customers in this class: Florida Keys Electric Cooperative, Lee County Electric Cooperative, New Smyrna Beach, Wauchula, Winter Park, Homestead, Quincy, Moore Haven, and Seminole Electric Cooperative.[7]

Beginning in May 2011, FPL began providing service to the Florida Keys Electric Cooperative under a long-term full requirements contract. FPL previously served the Florida Keys under a partial 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.

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.

[7] 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.

FPL sales to Seminole Electric Cooperative are based on delivery of 200 MW that began in June 2014 and continues 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 by calendar month, and heating degree-days based on 45^{o} F. 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 15,823 GWh by 2026. This represents an approximately 11% reduction in what the forecasted NEL for 2026 would have been absent these codes and standards. From the end of 2016, the incremental reduction through 2026 is expected to be 8,004 GWh.
FPL makes an adjustment for the impact of incremental private solar added after August 2016. The adjustment to the forecast due to private solar is expected to reduce the NEL forecast by 705 GWh by 2026. FPL also adjusted the forecast for the additional load added after August 2016 from new plug-in electric vehicles. This resulted in an increase of approximately 1,040 GWh by the end of the ten-year reporting period. FPL further adjusted the forecast for the incremental load added after August 2016 from FPL's economic development riders. This incremental load is projected to grow to 483 GWh before leveling off in 2022. 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 4,526 GWh in 2026.

FPL develops the NEL forecast by first multiplying the NEL per-customer forecast by the projected total number of customers and then adjusting the forecasted results for the expected changes in load resulting from private solar, plug-in electric vehicles, FPL's economic development riders, and wholesale requirements contracts. Once 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 2017 through 2026 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 FPL system peak load 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 as a result of private solar, the expected number of plug-in electric vehicles, FPL's economic development riders, 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 4,365 MW by 2026. 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 2026 impact from these energy efficiency codes and standards effectively reduces FPL's Summer peak for that year by approximately 14%. From the end of 2016, FPL projects the incremental impact on the Summer peak from these energy efficiency codes and standards will be a reduction of 2,041 MW through 2026. Similarly, FPL projects the incremental impact on the Winter peak will reach 1,263 MW in 2026.

FPL also adjusted the forecast for additional load estimated from plug-in electric vehicles and FPL's economic development riders. The impact from plug-in electric vehicles is projected to be an increase of approximately 308 MW in the Summer and 158 MW in the Winter by the end of 2026. The impact from FPL's economic development riders is projected to grow to 69 MW in the Summer peak, and 58 MW in the Winter peak, before leveling off in 2022. The incremental impact of private solar results in an expected decrease of approximately 167 MW in the Summer and a negligible reduction in the Winter by the end of the ten-year reporting period. 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 2017 through 2026 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 the 3-month average Consumer Price Index (CPI) for Energy, Florida real household disposable 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, 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 Winter peaks occurring on weekends and one for Winter peaks occurring in February. Also included in the model is a variable for housing starts per capita. FPL adjusts the forecasted results for the impact of energy efficiency codes and standards. The model is based on the Winter peak contribution per customer multiplied by the total number of customers. This product then is adjusted for the expected changes in loads resulting from private solar, plug-in electric vehicles, FPL's economic development riders, and wholesale requirements contracts.

3. Monthly Peak Forecasts

The forecasting process for monthly peaks consists of the following steps:

a. 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.

b. 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.

c. 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 2017 through 2026 using a System Load Forecasting "shaper" program. 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 in evaluating 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 well 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 that 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. With respect to operational planning, 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.

II.H. DSM

FPL assumes that the effects of its DSM energy efficiency programs through August 2016 are embedded in the actual usage data for forecasting purposes. 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 2016 through December 2016 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. For the years 2025 and 2026 that are also presented in this Site Plan, FPL assumes that utility DSM impacts will continue at an annual level consistent with the DSM Goals. After making these adjustments to the load forecast values, the resulting "firm" load forecast is then used in FPL's IRP work, as shown in Chapter III in Schedules 7.1 and 7.2.

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
2007	8,620,285	2.17	55,138	3,981,451	13,849	45,921	493,130	93,121
2008	8,679,468	2.17	53,229	3,992,257	13,333	45,561	500,748	90,987
2009	8,747,848	2.20	53,950	3,984,490	13,540	45,025	501,055	89,860
2010	8,858,844	2.21	56,343	4,004,366	14,070	44,544	503,529	88,464
2011	8,994,728	2.23	54,642	4,026,760	13,570	45,052	508,005	88,685
2012	9,116,827	2.25	53,434	4,052,174	13,187	45,220	511,887	88,340
2013	9,241,135	2.26	53,930	4,097,172	13,163	45,341	516,500	87,786
2014	9,384,300	2.25	55,202	4,169,028	13,241	45,684	525,591	86,919
2015	9,541,386	2.26	58,846	4,227,425	13,920	47,369	532,731	88,916
2016	9,691,064	2.27	58,687	4,273,798	13,732	47,355	538,638	87,917

Historical Values (2007 - 2016):

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
2017	9,838,770	2.26	57,423	4,345,693	13,214	47,054	547,642	85,921
2018	9,981,708	2.26	58,039	4,408,347	13,166	47,548	553,994	85,828
2019	10,119,039	2.26	58,246	4,469,651	13,031	47,858	560,090	85,447
2020	10,252,872	2.26	58,865	4,529,651	12,996	48,248	566,026	85,240
2021	10,386,084	2.26	58,844	4,589,372	12,822	48,510	571,926	84,819
2022	10,519,445	2.26	59,475	4,648,887	12,793	48,907	578,042	84,608
2023	10,652,800	2.26	59,781	4,708,482	12,696	49,314	583,930	84,452
2024	10,786,515	2.26	60,372	4,768,200	12,661	49,801	589,410	84,493
2025	10,920,522	2.26	60,678	4,827,734	12,569	50,146	594,731	84,317
2026	11,055,012	2.26	61,222	4,887,060	12,527	50,610	599,945	84,358

Projected Values (2017 - 2026):

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
2007	3,774	18,732	201,499	91	437	53	105,415
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	102,226
2013	2,956	9,541	309,772	88	442	28	102,784
2014	2,941	10,415	282,398	91	446	24	104,389
2015	3,042	11,318	268,799	92	448	23	109,820
2016	3,059	11,651	262,505	92	447	23	109,663

Historical Values (2007 - 2016):

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
2017	3,026	12,500	242,081	92	451	23	108,069
2018	3,023	12,839	235,416	92	451	23	109,176
2019	3,017	13,045	231,293	92	450	23	109,686
2020	3,010	13,169	228,553	92	449	23	110,688
2021	3,002	13,245	226,642	92	448	23	110,919
2022	2,993	13,291	225,213	92	447	23	111,938
2023	2,985	13,320	224,073	92	446	23	112,641
2024	2,976	13,338	223,117	92	444	23	113,708
2025	2,967	13,349	222,282	92	442	23	114,348
2026	2,958	13,355	221,517	92	440	23	115,345

Projected Values (2017 - 2026):

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
2007	1,499	7,401	114,315	3,276	4,496,589
2008	993	7,092	111,004	3,348	4,509,730
2009	1,155	7,394	111,303	3,439	4,499,067
2010	2,049	7,870	114,475	3,523	4,520,328
2011	2,176	6,950	112,454	3,596	4,547,051
2012	2,237	6,403	110,866	3,645	4,576,449
2013	2,158	6,713	111,655	3,722	4,626,934
2014	5,375	6,204	115,968	3,795	4,708,829
2015	6,610	6,326	122,756	3,907	4,775,382
2016	6,623	5,334	121,619	3,979	4,828,066

Historical Values (2007 - 2016):

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 2012-2016 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
2017	5,973	5,144	119,186	4,069	4,909,904
2018	5,992	5,332	120,500	4,145	4,979,325
2019	6,067	5,369	121,122	4,218	5,047,004
2020	6,143	5,495	122,325	4,291	5,113,137
2021	5,669	5,465	122,053	4,365	5,178,908
2022	5,238	5,630	122,806	4,435	5,244,656
2023	5,317	5,695	123,653	4,506	5,310,238
2024	5,398	5,827	124,933	4,576	5,375,524
2025	5,480	5,852	125,680	4,645	5,440,459
2026	5,564	5,916	126,825	4,712	5,505,072

Projected Values (2017 - 2026):

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
2007	21,962	261	21,701	0	952	982	716	683	20,295
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	955	21,980	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	1,167	22,691	0	882	1,548	836	888	22,140

Historical Values (2007 - 2016):

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 2016 values which are through August.

Col. (6) value for 2015 and 2016 primarily reflect a short-term hardware communications issue that is projected to be resolved by the end of 2017.

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
2017	24,009	1,408	22,600	0	952	12	869	18	22,158
2018	24,297	1,417	22,880	0	970	24	881	32	22,390
2019	24,496	1,381	23,116	0	977	35	892	45	22,547
2020	24,605	1,326	23,279	0	984	47	903	60	22,611
2021	24,717	1,132	23,585	0	990	59	915	74	22,679
2022	24,967	1,125	23,841	0	996	72	926	89	22,884
2023	25,338	1,131	24,207	0	1,003	85	937	105	23,208
2024	25,756	1,118	24,637	0	1,010	99	947	121	23,579
2025	26,137	1,098	25,040	0	1,016	112	958	137	23,914
2026	26,552	1,100	25,452	0	1,023	126	969	153	24,281

Projected Values (2017 - 2026):

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
2007	16,815	223	16,592	0	846	620	577	249	15,392
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	887	16,054	0	742	858	570	352	15,629

Historical Values (2007 - 2016):

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 Der
For year 2011, the actual winter peak occurred in December of 2010.

Col. (5) - Col. (9) for 2006 through 2016 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 is projected to be resolved by the end of 2

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
2017	20,361	1,211	19,151	0	777	4	599	10	18,971
2018	20,673	1,216	19,456	0	806	7	605	19	19,236
2019	20,828	1,177	19,651	0	812	11	610	29	19,366
2020	20,978	1,120	19,857	0	817	15	615	38	19,493
2021	21,172	1,123	20,049	0	822	20	621	49	19,660
2022	21,113	913	20,200	0	827	24	626	59	19,577
2023	21,289	916	20,373	0	833	29	632	71	19,724
2024	21,452	900	20,552	0	838	35	637	82	19,860
2025	21,591	876	20,715	0	844	40	643	94	19,970
2026	21,773	875	20,898	0	849	46	648	106	20,124

Projected Values (2017 - 2026):

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 Jan 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

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(%)
2007	118,518	2,138	2,066	114,315	1,499	7,401	105,415	59.4%
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	7,394	102,755	56.8%
2010	119,220	2,487	2,259	114,475	2,049	7,870	104,557	58.7%
2011	117,460	2,683	2,324	112,454	2,176	6,950	103,327	59.4%
2012	116,083	2,823	2,394	110,866	2,237	6,403	102,226	59.0%
2013	117,087	2,962	2,469	111,655	2,158	6,713	102,784	59.1%
2014	121,621	3,125	2,529	115,968	5,375	6,204	104,389	57.7%
2015	128,556	3,232	2,568	122,756	6,610	6,326	109,820	61.0%
2016	127,481	3,254	2,608	121,619	6,623	5,334	109,663	58.2%

Historical Values (2007 - 2016):

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 2016 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(%)
2017	119,186	22	45	119,119	5,973	5,144	108,069	56.7%
2018	120,500	46	72	120,382	5,992	5,332	109,176	56.6%
2019	121,122	71	100	120,951	6,067	5,369	109,686	56.4%
2020	122,325	97	130	122,098	6,143	5,495	110,688	56.8%
2021	122,053	124	161	121,768	5,669	5,465	110,919	56.4%
2022	122,806	151	193	122,462	5,238	5,630	111,938	56.2%
2023	123,653	179	227	123,247	5,317	5,695	112,641	55.7%
2024	124,933	208	263	124,462	5,398	5,827	113,708	55.4%
2025	125,680	238	300	125,142	5,480	5,852	114,348	54.9%
2026	126,825	268	336	126,221	5,564	5,916	115,345	54.5%

Projected Values (2017 - 2026):

Col. (2) represents Forecasted Net Energy for Load and does not include incremental DSM from 2017 - on. The Col. (2) values are extracted from Schedule 2.3, Col(19). The effects of conservation implemented prior to mid - 2016 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 2017 - 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 2017 - 2026 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)
	2016 Actual		2017 FORECAST		2018 FORECAST	
Month	Total Peak Demand MW	NEL GWh	Total Peak Demand MW	NEL GWh	Total Peak Demand MW	NEL GWh
JAN	16,926	8,464	20,361	8,847	20,673	8,902
FEB	16,941	7,921	18,132	7,937	18,350	8,008
MAR	19,117	9,243	18,077	8,968	18,295	9,069
APR	20,021	9,371	19,630	9,191	19,865	9,309
MAY	20,298	10,618	21,450	10,521	21,708	10,645
JUN	22,528	11,554	22,890	11,068	23,165	11,190
JUL	23,858	12,801	23,295	11,818	23,575	11,944
AUG	23,645	12,316	24,009	12,013	24,297	12,136
SEP	21,574	11,309	22,488	11,014	22,758	11,132
OCT	20,811	10,221	21,156	10,311	21,411	10,430
NOV	17,239	8,507	18,590	8,669	18,813	8,786
DEC	17,776	9,293	17,859	8,827	18,074	8,948
Annual Values:		**121,619**		**119,186**		**120,500**

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

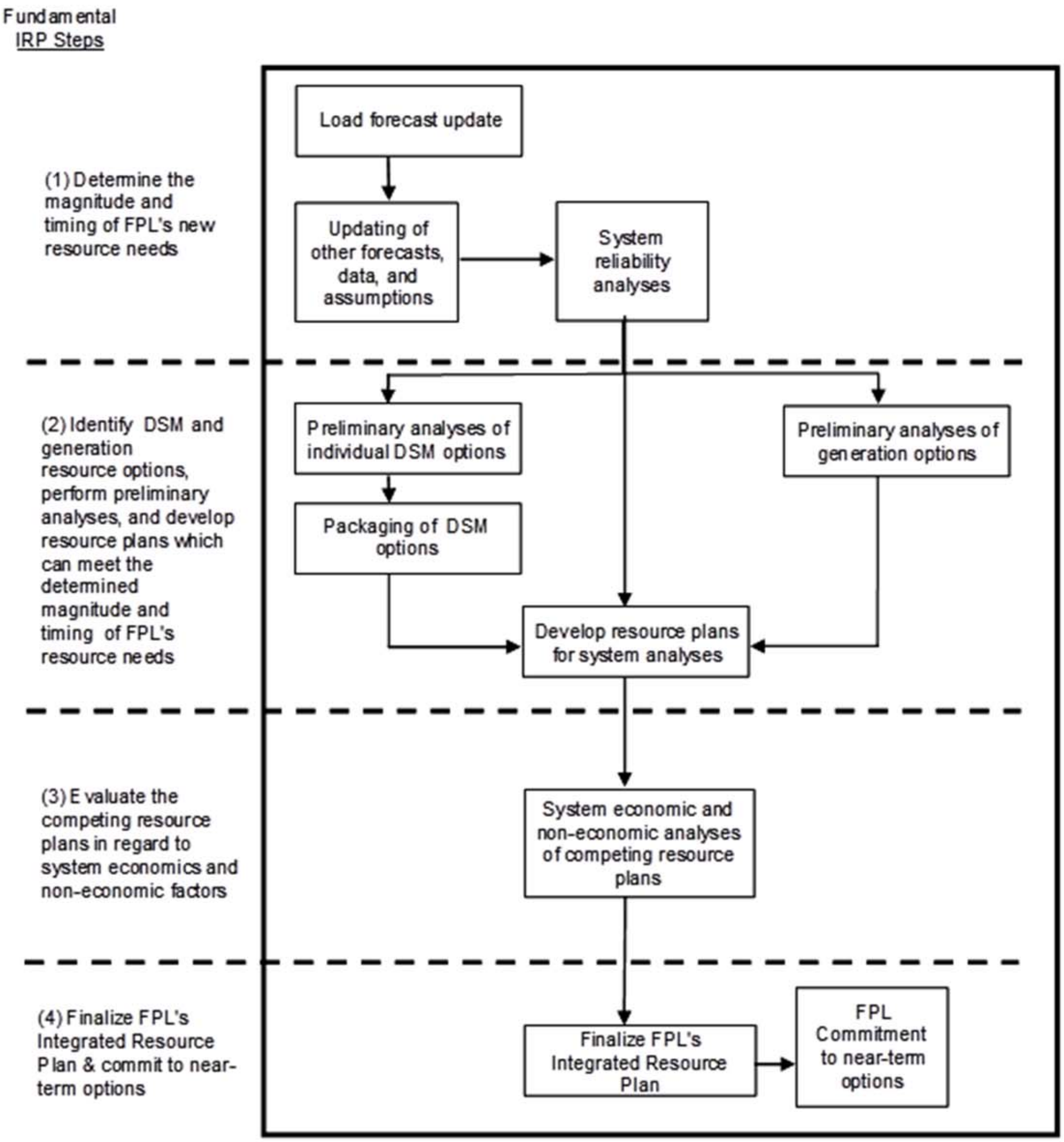

Figure III.A.1: Overview of FPL's IRP Process

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 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 2017 Site Plan, there are five (5) such projected capacity changes through the 10-year reporting time frame of this document. These changes are listed below in general chronological order:

1) Significantly More Solar Energy Generation:

   In this 2017 Site Plan, due in large part to declining costs for photovoltaic (PV) equipment, FPL is projecting the addition of 1,192 MW of PV that will be added in annual increments of 298 MW each beginning in the year 2017 through 2020. These additions are contemplated under the Solar Base Rate Adjustment (SoBRA) mechanism in the settlement agreement of FPL's 2016 base rate case. On March 1 of this year, FPL requested FPSC approval to add 298 MW of PV in 2017, and another 298 MW of PV in 2018. FPL believes that PV additions will continue to be cost-effective after 2018, and currently projects that it will continue to add PV installations in 298 MW increments each year from 2019 through 2023. Additional information regarding the siting of the solar additions, particularly for the years 2017 and 2018, is presented in Chapter IV. With these PV additions, FPL's solar capability is projected to increase to approximately 2,420 MW by the end of 2023. This total solar capability will consist of approximately 2,345 MW of PV and 75 MW of solar thermal capability.

2) CT upgrades at existing CC plant sites:

FPL is continuing its efforts to cost-effectively modernize its generation fleet in 2017 and later years by upgrading the CT component of a number of its combined cycle (CC) units. These upgrades are currently underway and are scheduled to be completed by 2020. Specific information regarding the years in which these upgrades will take place and the associated MW impacts is presented in Schedule 8 of this chapter.

3) 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. This new generating unit was first selected as FPL's best self-build generating option. A request for proposals (RFP) was then issued to solicit capacity proposals from outside parties that could compete with the Okeechobee CC. However, no proposals were submitted that met the requirements of the RFP. 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 1,750 MW (Summer) of highly fuel-efficient generation capacity.

4) Modernization of the Existing Lauderdale Plant Site:

FPL plans to further modernize its power generation fleet by retiring the two existing CC units at its existing Fort Lauderdale plant site in the 4th Quarter of 2018 and replace them with a new, modern 2x1 CC unit by mid-2022. Although there will be a net increase in system capacity of approximately 279 MW (the existing total of 884 MW at the site will be replaced by a 1,163 MW CC unit), this modernization is being pursued in large part due to the significant economic savings for FPL's customers that is projected. There will be an improvement in system fuel efficiency with the new unit because the existing 884 MW has a heat rate of approximately 7,880 BTU/kWh and the 1,163 MW new CC unit is projected to have a heat rate of approximately 6,119 BTU/kWh, or 22% lower. The new power plant will be named the Dania Beach Clean Energy Center.

5) <u>Coal-Fired Capacity from SJRPP:</u>

For planning purposes, FPL projects that by the first quarter of 2019[8] it will no longer receive the total of 636 MW of coal-fired generation from SJRPP that it currently receives from these units through a combination of ownership (254 MW) and power purchases (382 MW). The capacity and energy from the SJRPP units are no longer projected to be cost-effective for FPL's customers.

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 2017 Site Plan with its 2016 Site Plan.

FPL's 2016 Site Plan included two power purchase agreements (PPAs), the existing 330 MW coal-based PPA with ICL and the three 60 MW biomass-based PPAs with EcoGen (180 MW total), for which FPL's projections have changed. In November 2016, with mutual consent of the parties involved and FPSC approval (in Order PSC-16-0506-FOF-EI), FPL took control of the coal-fired ICL PPA and the underlying asset from which it received firm capacity and energy. FPL currently plans to terminate this PPA by the 1st quarter of 2019 because the contract is no longer cost-effective for FPL's customers. The EcoGen PPAs would have resulted in FPL receiving 180 MW of firm capacity starting in 2021. However, EcoGen has defaulted on those agreements and, therefore, this capacity is no longer included in FPL's resource plan.

The current projected firm capacity purchases are from a combination of utility and independent power producers. Details, including the annual total capacity values for these purchases, are presented in Chapter I in Tables I.B.1 and I.B.2. 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 2017 through 2026. Because the current DSM Goals address the 10-year period of 2015 through 2024, FPL has assumed that the annual DSM contributions during this period are extended through 2025 and 2026. FPL's DSM efforts are further discussed in section III.D of this chapter.

<u>The Three Reliability Criteria Used to Determine FPL's Projected Resource Needs:</u>

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

[8] Subject to JEA Board and ultimately FPSC approval, SJRPP may cease operation as early as January 1, 2018.

determination is accomplished through system reliability analyses. Up 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 to both Summer and Winter peaks) and a maximum loss-of-load probability (LOLP) of 0.1 day per year. Both criteria are commonly used throughout the utility industry. Beginning in 2014, FPL began utilizing a third reliability criterion: a 10% generation-only reserve margin (GRM).

Until several years ago, two types of methodologies, deterministic and probabilistic, were utilized by FPL in system reliability analysis. 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 can also 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 entire 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 entire 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 resulted 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 role generation is 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. In FPL's 2016 and early 2017 resource planning work, after the resource plans were developed, FPL utilized the UPLAN production cost model and a Fixed Cost Spreadsheet, and/or the EGEAS optimization model, to perform the system economic analyses of the 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," 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 is presented in the following section.

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

FPL's projected incremental generation capacity additions/changes for 2017 through 2026 are depicted in Table ES-1 in the Executive Summary. This table presents four significant generation additions/changes: (i) the addition of a total of 2,086 MW of PV in the 2017 through 2023 time frame, (ii) an addition of 1,750 MW CC at the Okeechobee site in 2019, (iii) the removal of approximately 636 MW of coal-fired capacity from SJRPP by early 2019, (iv) the end of 330 MW of coal-fired purchased power from ICL by early 2019, and (v) the retirement of 884 MW of older CC capacity at FPL's existing Lauderdale site in late 2018, followed by the addition of a 1,163 MW new, modern CC at that site by mid-2022.

Although FPL's projected DSM additions are not explicitly presented in Table ES-1, they have been fully accounted for in all of FPL's resource planning work reflected in this document. The projected MW reductions from these DSM additions are reflected in the projected total reserve margin values shown in Table ES-1 and in Schedules 7.1 and 7.2, presented later in this chapter. DSM is further addressed in section III.D.

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

The combination of the additional generation to be provided by the new PV facilities in 2017 through 2023, the new Okeechobee 2019 CC unit, the planned modernization of the Lauderdale site in 2022, and the forecasted peak load growth result in FPL fully meeting its projected resource needs through the 10-year reporting period of this Site Plan (*i.e.*, through 2026).

In considering the resource plan presented in this Site Plan, it is also useful to note that there are at least six (6) significant factors that either influenced the current resource plan or which may result in future changes. These factors are discussed below (in no particular order of importance).

1. **Maintaining/Enhancing System Fuel Diversity:**
   FPL currently uses natural gas to generate approximately 70% of the total electricity it delivers to its customers. In the future, the percentage of FPL's electricity generated by natural gas is projected to remain at a comparable level. For this reason, and due to 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.

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. These two units would have been placed in service in 2013 and 2014. However, in part due to concerns over potential greenhouse gas emission legislation/regulation, FPL was unable to obtain approval for these units. Several other considerations now result in new coal units being unfavorable when compared to new natural gas-fired CC units. The first of these is a significant reduction in the fuel cost difference between coal and natural gas; *i.e.*, the projected fuel cost advantage of coal versus natural gas has been significantly reduced since 2007. Second is the continuation of significantly higher capital costs for coal units compared to capital costs for CC units. Third is the increased fuel efficiency of new CC units compared to projected CC unit efficiencies in 2007. Fourth are existing and proposed environmental regulations that are unfavorable to new coal units when compared to new CC units. 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) adding cost-effective solar energy and nuclear energy facilities 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: This Site Plan shows that FPL plans to add 2,086 MW of cost-effective PV capability by the end of 2023. These substantial additions will result in FPL having approximately 2,345 MW of PV, plus 75 MW of solar thermal capability, on its system by the end of 2023. This amount (MW) of PV generation is nine times the amount of PV that FPL had at the end of 2016. The total amount of solar equates to an approximate 10% increase to FPL's current system of approximately 25,000 MW of generation.

However, the impact of PV's contribution in terms of actual energy produced (MWh) is smaller. FPL delivers energy to its customers continuously on a 24-hour basis. 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 27% for PV). As a result, this significant amount of PV generation (MW) that FPL is adding will result in solar supplying approximately 4% of the total energy (MWh) that FPL delivers (as shown in Schedule 6.2 later in this chapter).[9]

[9] 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.

Nevertheless, solar's contribution to FPL's total energy mix is projected to reach a noteworthy milestone beginning in the year 2020, when solar-produced energy is projected to be greater than that produced by coal and oil combined. In addition, solar's increased contribution to FPL's energy mix results in a projection that the cleanest energy sources -- low-emission natural gas, zero-emission nuclear, and zero-emission solar – will provide at least 97% of all energy produced by FPL beginning in 2020.

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 in late 2017 or early 2018. In addition, FPL determined in 2016 that, once a COL has been issued, it will pause before moving into constructing the new nuclear units in order to understand the first-wave construction experience of two nuclear projects currently underway by Georgia Power and SCANA. Construction of these projects is expected to be completed in approximately 2021.

As a result, the earliest projected in-service dates for Turkey Point 6 & 7 are beyond the 2017 through 2026 time period addressed in this Site Plan. Additional 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 units.

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 pipeline entities subsequently accepted the certificate in early March 2016. At the time this Site Plan is being developed, the new pipeline system is projected to be completed in mid-2017. The new pipeline system 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.

<u>Using natural gas more efficiently:</u> 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. The 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.

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 this purpose, FPL has electrostatic precipitators (ESPs) at the two 800 MW steam generating units at its Manatee site and at the two 800 MW steam generating units at its Martin site. These installations will enable FPL to retain the ability to burn heavy oil, as needed, at these sites 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.

2. **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, four capacity addition decisions in the last decade (Turkey Point Unit 5 and WCEC Units 1, 2, and 3) were determined to be the most cost-effective options to meet FPL's capacity needs in the near-term. In addition, FPL has added increased capacity at its existing two nuclear units at Turkey Point as part of the previously mentioned nuclear capacity uprates project. The recently completed Port Everglades modernization project also assisted in addressing this imbalance. The planned modernization of the existing Lauderdale plant site, which will result in an additional 279 MW of generation capacity in Southeastern Florida, will further help to maintain a balance between load and generation in this region.

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 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 4,365 MW from these codes and standards beginning in 2005 (the year the National Energy Policy Act was enacted) and extending through 2026 (*i.e.*, the last year in the 2017 through 2026 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 2017 through 2026 reporting period of this Site Plan is a reduction of 2,041 MW compared to what the projected load would have been without the codes and standards. In regard to energy, the impact of the codes and standards has resulted in a projected reduction of 15,823 GWh since 2005. Included in this 2005 through 2026 projection is a reduction of more than 8,000 GWh from year-end 2016 through 2026. 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.

5. **The Economic Competitiveness of Universal Photovoltaics (PV)**:

Another important factor in FPL's resource planning is the increasing cost competitiveness of utility-scale (or "universal") PV facilities due to the projected continued decline in the cost of PV modules, the recent extension of federal tax credits, and the likely future exemption from ad valorem taxes that may be legislated in 2017 based on the approval of Florida Constitutional Amendment 4 by voters in 2016. Universal solar facilities are the most economical way to utilize PV technology, and the declining costs of PV modules have resulted in these projects becoming competitive on FPL's system. As a result, FPL is planning to add 1,192 MW of additional PV facilities, in increments of 298 MW per year, during the 2017 through 2020 time period pursuant to the terms and conditions of the solar base rate adjustment (SoBRA) portion of the FPSC-approved Settlement Agreement from FPL's 2016 base rate case. In addition, FPL projects that it will continue adding PV installations in 298 MW increments each year from 2021 through 2023. The projected future installed costs of PV, and various impacts from PV installed on FPL's system, will be of significant interest to FPL's on-going resource planning efforts.

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

Projected CO_2-related compliance costs can have a large impact in utility resource planning work. Current projections show that compliance costs for CO_2 will start later and be lower than in previous projections. If the compliance cost projections significantly change in the future, it is possible that the resource plan presented in the 2017 Site Plan may change.

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 decades. 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 2017 through 2026 time period has significantly lowered FPL's projected load and resource needs. As a result, 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. 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 70% lower than natural gas cost forecasts were in 2009. And the current forecasts are approximately 33% 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 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, FPL used 23% less fossil fuel to generate a MWh in 2016 than it did in 2001. 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 the two reasons discussed above – lower forecasted fuel costs and greater efficiency in FPL's electricity generation – are very beneficial for FPL's customers, they also negatively impact the economics of utility DSM programs. Therefore, fewer DSM programs are now cost-effective. In addition, for some DSM programs to remain cost-effective, incentive payments to participating customers must be lowered, thus reducing the attractiveness of these programs to potential participants.

Although FPL's DSM Goals are appropriately lower due to these market forces, the projected cumulative effect of FPL's DSM programs 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 beginning of 2015 represent the equivalent of avoiding the need to build approximately fifteen (15) 400 MW power plants. In addition, FPL's Summer MW Goals for the 2015 – 2024 time period are 526 MW. After accounting for this additional amount of DSM, FPL's DSM efforts are projected to have avoided the need to build approximately sixteen (16) 400 MW power plants. The resource plan presented in this 2017 Site Plan accounts for the DSM MW and GWh reductions set forth in FPL's DSM Goals. In addition, FPL also assumes that additional DSM will be added in the years 2025 and 2026 at the same annual level projected in the 2015 – 2024 DSM Goals. The MW reductions from the new DSM Goals and the projected extension of these annual levels through 2026 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:

<u>FPL DSM Programs and Research & Development Efforts</u>

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 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 the home's thermal efficiency.

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

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

6. **Residential Low Income**

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

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	Levee 2/	Midway	150	June/2019	500	2598
FPL	Raven 3/	Duval	45	Dec/2018	230	759

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 was issued in April 1990. Construction of 114 miles is complete and in-service. An additional 25 miles of the Levee-Midway project is scheduled to be completed by June 2019.

3/ 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.

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 beginning in 2017 and 2018, the new CC unit in 2019 at the Okeechobee site, and the modernization of the existing Lauderdale site by mid-2022. Sites for the planned PV additions in 2019 through 2023 have not yet been determined so no transmission analyses for these planned additions have been performed.

III.E.1 Transmission Facilities for the Horizon Solar Energy Center in Putnam and Alachua Counties

The work required to connect the approximate 74.5 MW Horizon Solar Energy Center in Putnam and Alachua Counties by December 2017 is projected to be:

I. Substation:

1. Construct a new single bus, two (2) breaker 115 kV substation ("Horizon") adjacent to the FPL Bradford-Putnam 115 kV line corridor.
2. Add one 115/34.5 kV main step-up transformer (85 MVA) with a 115 kV breaker to connect PV inverter array.
3. Construct 34.5 kV buss to connect the PV array to Horizon 115 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:

1. Loop the Melrose Tap-Hawthorne Tap section of the Bradford-Putnam 115 kV line into Horizon substation (approximately 1 mile).
2. No additional upgrades are expected to be necessary at this time.

III.E.2 Transmission Facilities for the Wildflower Solar Energy Center in Desoto County

The work required to connect the approximate 74.5 MW Wildflower Solar Energy Center in Desoto County by December 2017 is projected to be:

I. Substation:

1. Construct a new 230 kV motor operated line switch at FPL's existing Skylight substation.
2. Construct a new single breaker 230 kV substation ("Solaris") at the project site.
3. Add one 230/34.5 kV main step-up transformer (85 MVA) to connect PV inverter array.
4. Construct 34.5 kV buss to connect the PV array to Solaris 230 kV Substation.
5. Add relays and other protective equipment.
6. Breaker replacements: None

II. Transmission:

1. Construct approximately 0.5 mile 230 kV line between Skylight and Solaris substations.
2. No additional upgrades are expected to be necessary at this time.

III.E.3 Transmission Facilities for the Indian River Solar Energy Center in Indian River County

The work required to connect the approximate 74.5 MW Indian River Solar Energy Center in Indian River County by December 2017 is projected to be:

I. Substation:

1. Construct a new three (3) breaker 230 kV substation (“Heritage”) adjacent to the FPL Malabar-Midway 230 kV line corridor.
2. Construct a new single bus, one (1) breaker 230 kV substation (“Eldora”) at the solar PV project site.
3. Add one 230/34.5 kV main step-up transformer (85 MVA) to connect PV inverter array.
4. Construct 34.5 kV buss to connect the PV array to Eldora 230 kV Substation.
5. Add relays and other protective equipment.
6. Breaker replacements: None

II. Transmission:

1. Loop the adjacent Malabar-Midway 230 kV line into Heritage substation
2. Construct a new 4.5 mile 230 kV line from Heritage substation to Eldora substation.
3. No additional upgrades are expected to be necessary at this time.

III.E.4 Transmission Facilities for the Coral Farms Solar Energy Center in Putnam County

The work required to connect the approximate 74.5 MW Coral Farms Solar Energy Center in Putnam County by December 2017 is projected to be:

II. Substation:

1. Construct a new single bus, two (2) breaker 230 kV substation (“Quasar”) adjacent to the FPL Bradford-Rice 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 Quasar 230 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None.

III. Transmission:

1. Loop the adjacent Bradford-Rice 230 kV line into Quasar substation.

III.E.5 Transmission Facilities for the Hammock Solar Energy Center in Hendry County

The work required to connect the approximate 74.5 MW Hammock Solar Energy Center in Hendry County by February 2018 is projected to be:

I. Substation:

1. Construct a new single bus, two (2) breaker 138 kV substation (“Athens”) adjacent to the FPL Fort Myers-McCarthy 138 kV line corridor.
2. Add one 138/34.5 kV main step-up transformer (85 MVA) with a 138 kV breaker to connect PV inverter array.
3. Construct 34.5 kV buss to connect the PV array to Athens 138 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:

1. Loop the Labelle-Montura section of the Fort Myers-McCarthy 138 kV line into Athens substation (approximately 0.1 mile).
2. No additional upgrades are expected to be necessary at this time.

III.E.6 Transmission Facilities for the Barefoot Bay Solar Energy Center in Brevard County

The work required to connect the approximate 74.5 MW Barefoot Bay Solar Energy Center in Brevard County by February 2018 is projected to be:

I. Substation:

1. Install a new two breaker 230kV bay at Barefoot substation to interconnect with the new 74.5 MW solar PV site.
2. Construct Cyrus substation on the solar PV site.
3. Add one 230/34.5 kV main step-up transformer (85 MVA) to connect solar PV inverter array.
4. Construct 34.5 kV buss to connect the PV array to Cyrus 230 kV Substation.
5. Add relays and other protective equipment.
6. Breaker replacements: None

II. Transmission:

1. Construct approximately 0.25 mile 230 kV line between Cyrus and Barefoot substations.
2. No additional upgrades are expected to be necessary at this time.

III.E.7 Transmission Facilities for the Blue Cypress Solar Energy Center in Indian River County

The work required to connect the approximate 74.5 MW Blue Cypress Solar Energy Center in Indian River County by February 2018 is projected to be:

I. Substation:

1. Construct a new one (1) breaker 230 kV bay at Heritage substation.
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 Heritage 230 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None

II. Transmission:

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

III.E.8 Transmission Facilities for the Loggerhead Solar Energy Center in St. Lucie County

The work required to connect the approximate 74.5 MW Loggerhead Solar Energy Center in St. Lucie County by February 2018 is projected to be:

I. Substation:

1. Construct a new single bus, two (2) breaker 230 kV substation ("Heru") adjacent to the FPL Sherman-Treasure 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 Heru 230 kV Substation.
4. Add relays and other protective equipment.
5. Breaker replacements: None.

II. Transmission:

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

III.E. 9 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 500kV 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.10 Transmission Facilities for the Lauderdale Plant Modernization (CC) Unit (Dania Beach Clean Energy Center) in Broward County

The Lauderdale Modernization project that is projected to be completed by mid-2022 does not require any new offsite transmission lines.

III.F. Renewable Resources

Overview:

FPL has actively been involved in renewable energy resource development since the mid-1970s. In 2009, FPL implemented 110 MW of solar energy facilities including two PV facilities totaling 35 MW and one 75 MW solar thermal facility. Solar energy costs, especially the cost of PV, have continued to drop to the point where universal PV facilities have become competitive with more conventional generation options. Consequently, FPL announced in its 2016 Site Plan that it would construct three new PV facilities of approximately 74.5 MW each by the end of 2016. Those facilities are now in operation.

In this Site Plan, FPL is projecting a dramatic increase by planning to add a total of 2,086 MW of new PV beginning this year and concluding in the year 2023. FPL will continue to evaluate the economic and non-economic attributes of additional solar through its resource planning work on an on-going basis.

FPL's Renewable Energy Efforts Through 2016:

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 2016 are briefly discussed in five categories of solar/renewable activities. FPL's plans for new renewable energy facilities from 2017 through 2026 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 2016, approximately 5,280 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.

FPL has also been investigating fuel cell technologies through its monitoring of industry trends, discussions with manufacturers, and direct field trials. From 2002 through 2005, FPL conducted field trials and demonstration projects of Proton Exchange Membrane (PEM) fuel cells with the objectives of serving customer end-uses while evaluating the technical performance, reliability, economics, and relative readiness of the PEM technology. The demonstration projects were conducted in partnership with customers and included five locations. The research projects were useful to FPL in identifying specific issues that can occur in field applications and the current commercial viability of this technology. FPL will continue to monitor the progress of these technologies and conduct additional field evaluations as significant developments in fuel cell technologies occur.

3) Supply Side Efforts – Power Purchases:

FPL has facilitated a number of renewable energy projects (facilities which burn bagasse, waste wood, municipal waste, etc.). FPL has purchased firm capacity and energy, and as-available energy, from these types of facilities. (Please refer to Tables I.B.1, I.B.2, and I.B.3 in Chapter I).

FPL issued Renewable Requests for Proposals (RFPs) in 2007 and 2008 which solicited proposals to provide firm capacity and energy, and energy only, at or below avoided costs, from renewable generators. FPL also promptly responds to inquiries for information from prospective renewable energy suppliers.

On April 22, 2013, in Order No. PSC-13-1064-PAA-EQ, the FPSC approved three 60 MW power purchase agreements with affiliates of U.S. EcoGen for biomass-fired renewable energy facilities. These facilities were expected to provide non-firm energy service beginning in 2019 as well as firm energy and capacity to FPL's customers beginning in 2021. However, EcoGen has defaulted on its agreements, and FPL no longer projects that it will receive energy or capacity from these facilities.

FPL and the Solid Waste Authority of Palm Beach (SWA) agreed to extend its contract that expired March 31, 2010, for a 20-year term beginning in April 1, 2012 through April 1, 2032. However, the SWA refurbished its generating unit ahead of schedule and, as of January 2012, this unit began delivering firm capacity to FPL. In 2011, the FPSC approved a contract for an additional 70 MW between FPL and SWA from a new unit. The new unit is now delivering firm capacity and energy to FPL. At the end of December 2011, the contract between FPL and Okeelanta (New Hope) expired. However, Okeelanta continues to deliver energy to FPL as an as-available, non-firm supplier of renewable energy.

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

As of the end of 2016 FPL had six solar generating facilities operating: (i) 75 MW steam generation solar thermal facility in Martin County (the Martin Next Generation Solar Energy Center); (ii) 25 MW PV electric generation facility in DeSoto County (the DeSoto Next Generation Solar Energy Center); (iii) 10 MW PV electric generation facility in Brevard County at NASA's Kennedy Space Center (the Space Coast Next Generation Solar Energy Center); (iv) 74.5 MW PV electric generating facility at the existing Manatee site (the Manatee Solar Energy Center); (v) 74.5 MW PV electric generating facility in Desoto County (the Citrus Solar Energy Center); and (vi) a 74.5 MW PV electric generating facility in Charlotte County (the Babcock Solar Energy Center). The DeSoto project was completed in 2009, the Martin and Space Coast projects were completed in 2010, and the Manatee, Citrus and Babcock projects were completed in 2016. Each of the six PV electric generating facilities is discussed below.

a. <u>The Martin Next Generation Solar Energy Center:</u>

This facility began commercial operation in 2010 and provides 75 MW of solar thermal capacity in an innovative way that directly displaces fossil fuel usage on the FPL system. This facility consists of solar thermal technology, which 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. <u>The DeSoto Next Generation Solar Energy Center:</u>

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.

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 non-tracking, 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. This site, along with the previously built DeSoto Next Generation Solar Energy Center discussed above, brings the total PV MW capability in DeSoto County to approximately 100 MW, making DeSoto County the top solar energy-producing county in Florida.

f. **The Babcock Solar Energy Center:**

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

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

FPL has developed a "Living Lab" to demonstrate FPL's solar energy commitment to employees and visitors at its Juno Beach office facility. FPL had previously installed five different PV arrays (using different technologies) of rooftop PV totaling 24 kW, as well as two PV-covered parking structures, resulting in a total of approximately 90 kW of PV. In addition, in 2016, FPL added another 10.5 kW solar project to test various new support structures, bringing the cumulative capacity to 124.5 kW installed PV. Through these 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. (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 these 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). FPL continues to evaluate and refine its methodology for assigning firm capacity.

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 methodology itself. The three new 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. For the additional 2,086 MW of PV that is planned beginning in 2017 through 2023, the Summer firm capacity assumption is slightly greater at 54%, but the assumption remains that this PV will provide no firm capacity at the time of FPL’s Winter peak hour.

FPL’s Planned Renewable Energy Efforts for 2017 Through 2026:

FPL efforts to implement cost-effective renewable energy, particularly PV, have significantly increased. Several factors are driving these efforts and/or focusing them. First, the price of PV modules has declined in recent years, thus making PV more cost competitive. Second, as previously discussed, FPL has developed a methodology to meaningfully assign a firm capacity benefit for meeting FPL’s Summer peak load to PV. Third, FPL has concluded from its implementation and analyses of universal PV and PV demand-side pilot programs that universal PV applications are the most economical way to utilize solar energy. In addition, although the specifics are not yet finalized, ad valorem tax exemptions that are expected to be enacted in 2017-2018 as a result of Amendment 4, are likely to further improve the economics of this technology choice.

FPL’s efforts to increasingly use cost-effective renewable energy in the 2017 – 2026 time period are summarized below.

1) FPL Utility-Scale PV Facilities:

FPL is now projecting to add 298 MW of PV per year beginning in 2017 through the end of 2023. Sites for the PV facilities for the years 2017 and 2018 have been determined. A description of those sites is provided in Chapter IV of this document. Sites for the PV facilities to be added in 2019 through 2023 have not yet been determined, but counties in which future solar projects are likely to be developed are provided in Chapter IV as Potential Sites.

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

FPL began implementation of two DG PV pilot programs and a battery storage pilot program 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 program is to collect grid integration data for DG PV and develop operational best practices for addressing potential problems that may be identified. The third program entails installing approximately 3 MW of battery storage systems with the objective of demonstrating the operational capabilities of batteries and learning how to integrate them into FPL's system. This battery storage pilot program was expanded as a result of the settlement agreement in FPL's 2016 base rate case resulting in an additional 50 MW of storage projects being implemented in the 2017 through 2020 time frame. 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. 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 February 2017, there were 19,853 participants enrolled in the Voluntary Solar Pilot Program. The tariff became effective in January 2015 and the pilot program is currently scheduled to conclude at the end of 2017.

b) 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 2017 to further expand the understanding of integrating large PV facilities on the FPL system.

c) Battery Storage Pilot Program:

The purpose of the Battery Storage Pilot Program is to demonstrate and test a wide variety of battery storage grid applications including peak shaving, frequency response, and backup power for FPL's system. In addition, the pilot program is designed to help FPL learn how to integrate battery storage into the grid and optimize control of these flexible resources. Under the pilot program, FPL has installed a 1.5 MW battery storage system in Miami-Dade County primarily for peak shaving and frequency response, a battery storage system of 1.5 MW in Monroe County for backup power and voltage support, and several smaller kilowatt-scale systems at other locations to study distributed storage reliability applications.

As part of the settlement agreement in FPL's 2016 base rate case, FPL has been authorized to pursue an additional 50 MW in grid-tied battery energy storage demonstration projects by 2020. At the time this Site Plan is being readied for filing, FPL is in the midst of planning the details of this 50 MW expansion of the pilot program. It is anticipated that FPL will target individual project sizes ranging from 1 to 10 MW each with various durations, which will enable FPL to test a wide range of applications. The majority of projects are intended to be distribution-interconnected and will test a mix of reliability applications (i.e. localized outage and momentary mitigation) together with generation-related applications (i.e. peak shaving). Several battery projects will be co-located and paired with solar plants to explore ways to improve the integration of intermittent resources into FPL's grid. Specific project sites are in the process of being identified and future Site Plans will provide additional information as plans are finalized.

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 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.

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 260 MW of PV generating capability with facilities at five sites. FPL is also adding a total of 2,086 MW of additional PV capability in 2017 through 2023. 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 2,086 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 FPL-owned renewable 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, securing gas 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 due, in part, to current projections of relatively small differences in fuel costs between coal and natural gas, significantly higher capital costs for coal units compared to CC units, greater efficiencies of CC units, and concerns over environmental regulations.) 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 2026 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 November 2016 fuel cost forecast was used in analyses, the results of which led to the resource plan presented in this 2017 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 2017 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 2017 through 2019, the methodology used the November 2016 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 (2020 and 2021), FPL used a 50/50 blend of the November 2016 forward curve and the most current projections at the time from The PIRA Energy Group;

c. For the 2022 through 2035 period, FPL used the annual projections from The PIRA Energy Group; and,

d. For the period beyond 2036, 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), Powder River Basin (PRB), and South American coal were provided by JD Energy; and,

b. The coal price forecast for SJRPP and 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. Given the current environment of low fuel prices which highlights the asymmetry that exists between upside and downside price risk, FPL is currently considering another approach for determining the High and Low band sensitivities around the Medium 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, 2018 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 is likely to 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 Lauderdale 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 a significant amount of new PV facilities that utilize no fossil fuel. However, these efficiency gains do not fully offset the effects of FPL's growing load. Therefore, FPL will need to secure more natural gas supply, more firm gas transportation capacity, and secure gas reserves 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. As more natural gas is delivered through these two pipelines, the impact of a supply disruption on either pipeline becomes more problematic. Therefore, FPL issued a Request for Proposals (RFP) in December 2012 for gas transportation capacity to meet FPL's system natural gas requirements beginning in 2017. The RFP encouraged bidders to propose new gas transportation infrastructure to meet Florida's growing need for natural gas. A third pipeline will benefit FPL and its customers by increasing the diversity of FPL's fuel supply sources, increasing the physical reliability of the pipeline delivery system, and enhancing competition among pipelines.

The RFP process was completed in June 2013, and the winning bidders were Sabal Trail Transmission, LLC (Sabal Trail) and Florida Southeast Connection, LLC (FSC). The contracts with Sabal Trail and FSC were reviewed by the FPSC and approved for cost recovery in late 2013. The order approving this cost recovery became final in January 2014. Sabal Trail and FSC have sought Federal Energy Regulatory Commission (FERC) approval for the new pipelines. FERC granted certificates of approval for the new pipelines on February 2, 2016. The certificates were accepted by the pipeline companies in early March 2016. The planned in-service date for the pipelines is mid-2017. The Sabal Trail and FSC pipelines will provide the primary fuel for the FPSC-approved Okeechobee CC unit, which will come in-service in 2019 and 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:

- Hedge funds are still very active in the market. This causes more speculative demand that is not tied to market fundamentals and causes the market price to move up or down just based on news that might affect future demand.
- 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. New and current uranium production facilities continue to add capacity to meet 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 once more firm commitments are made, including commitments to build new nuclear units. 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 2016 and early 2017 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/ 2015	Actual 1/ 2016	Forecasted 2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
(1)	Nuclear	Trillion BTU	300	310	299	297	306	305	304	310	305	305	310	305
(2)	Coal	1,000 TON	3,168	2,474	1,689	1,202	1,376	905	835	526	678	623	650	594
(3)	Residual (FO6) - Total	1,000 BBL	556	764	235	53	141	15	5	1	2	2	9	13
(4)	Steam	1,000 BBL	556	764	235	53	141	15	5	1	2	2	9	13
(5)	Distillate (FO2) - Total	1,000 BBL	240	403	433	69	107	45	41	39	45	44	40	41
(6)	Steam	1,000 BBL	1	116	0	0	0	0	0	0	0	0	0	0
(7)	CC	1,000 BBL	100	79	296	41	63	12	14	14	18	17	14	13
(8)	CT	1,000 BBL	139	208	137	28	45	33	26	25	27	27	26	28
(9)	Natural Gas - Total	1,000 MCF	636,277	624,092	596,874	597,338	592,341	595,228	588,695	584,377	584,532	589,862	591,730	602,357
(10)	Steam	1,000 MCF	52,731	28,743	19,170	11,225	14,424	9,210	6,682	4,033	3,318	3,218	5,331	4,456
(11)	CC	1,000 MCF	577,133	592,178	571,992	585,062	574,362	583,956	580,786	580,074	580,966	586,383	585,861	597,386
(12)	CT	1,000 MCF	6,414	3,170	5,712	1,051	3,555	2,062	1,228	270	247	261	538	514

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/] 2015	2016	Forecasted 2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
(1)	Annual Energy Interchange [2/]	GWH	4,730	1,748	759	999	213	0	0	0	0	0	0	0
(2)	Nuclear	GWH	27,045	28,033	27,966	27,789	28,601	28,529	28,363	28,993	28,524	28,447	28,993	28,524
(3)	Coal	GWH	5,275	4,165	2,703	1,956	2,167	1,355	1,259	773	990	912	964	880
(4)	Residual(FO6) -Total	GWH	323	430	154	34	92	10	3	1	1	1	6	8
(5)	Steam	GWH	323	430	154	34	92	10	3	1	1	1	6	8
(6)	Distillate(FO2) -Total	GWH	139	230	325	49	81	29	27	26	31	30	27	27
(7)	Steam	GWH	1	3	0	0	0	0	0	0	0	0	0	0
(8)	CC	GWH	91	94	251	34	58	11	13	12	16	15	13	12
(9)	CT	GWH	47	132	73	15	24	18	14	14	14	15	14	15
(10)	Natural Gas -Total	GWH	85,797	86,161	84,869	85,936	85,913	87,601	86,860	86,723	87,065	87,885	88,003	89,647
(11)	Steam	GWH	4,297	2,135	1,818	1,062	1,377	897	653	381	314	307	516	430
(12)	CC	GWH	81,001	83,713	82,516	84,773	84,192	86,502	86,087	86,316	86,726	87,552	87,435	89,167
(13)	CT	GWH	498	313	535	102	344	201	120	26	24	25	53	50
(14)	Solar [3/]	GWH	157	237	707	1,995	2,246	2,948	3,634	4,324	5,013	5,558	5,529	5,513
(15)	PV	GWH	68	161	582	1,869	2,121	2,822	3,508	4,199	4,888	5,432	5,403	5,388
(16)	Solar Thermal	GWH	90	75	125	125	125	126	125	125	125	126	125	125
(17)	Other [4/]	GWH	-710	616	1,704	1,742	1,809	1,855	1,907	1,966	2,029	2,100	2,159	2,225
	Net Energy For Load [5/]	GWH	122,756	121,619	119,186	120,500	121,122	122,325	122,053	122,806	123,653	124,933	125,680	126,825

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/] 2015	2016	Forecasted 2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
(1)	Annual Energy Interchange [2/]	%	3.9	1.4	0.6	0.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(2)	Nuclear	%	22.0	23.1	23.5	23.1	23.6	23.3	23.2	23.6	23.1	22.8	23.1	22.5
(3)	Coal	%	4.3	3.4	2.3	1.6	1.8	1.1	1.0	0.6	0.8	0.7	0.8	0.7
(4)	Residual (FO6) -Total	%	0.3	0.4	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(5)	Steam	%	0.3	0.4	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(6)	Distillate (FO2) -Total	%	0.1	0.2	0.3	0.0	0.1	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	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(9)	CT	%	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(10)	Natural Gas -Total	%	69.9	70.8	71.2	71.3	70.9	71.6	71.2	70.6	70.4	70.3	70.0	70.7
(11)	Steam	%	3.5	1.8	1.5	0.9	1.1	0.7	0.5	0.3	0.3	0.2	0.4	0.3
(12)	CC	%	66.0	68.8	69.2	70.4	69.5	70.7	70.5	70.3	70.1	70.1	69.6	70.3
(13)	CT	%	0.4	0.3	0.4	0.1	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
(14)	Solar [3/]	%	0.1	0.2	0.5	1.6	1.8	2.3	2.9	3.4	4.0	4.3	4.3	4.2
(15)	PV	%	0.1	0.1	0.5	1.6	1.8	2.3	2.9	3.4	4.0	4.3	4.3	4.2
(16)	Solar Thermal	%	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
(17)	Other [4/]	%	-0.6	0.5	1.4	1.4	1.5	1.5	1.6	1.6	1.6	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	Total Reserve Margin Before Maintenance % of Peak	Scheduled Maintenance MW	Total Reserve Margin After Maintenance MW	Total Reserve Margin After Maintenance % of Peak	Generation Only Reserve Margin After Maintenance MW	Generation Only Reserve Margin After Maintenance % of Peak
2017	26,058	492	0	334	26,884	24,009	1,851	22,157	4,727	21.3	0	4,727	21.3	2,875	12.0
2018	26,357	492	0	334	27,182	24,297	1,906	22,391	4,791	21.4	0	4,791	21.4	2,885	11.9
2019	27,011	110	0	4	27,125	24,496	1,950	22,547	4,578	20.3	0	4,578	20.3	2,629	10.7
2020	27,320	110	0	4	27,433	24,605	1,994	22,612	4,822	21.3	0	4,822	21.3	2,828	11.5
2021	27,479	110	0	4	27,592	24,717	2,038	22,679	4,914	21.7	0	4,914	21.7	2,876	11.6
2022	28,889	110	0	4	29,002	24,967	2,083	22,883	6,119	26.7	0	6,119	26.7	4,035	16.2
2023	29,133	110	0	4	29,246	25,338	2,130	23,209	6,037	26.0	0	6,037	26.0	3,908	15.4
2024	29,290	110	0	4	29,404	25,756	2,177	23,579	5,825	24.7	0	5,825	24.7	3,648	14.2
2025	29,286	110	0	4	29,400	26,137	2,224	23,914	5,486	22.9	0	5,486	22.9	3,263	12.5
2026	29,283	110	0	4	29,396	26,552	2,271	24,281	5,115	21.1	0	5,115	21.1	2,844	10.7

Col. (2) represents capacity additions and changes projected to be in-service by June 1st. These MW are generally considered to be available to meet summer peak loads which are forecasted to occur during August of the year indicated.
Col. (6) = Col.(2) + Col.(3) - Col(4) + Col(5).
Col.(7) reflects the 2017 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 9/2016-on intended for use with the 2017 load forecast.
Col.(10) = Col.(6) - Col.(9)
Col.(11) = Col.(10) / Col.(9)
Col.(12) indicates the capacity of units projected to be out-of-service for planned maintenance during the summer peak period.
Col.(13) = Col.(10) - Col.(12)
Col.(14) = Col.(13) / Col.(9)
Col.(15) = Col.(6) - Col.(7) - Col.(12)
Col.(16) = Col.(15) / Col.(7)

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

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
January of Year	Firm Installed Capacity MW	Firm Capacity Import MW	Firm Capacity Export MW	Firm QF MW	Total Firm Capacity Available MW	Total Peak Demand MW	DSM MW	Firm Winter Peak Demand MW	Total Reserve Margin Before Maintenance MW	Total Reserve Margin Before Maintenance % of Peak	Scheduled Maintenance MW	Total Reserve Margin After Maintenance MW	Total Reserve Margin After Maintenance % of Peak	Generation Only Reserve Margin After Maintenance MW	Generation Only Reserve Margin After Maintenance % of Peak
2017	27,578	499	0	334	28,411	20,361	1,390	18,971	9,440	49.8	0	9,440	49.8	8,050	39.5
2018	27,800	499	0	334	28,633	20,673	1,437	19,236	9,397	48.9	0	9,397	48.9	7,960	38.5
2019	26,954	499	0	334	27,787	20,828	1,461	19,367	8,420	43.5	0	8,420	43.5	6,959	33.4
2020	28,497	110	0	4	28,611	20,978	1,486	19,492	9,119	46.8	0	9,119	46.8	7,633	36.4
2021	28,558	110	0	4	28,672	21,172	1,512	19,660	9,011	45.8	0	9,011	45.8	7,500	35.4
2022	28,558	110	0	4	28,672	21,113	1,538	19,575	9,096	46.5	0	9,096	46.5	7,559	35.8
2023	29,794	110	0	4	29,908	21,289	1,565	19,724	10,184	51.6	0	10,184	51.6	8,619	40.5
2024	29,874	110	0	4	29,988	21,452	1,592	19,860	10,128	51.0	0	10,128	51.0	8,536	39.8
2025	29,874	110	0	4	29,988	21,591	1,621	19,970	10,018	50.2	0	10,018	50.2	8,397	38.9
2026	29,874	110	0	4	29,988	21,773	1,649	20,124	9,864	49.0	0	9,864	49.0	8,215	37.7

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 2017 load forecast without incremental energy efficiency or cumulative load management. The 2017 load is an actual load value.

Col.(8) represents cumulative load management capability, plus incremental energy efficiency and load management, from 9/2016-on intended for use with the 2017 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) 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														
2017														
Cedar Bay	1	Duval County	ST	BIT	No	RR	No	-	Jan-94	Jan-17	291,550	(250)	(250)	RT
Ft. Myers - 2 CT	3	Lee County	CT	NG	No	PL	No	-	May-17	Unknown	835,380	-	40	OT
Lauderdale 5 CT	6	Broward County	CT	NG	No	PL	No	-	May-17	Unknown	1,147,500	-	100	OT
Manatee	3	Manatee County	CC	NG	No	PL	No	-	Jun-17	Unknown	1,224,510	-	13	OT
Martin	4	Martin County	CC	NG	No	PL	No	-	Mar-17	Unknown	612,000	-	9	OT
Martin	8	Martin County	CC	NG	FO2	PL	TK	-	Mar-17	Unknown	1,224,510	-	7	OT
											2017 Changes/Additions Total:	**(250)**	**(81)**	
2018														
Manatee	3	Manatee County	CC	NG	No	PL	No	-	Jun-17	Unknown	612,000	42	-	OT
Martin	4	Martin County	CC	NG	No	PL	No	-	Mar-17	Unknown	612,000	19	-	OT
Martin	8	Martin County	CC	NG	FO2	PL	TK	-	Mar-17	Unknown	1,224,510	58	-	OT
Sanford	4	Volusia County	CC	NG	No	PL	No	-	Aug-17	Unknown	1,188,860	37	8	OT
Sanford	5	Volusia County	CC	NG	No	PL	No	-	Nov-17	Unknown	1,188,860	37	8	OT
Turkey Point	5	Miami Dade County	CC	NG	FO2	PL	TK	-	Dec-17	Unknown	1,224,510	29	(40)	OT
Horizon Solar Energy Center[3]	1	Putnam and Alachua Counties	PV	Solar	Solar	N/A	N/A	-	Dec-17	Unknown	74,500	-	40	P
Wildflower Solar Energy Center[3]	1	Desoto County	PV	Solar	Solar	N/A	N/A	-	Dec-17	Unknown	74,500	-	40	P
Indian River Solar Energy Center[3]	1	Indian River County	PV	Solar	Solar	N/A	N/A	-	Dec-17	Unknown	74,500	-	40	P
Coral Farms Solar Energy Center[3]	1	Putnam County	PV	Solar	Solar	N/A	N/A	-	Dec-17	Unknown	74,500	-	40	P
Hammock Solar Energy Center[3]	1	Hendry County	PV	Solar	Solar	N/A	N/A	-	Feb-18	Unknown	74,500	-	40	P
Barefoot Bay Solar Energy Center[3]	1	Brevard County	PV	Solar	Solar	N/A	N/A	-	Feb-18	Unknown	74,500	-	40	P
Blue Cypress Solar Energy Center[3]	1	Indian River County	PV	Solar	Solar	N/A	N/A	-	Feb-18	Unknown	74,500	-	40	P
Loggerhead Solar Energy Center[3]	1	St. Lucie County	PV	Solar	Solar	N/A	N/A	-	Feb-18	Unknown	74,500	-	40	P
											2018 Changes/Additions Total:	**222**	**299**	
2019														
Okeechobee Energy Center	1	Okeechobee County	CC	NG	FO2	PL	TK	Jun-17	Jun-19	Unknown	-	-	1,748	P
Turkey Point	3	Miami Dade County	ST	Nuc	No	TK	No	-	Oct-18	Unknown	877,200	20	20	OT
Sanford	4	Volusia County	CC	NG	No	PL	No	-	Aug-17	Unknown	1,188,860	38	-	OT
Sanford	5	Volusia County	CC	NG	No	PL	No	-	Nov-17	Unknown	1,188,860	38	-	OT
Turkey Point	5	Miami Dade County	CC	NG	FO2	PL	TK	-	Mar-18	Unknown	1,224,510	29	-	OT
Martin	8	Martin County	CC	NG	FO2	PL	TK	-	Nov-18	Unknown	1,224,510	5	4	OT
Fort Myers	2	Lee County	CC	NG	No	PL	No	-	May-19	Unknown	1,721,490	0	2	OT
St. Johns River Power Park[4]	1	Duval County	ST	BIT	Pet	RR	WA	-	Apr-87	1^{st} Q 2019	135,918	-	(127)	OT
St. Johns River Power Park[4]	2	Duval County	ST	BIT	Pet	RR	WA	-	Jul-88	1^{st} Q 2019	135,918	-	(127)	OT
Lauderdale	4	Broward County	CT	NG	FO2	PL	PL	-	Jul-93	4^{th} Q 2018	526,250	(488)	(442)	RT
Lauderdale	5	Broward County	CT	NG	FO2	PL	PL	-	Jul-93	4^{th} Q 2018	526,250	(488)	(442)	RT
Turkey Point	4	Miami Dade County	ST	Nuc	No	TK	No	-	May-19	Unknown	877,200	-	20	OT
Solar Degradation[3]	NA	NA	NA	NA	NA	NA	NA	-	NA	NA	NA	-	(1)	OT
											2019 Changes/Additions Total:	**(846)**	**654**	

(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.
(4) Subject to JEA Board and ultimately FPSC approval, SJRPP may cease operation as early as January 1, 2018.

Schedule 8

Planned And Prospective Generating Facility Additions And Changes [1]

	(2)	(3)	(4)	(5)	(5)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
				Fuel		Fuel Transport		Const.	Comm.	Expected	Gen. Max.	Firm Net Capability [2]		
Plant Name	Unit No.	Location	Unit Type	Pri.	Alt.	Pri.	Alt.	Start Mo./Yr.	In-Service Mo./Yr.	Retirement Mo./Yr.	Nameplate KW	Winter MW	Summer MW	Status
ADDITIONS/ CHANGES														
2020														
Okeechobee Energy Center	1	Okeechobee County	CC	NG	FO2	PL	TK	Jun-17	Jun-19	Unknown	-	1,754	-	P
Turkey Point	4	Miami Dade County	ST	Nuc	No	TK	No	-	May-19	Unknown	877,200	20		OT
Sanford	4	Volusia County	CC	NG	No	PL	No	-	Nov-19	Unknown	1,188,860	24	37	OT
Martin	8	Martin County	CC	NG	FO2	PL	TK	-	Nov-18	Unknown	1,224,510	5	-	OT
St. Johns River Power Park[3]	1	Duval County	ST	BIT	Pet	RR	WA	-	Apr-87	1st Q 2019	135,918	(130)	-	OT
St. Johns River Power Park[3]	2	Duval County	ST	BIT	Pet	RR	WA	-	Jul-88	1st Q 2019	135,918	(130)	-	OT
Sanford	5	Volusia County	CC	NG	No	PL	No	-	Jan-20	Unknown	1,188,860	-	37	OT
Fort Myers	2	Lee County	CC	NG	No	PL	No	-	May-20	Unknown	1,721,490	-	75	OT
Unsited Solar[4]		Unknown	PV	Solar	Solar	N/A	N/A		Dec-19			-	161	P
Solar Degradation[4]	NA	NA	NA	NA	NA	NA	NA	-	NA	NA	NA	-	(1)	OT
									2020 Changes/Additions Total:			**1,543**	**309**	
2021														
Fort Myers	2	Lee County	CC	NG	No	PL	No	-	May-20	Unknown	1,721,490	37	0	OT
Sanford	5	Volusia County	CC	NG	No	PL	No	-	Jan-20	Unknown	1,188,860	24	-	OT
Unsited Solar[4]		Unknown	PV	Solar	Solar	N/A	N/A		Dec-20			-	161	P
Solar Degradation[4]	NA	NA	NA	NA	NA	NA	NA	-	NA	NA	NA	-	(2)	OT
									2021 Changes/Additions Total:			**61**	**159**	
2022														
Cape Canaveral Energy Center	3	Brevard County	CC	NG	FO2	PL	TK	-	Jun-22	Unknown	1,295,400	-	88	OT
Dania Beach Clean Energy Center		Broward County	CC	NG	FO3	PL	WA		Jun-22	Unknown		-	1,163	P
Unsited Solar[4]		Unknown	PV	Solar	Solar	N/A	N/A		Dec-21	Unknown		-	161	P
Solar Degradation[4]	NA	NA	NA	NA	NA	NA	NA	-	NA	NA	NA	-	(2)	
									2022 Changes/Additions Total:			**0**	**1,410**	
2023														
Cape Canaveral Energy Center	3	Brevard County	CC	NG	FO2	PL	TK	-	Jun-22	Unknown	1,295,400	60	-	OT
Riviera Beach Energy Center	5	City of Riviera Beach	CC	NG	FO2	PL	WA	-	Jun-23	Unknown	1,295,400	-	86	OT
Dania Beach Clean Energy Center		Broward County	CC	NG	FO3	PL	WA		Jun-22	Unknown		1,176	-	P
Unsited Solar[4]		Unknown	PV	Solar	Solar	N/A	N/A		Dec-22	Unknown		-	161	P
Solar Degradation[4]	NA	NA	NA	NA	NA	NA	NA	-	NA	NA	NA	-	(3)	
									2023 Changes/Additions Total:			**1,236**	**244**	
2024														
Riviera Beach Energy Center	5	City of Riviera Beach	CC	NG	FO2	PL	WA	-	Jun-23	Unknown	1,295,400	80	-	OT
Unsited Solar[4]		Unknown	PV	Solar	Solar	N/A	N/A		Dec-23			-	161	P
Solar Degradation[4]	NA	NA	NA	NA	NA	NA	NA	-	NA	NA	NA	-	(3)	
									2024 Changes/Additions Total:			**80**	**158**	
2025														
Solar Degradation[4]	NA	NA	NA	NA	NA	NA	NA	-	NA	NA	NA	-	(4)	
									2025 Changes/Additions Total:			**0**	**(4)**	
2026														
Solar Degradation[4]	NA	NA	NA	NA	NA	NA	NA	-	NA	NA	NA	-	(4)	
									2026 Changes/Additions Total:			**0**	**(4)**	

(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) Subject to JEA Board and ultimately FPSC approval, SJRPP may cease operation as early as January 1, 2018.
(4) 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:**	Horizon Solar Energy Center (Putnam and Alachua Counties)	
(2)	**Capacity**		
	a. Nameplate (AC)	74.5 MW	
	b. Summer Firm (AC)	40.2 MW	
	c. Winter Firm (AC)	-	
(3)	**Technology Type:**	Photovoltaic (PV)	
(4)	**Anticipated Construction Timing**		
	a. Field construction start-date:	2017	
	b. Commercial In-service date:	2017	
(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:**	760	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 (%):		27% (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 (2017 $/kW):		1,470
	Direct Construction Cost ($/kW):		1,417
	AFUDC Amount (2017 $/kW):		53
	Escalation ($/kW):		Accounted for in Direct Construction Cost
	Fixed O&M ($/kW-Yr): (2017 $)		4.64 (First Full Year Operation)
	Variable O&M ($/MWH): (2017 $)		0.00
	K Factor:		1.12

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Wildflower Solar Energy Center (Desoto County)

(2) **Capacity**
a. Nameplate (AC) 74.5 MW
b. Summer Firm (AC 40.2 MW
c. Winter Firm (AC) -

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

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

(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:** 474 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 (%):	27%	(First Full Year Operation)
Average Net Operating Heat Rate (ANOHR):	Not applicable	Btu/kWh
Base Operation 75F,100%		
Average Net Incremental Heat Rate (ANIHR):	Not applicable	Btu/kWh
Peak Operation 75F,100%		

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

Book Life (Years):	30	years
Total Installed Cost (2017 $/kW):	1,397	
Direct Construction Cost ($/kW):	1,344	
AFUDC Amount (2017 $/kW):	53	
Escalation ($/kW):	Accounted for in Direct Construction Cost	
Fixed O&M ($/kW-Yr) (2017 $)	4.64	(First Full Year Operation)
Variable O&M ($/MW (2017 $)	0.00	
K Factor:	1.06	

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1)	**Plant Name and Unit Number:**	Indian River Solar Energy Center (Indian River County)	
(2)	**Capacity**		
	a. Nameplate (AC)	74.5	MW
	b. Summer Firm (AC)	40.2	MW
	c. Winter Firm (AC)	-	
(3)	**Technology Type:**	Photovoltaic (PV)	
(4)	**Anticipated Construction Timing**		
	a. Field construction start-date:	2017	
	b. Commercial In-service date:	2017	
(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:**	350	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%	(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 (2017 $/kW):	1,541	
	Direct Construction Cost ($/kW):	1,485	
	AFUDC Amount (2017 $/kW):	56	
	Escalation ($/kW):	Accounted for in Direct Construction Cost	
	Fixed O&M ($/kW-Yr) (2017 $)	4.64	(First Full Year Operation)
	Variable O&M ($/MWh) (2017 $)	0.00	
	K Factor:	1.07	

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Coral Farms Solar Energy Center (Putnam County)

(2) **Capacity**

a. Nameplate (AC)	74.5	MW
b. Summer Firm (AC	40.2	MW
c. Winter Firm (AC)	-	

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

(4) **Anticipated Construction Timing**

a. Field construction start-date:	2017
b. Commercial In-service date:	2017

(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:** 311 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 (%):	27% (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 (2017 $/kW):	1,438
Direct Construction Cost ($/kW):	1,385
AFUDC Amount (2017 $/kW):	53
Escalation ($/kW):	Accounted for in Direct Construction Cost
Fixed O&M ($/kW-Yr) (2017 $)	4.64 (First Full Year Operation)
Variable O&M ($/MW (2017 $)	0.00
K Factor:	1.06

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Hammock Solar Energy Center (Hendry County)

(2) **Capacity**
a. Nameplate (AC) 74.5 MW
b. Summer Firm (AC) 40.2 MW
c. Winter Firm (AC) -

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

(4) **Anticipated Construction Timing**
a. Field construction start-date: 2017
b. Commercial In-service date: 2018

(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:** 456 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 (%):	27%	(First Full Year Operation)
Average Net Operating Heat Rate (ANOHR):	Not applicable	Btu/kWh
Base Operation 75F,100%		
Average Net Incremental Heat Rate (ANIHR):	Not applicable	Btu/kWh
Peak Operation 75F,100%		

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

Book Life (Years):	30	years
Total Installed Cost (2018 $/kW):	1,521	
Direct Construction Cost ($/kW):	1,466	
AFUDC Amount (2018 $/kW):	55	
Escalation ($/kW):	Accounted for in Direct Construction Cost	
Fixed O&M ($/kW-Yr) (2018 $)	4.75	(First Full Year Operation)
Variable O&M ($/MW (2018 $)	0.00	
K Factor:	1.11	

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1)	**Plant Name and Unit Number:** Barefoot Bay Solar Energy Center (Brevard County)		
(2)	**Capacity**		
	a. Nameplate (AC)	74.5 MW	
	b. Summer Firm (AC)	40.2 MW	
	c. Winter Firm (AC)	-	
(3)	**Technology Type:** Photovoltaic (PV)		
(4)	**Anticipated Construction Timing**		
	a. Field construction start-date:	2017	
	b. Commercial In-service date:	2018	
(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:**	462	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 (%):	27%	(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 (2018 $/kW):	1,551	
	Direct Construction Cost ($/kW):	1,496	
	AFUDC Amount (2018 $/kW):	55	
	Escalation ($/kW):	Accounted for in Direct Construction Cost	
	Fixed O&M ($/kW-Yr) (2018 $)	4.75	(First Full Year Operation)
	Variable O&M ($/MW (2018 $)	0.00	
	K Factor:	1.09	

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

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

(2) **Capacity**

a. Nameplate (AC)	74.5	MW
b. Summer Firm (AC)	40.2	MW
c. Winter Firm (AC)	-	

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

(4) **Anticipated Construction Timing**

a. Field construction start-date:	2017
b. Commercial In-service date:	2018

(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:** 416 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% (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 (2018 $/kW):	1,549
Direct Construction Cost ($/kW):	1,494
AFUDC Amount (2018 $/kW):	55
Escalation ($/kW):	Accounted for in Direct Construction Cost
Fixed O&M ($/kW-Yr) (2018 $)	4.75 (First Full Year Operation)
Variable O&M ($/MWh) (2018 $)	0.00
K Factor:	1.07

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

Schedule 9

Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Loggerhead Solar Energy Center (Putnam County)

(2) **Capacity**

a. Nameplate (AC)	74.5	MW
b. Summer Firm (AC)	40.2	MW
c. Winter Firm (AC)	-	

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

(4) **Anticipated Construction Timing**

a. Field construction start-date:	2017
b. Commercial In-service date:	2018

(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:** 450 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 (%):	27%	(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 (2018 $/kW):	1,513	
Direct Construction Cost ($/kW):	1,458	
AFUDC Amount (2018 $/kW):	55	
Escalation ($/kW):	Accounted for in Direct Construction Cost	
Fixed O&M ($/kW-Yr) (2018 $)	4.75	(First Full Year Operation)
Variable O&M ($/MW (2018 $)	0.00	
K Factor:	1.11	

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

Schedule 9

Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Okeechobee Clean Energy Center

(2) **Capacity**

a. Summer	1,748	MW
b. Winter	1,754	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):	705
Direct Construction Cost (2019 $/kW):	630
AFUDC Amount (2019 $/kW):	74
Escalation ($/kW):	Accounted for in Direct Construction Cost
Fixed O&M ($/kW-Yr):	16.78
Variable O&M (2019 $/MWH):	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:** Unsited Solar		
(2)	**Capacity**		
	a. Nameplate (AC)	298 MW (in four 74.5 MW increments)	
	b. Summer Firm (AC)	161 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:	4^{th} Q, 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:**	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 (%):		27% (First Full Year Operation)
	Average Net Operating Heat Rate (ANOHR):		Not applicable
	Base Operation 75F,100%		
	Average Net Incremental Heat Rate (ANIHR):		Not applicable
	Peak Operation 75F,100%		
(13)	**Projected Unit Financial Data ***		
	Book Life (Years):		30 years
	Total Installed Cost (2019 $/kW):		Less than $1,750/kW
	Direct Construction Cost ($/kW):		---
	AFUDC Amount (2019 $/kW):		---
	Escalation ($/kW):		---
	Fixed O&M ($/kW-Yr) (2019 $)		---
	Variable O&M ($/MW (2019 $)		---
	K Factor:		---

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Unsited Solar

(2) **Capacity**
a. Nameplate (AC) 298 MW (in four 74.5 MW increments)
b. Summer Firm (AC) 161 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: 4th 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 (%): 27% (First Full Year Operation)
Average Net Operating Heat Rate (ANOHR): Not applicable
Base Operation 75F,100%
Average Net Incremental Heat Rate (ANIHR): Not applicable
Peak Operation 75F,100%

(13) **Projected Unit Financial Data ***
Book Life (Years): 30 years
Total Installed Cost (2020 $/kW): Less than $1,750/kW
Direct Construction Cost ($/kW): ---
AFUDC Amount (2020 $/kW): ---
Escalation ($/kW): ---
Fixed O&M ($/kW-Yr) (2020 $) ---
Variable O&M ($/MW (2020 $) ---
K Factor: ---

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Unsited Solar

(2) **Capacity**
a. Nameplate (AC) 298 MW (in four 74.5 MW increments)
b. Summer Firm (AC) 161 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: 4th 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 (%): 27% (First Full Year Operation)
Average Net Operating Heat Rate (ANOHR): Not applicable
Base Operation 75F,100%
Average Net Incremental Heat Rate (ANIHR): Not applicable
Peak Operation 75F,100%

(13) **Projected Unit Financial Data ***
Book Life (Years): 30 years
Total Installed Cost (2021 $/kW): ---
Direct Construction Cost ($/kW): ---
AFUDC Amount (2021 $/kW): ---
Escalation ($/kW): ---
Fixed O&M ($/kW-Yr) (2021 $) ---
Variable O&M ($/MWh) (2021 $) ---
K Factor: ---

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Lauderdale Modernization (Dania Beach Clean Energy Center)

(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):	19.73
Variable O&M (2022 $/MWH):	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

(2) **Capacity**
a. Nameplate (AC) 298 MW (in four 74.5 MW increments)
b. Summer Firm (AC) 161 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: 4th 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 (%): 27% (First Full Year Operation)
Average Net Operating Heat Rate (ANOHR): Not applicable
Base Operation 75F,100%
Average Net Incremental Heat Rate (ANIHR): Not applicable
Peak Operation 75F,100%

(13) **Projected Unit Financial Data ***
Book Life (Years): 30 years
Total Installed Cost (2022 $/kW): ---
Direct Construction Cost ($/kW): ---
AFUDC Amount (2022 $/kW): ---
Escalation ($/kW): ---
Fixed O&M ($/kW-Yr) (2022 $) ---
Variable O&M ($/MWh) (2022 $) ---
K Factor: ---

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1) **Plant Name and Unit Number:** Unsited Solar

(2) **Capacity**
a. Nameplate (AC) 298 MW (in four 74.5 MW increments)
b. Summer Firm (AC) 161 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: 4th 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 (%): 27% (First Full Year Operation)
Average Net Operating Heat Rate (ANOHR): Not applicable
Base Operation 75F,100%
Average Net Incremental Heat Rate (ANIHR): Not applicable
Peak Operation 75F,100%

(13) **Projected Unit Financial Data ***
Book Life (Years): 30 years
Total Installed Cost (2023 $/kW): ---
Direct Construction Cost ($/kW): ---
AFUDC Amount (2023 $/kW): ---
Escalation ($/kW): ---
Fixed O&M ($/kW-Yr) (2023 $) ---
Variable O&M ($/MW (2023 $) ---
K Factor: ---

* $/kW values are based on nameplate capacity.

Note: Total installed cost includes transmission interconnection and AFUDC.

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Horizon Solar Energy Center (Alachua and Putnam)

The Horizon Solar Energy Center will require bifurcating the existing FPL Bradford-Putnam 115 kV line and extending two parallel sections approximately 1 mile to loop the new Horizon Substation and connect the solar PV inverter array.

(1) Point of Origin and Termination:	Bradford-Putnam 115 kV line to Horizon Substation
(2) Number of Lines:	1
(3) Right-of-way	FPL – Owned
(4) Line Length:	1 mile (double-circuit)
(5) Voltage:	115 kV
(6) Anticipated Construction Timing:	Start date: 2017 End date: 2017
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Horizon Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Wildflower Solar Energy Center (Desoto)

The Wildflower Solar Energy Center will require one new line to connect the PV inverter array at a new Solaris Substation to the existing Skylight Substation.

(1) Point of Origin and Termination:	Skylight Substation– Solaris Substation
(2) Number of Lines:	1
(3) Right-of-way	FPL – Owned
(4) Line Length:	0.5 miles
(5) Voltage:	230 kV
(6) Anticipated Construction Timing:	Start date: 2017 End date: 2017
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Solaris Substation and Skylight Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Indian River Solar Energy Center (Indian River)

The Indian River Solar Energy Center will require bifurcating the FPL Malabar - Midway 230 kV line and extending two parallel sections approximately 0.5 miles west to loop the new Heritage Substation. The Indian River solar PV inverter will connect to Heritage Substation by constructing approximately 4.5 miles of new 230 kV transmission line from Heritage Substation to the new FPL Eldora Substation.

(1) Point of Origin and Termination:	Heritage Substation – Eldora Substation
(2) Number of Lines:	2
(3) Right-of-way	FPL – Owned
(4) Line Length:	0.5 miles (double-circuit) and 4.5 miles
(5) Voltage:	230 kV
(6) Anticipated Construction Timing:	Start date: 2017 End date: 2017
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Heritage Substation and Eldora Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Coral Farms Solar Energy Center (Putnam)

The Coral Farms Solar Energy Center (Putnam) will require bifurcating the existing FPL Bradford-Rice 230 kV transmission line and extending two parallel sections approximately 0.1 mile to loop the new Quasar substation and connect the solar PV inverter array.

(1) Point of Origin and Termination:	Bradford – Rice 230 kV to Quasar Substation
(2) Number of Lines:	1
(3) Right-of-way	FPL – Owned
(4) Line Length:	0.1 mile
(5) Voltage:	230 kV
(6) Anticipated Construction Timing:	Start date: 2017 End date: 2017
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Quasar Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Hammock Solar Energy Center (Hendry)

The Hammock Solar Energy Center (Putnam) will require bifurcating the existing FPL Ft. Myers - McCarthy 138 kV line and extending two parallel sections approximately 0.1 mile to loop the new Athens substation and connect the solar PV inverter array.

(1) Point of Origin and Termination:	Ft. Myers – McCarthy 138 kV Line
(2) Number of Lines:	1
(3) Right-of-way	FPL – Owned
(4) Line Length:	0.1 mile
(5) Voltage:	138 kV
(6) Anticipated Construction Timing:	Start date: 2017 End date: 2017
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Athens Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Barefoot Bay Solar Energy Center (Brevard)

The Barefoot Bay Solar Energy Center will require the construction of 0.25 miles of new 230 kV transmission line to connect the PV inverter array at a new Cyrus Substation to the existing Barefoot Substation.

(1) Point of Origin and Termination:	Barefoot Substation– Cyrus Substation
(2) Number of Lines:	1
(3) Right-of-way	FPL – Owned
(4) Line Length:	0.25 mile
(5) Voltage:	230 kV
(6) Anticipated Construction Timing:	Start date: 2017 End date: 2017
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Barefoot Substation and Cyrus Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Blue Cypress Solar Energy Center (Indian River)

The Blue Cyprus Solar Energy Center will connect to the Heritage Substation constructed for the Indian River Solar Energy Center and does not require any "new" transmission lines.

(1) Point of Origin and Termination:	Heritage Substation
(2) Number of Lines:	N/A
(3) Right-of-way	N/A
(4) Line Length:	N/A
(5) Voltage:	230 kV
(6) Anticipated Construction Timing:	Start date: 2017 End date: 2017
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Heritage Substation
(9) Participation with Other Utilities:	None

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

Loggerhead Solar Energy Center (St. Lucie)

The Loggerhead Solar Energy Center will require bifurcating the existing FPL Sherman - Treasure 230 kV transmission line and extending two parallel sections approximately 0.5 miles to loop the new Heru Substation and connect the solar PV inverter array.

(1) Point of Origin and Termination:	Sherman-Treasure 230 kV Line
(2) Number of Lines:	1
(3) Right-of-way	FPL – Owned
(4) Line Length:	0.5 mile
(5) Voltage:	230 kV
(6) Anticipated Construction Timing:	Start date: 2017 End date: 2017
(7) Anticipated Capital Investment: (Trans. and Sub.)	Included in total installed cost on Schedule 9
(8) Substations:	Heru 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

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 fourth quarter 2019. 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 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 fourth 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 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 fourth 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)

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

Schedule 10
Status Report and Specifications of Proposed Transmission Lines

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 fourth 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 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 fourth quarter 2023. 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 2016

	(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%	4,165	3.4%
(2)	Nuclear	3,453	12.9%	3,550	12.4%	28,033	23.1%
(3)	Residual	0	0.0%	0	0.0%	430	0.4%
(4)	Distillate	108	0.4%	123	0.4%	230	0.2%
(5)	Natural Gas	21,310	79.4%	23,010	80.3%	86,161	70.8%
(6)	Solar (Firm & Non-Firm)	259	1.0%	259	0.9%	237	0.2%
(7)	***FPL Existing Units Total (1):***	***26,017***	***96.9%***	***27,837***	***97.1%***	***119,255***	***98.1%***
(8)	Renewables (Purchases)- Firm	114.0	0.4%	114.0	0.4%	818	0.7%
(9)	Renewables (Purchases)- Non-Firm	Not Applicable	---	Not Applicable	---	219	0.2%
(10)	***Renewable Total:***	114.0	0.4%	114.0	0.4%	1,037	0.85%
(11)	***Purchases Other :***	712.0	2.7%	719.0	2.5%	1,327	1.1%
(12)	***Total :***	*26,843.1*	*100.0%*	*28,669.9*	*100.0%*	*121,619*	*100.0%*

Note:

(1) FPL Existing Units Total values on row (7), columns (2) and (4), match the System Total 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 2016.

Schedule 11.2

Existing Non-Firm Self-Service Renewable Generation Facilities
Actuals for the Year 2016

(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)	31.66	36,920	308,707	1,148	344,479
Customer-Owned Renewable Generation (> 10 kW to 100 kW)	12.34	15,459	256,302	496	271,265
Customer-Owned Renewable Generation (> 100 kW - 2 MW)	19.66	67,811	205,707	277	273,241
Totals	63.66	120,190	770,716	1,921	888,985

Notes:

1. There were 5418 customers with renewable generation facilities interconnected with FPL on December 31, 2016.
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 2016.
4. The Annual Energy Sold to FPL is an actual value from FPL's metered data for 2016.
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.

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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 FPL's 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 99 percent – from 40 million barrels annually in 2001 to 0.4 million barrels in 2016. FPL is also the largest producer of solar energy in Florida. In 2016, FPL tripled its solar energy-based generating capacity from 110 MW to approximately 333 MW. In this 2017 Site Plan, FPL is also projecting to significantly increase its solar generating capacity by another 2,086 MW by the year 2023, as discussed previously in 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 the 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 FPL's corporate culture. FPL has one of the lowest emissions profiles among U.S. utilities, and in 2016, its carbon dioxide (CO_2) emission rate was approximately 30% lower (better) than the industry national average.

NextEra Energy in 2016 was ranked as the top "green utility" in the United States and No. 4 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 world rankings, NextEra Energy trailed only Acciona (Spain), China General Nuclear (China), and Iberdrola (Spain). 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 capacity.

NextEra Energy's Juno Beach, Florida campus, which includes FPL 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.

In 2016, FPL supported a broad base of environmental organizations with donations, event sponsorships, and memberships. The organizations that were supported include, but were not limited to: the Everglades Foundation, the Nature Conservancy, the Conservancy of Southwest Florida, the Busch Wildlife Sanctuary, Inc., the 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: Marine Resources Council, Grassy Waters Conservancy, Sustainable Florida, Palm Beach County Loggerhead Marinelife Center, and Audubon of 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 the efficient use of energy, both within the Company and in communities served by FPL. These actions are just a few examples of how FPL is committed to the environment.

To ensure that 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 2016 environmental outreach activities are summarized in Table IV.E.1.

Table IV.E.1: 2016 FPL Environmental Outreach Activities

Activity	Count (#)
Visitors to Manatee Lagoon - An FPL Eco-Discovery Center	82,995
Number of website visits to the Manatee Lagoon website	573,759
Visitors to FPL's Energy Encounter at St. Lucie	1,100
Visitors to Manatee Park, Ft. Myers	410,231
Number of website visits to FPL's Environmental & Corporate Responsibility Websites	>33,300
Visitors to Barley Barber Swamp (Treasured Lands Partnership)	662
Visitors to Martin Energy Center Solar & DeSoto Solar Tours	418
Environmental Brochures Distributed	>39,300
Home Energy Surveys	Field Visits: 22,417 Phone: 26,762 Online: 64,596 **Total: 113,775**

IV.F Preferred and Potential Sites

Based upon its projection of future resource needs, FPL has identified eleven (11) Preferred Sites and twelve (12) 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 that have 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 indicate that the size or technology of a generating resource has been determined. The Preferred Sites and Potential Sites are discussed in separate sections below.

IV.F.1 Preferred Sites

For the 2017 Ten Year Site Plan, FPL has identified eleven (11) Preferred Sites. These include a combination of existing and new sites for the development of solar generation facilities, natural gas combined cycle units, and nuclear units. The new solar facilities are being added in accordance with the Solar Base Rate Adjustment (SoBRA) portion of the stipulated agreement of FPL's 2016 base rate case. Sites for solar additions in 2017 and 2018 have been selected, and these sites are described in this section. Potential sites for post-2018 solar additions are discussed in the Potential Site section later in this chapter.

The 11 Preferred Sites include the following, which are presented in general chronological order of when resources are projected to be added to the FPL system:

2017 SoBRA Project: Horizon Solar Energy Center (Putnam and Alachua Counties), Wildflower Solar Energy Center (Desoto County), Indian River Solar Energy Center (Indian River County), and Coral Farms Solar Energy Center (Putnam County);

2018 SoBRA Project: Hammock Solar Energy Center (Hendry County), Barefoot Bay Solar Energy Center (Brevard County), Blue Cypress Solar Energy Center (Indian River County), and Loggerhead Solar Energy Center (St. Lucie County)

Other Generation Projects: Okeechobee Clean Energy Center Unit 1 (Okeechobee County) in 2019; the modernization of the existing Lauderdale plant site, which will result in the creation of the Dania Beach Clean Energy Center (Broward County) in 2022; and Turkey Point Units 6 & 7

(Miami-Dade County). In regard to the Turkey Point 6 & 7 nuclear units, FPL's Combined Operating License Application (COLA) for the new nuclear units is still pending with the Nuclear Regulatory Commission at the time this Site Plan is being prepared. The in-service dates for these units are beyond the 2017 through 2026 time period addressed in this Site Plan.

The geological features of site and adjacent area maps for the 12 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: Horizon Solar Energy Center

The Horizon Solar Energy Center, consisting of a PV facility of approximately 74.5 MW, will be located in Putnam and Alachua Counties on approximately 1,310 acres. Commercial Operation is projected to begin in December 2017.

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	Improved pasture
2. Adjacent Areas	Agricultural Production, forested and non-forested uplands

f. General Environmental Features On and In the Site Vicinity

1. Natural Environment

Site is predominately agricultural with forested, herbaceous, and shrub marsh wetland 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 adjacent to the site.

4. **Other Significant Features**

FPL is not aware of any other significant features of the site.

g. **Design Features and Mitigation Options**

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

h. **Local Government Future Land Use Designations**

Local government future land use on this site is Rural Agricultural.

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 North 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 absence of sufficient rainfall.

m. **Water Supply Sources by Type**

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable and 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: July 22, 2016

Florida Environmental Resources Permit (ERP) issued: October 31, 2016

USACE Section 404 Permit: Not Applicable

Preferred Site # 2: Wildflower Solar Energy Center

The Wildflower Solar Energy Center, consisting of a PV facility of approximately 74.5 MW, will be located in Desoto County on approximately 431 acres. Commercial Operation is projected to begin in December 2017.

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 the 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	Agricultural production
2. Adjacent Areas	Agricultural production, upland forested, forested uplands, power plant, transportation, communication, and utilities.

f. General Environmental Features On and In the Site Vicinity

1. Natural Environment

Site is predominately agricultural with drainage ditches. Some marsh wetland 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 at or adjacent to the site.

4. Other Significant Features

FPL is not aware of any other significant features of the site.

g. Design Features and Mitigation Options

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

h. Local Government Future Land Use Designations

Local government future land use designation is Agricultural.

i. Site Selection Criteria Process

The site selection criteria used were 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 the Site and Adjacent Areas

See Figure at the end of this Chapter.

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 and 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

Solar 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

USACE Section 404 Permit application submitted: October 19, 2016

USACE Section 404 Permit issued: January 30, 2017

Florida Environmental Resources Permit (ERP) application submitted: October 19, 2016

Florida Environmental Resources Permit (ERP) issued: December 13, 2016

Preferred Site # 3: Indian River Solar Energy Center

The Indian River Solar Energy Center, consisting of a PV facility of approximately 74.5 MW, will be located in Indian River County on approximately 695 acres. Commercial Operation is projected to begin in December 2017.

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** Agricultural Production (Citrus)
2. **Adjacent Areas** Agricultural Production

f. General Environmental Features On and In the Site Vicinity

1. Natural Environment

Site is predominately agricultural with drainage ditches.

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 adjacent to the site.

4. Other Significant Features

FPL is not aware of any other significant features of the site.

g. Design Features and Mitigation Options

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

h. Local Government Future Land Use Designations

Local government future land use on this site is Agricultural - 2.

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 South 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 absence of sufficient rainfall.

m. Water Supply Sources by Type

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable and 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: December 14, 2016

Florida Environmental Resources Permit (ERP) issued: February 13, 2016

USACE Section 404 Permit: Not Applicable

Preferred Site # 4: Coral Farms Solar Energy Center

The Coral Farms Solar Energy Center, with a PV facility of approximately 74.5 MW, will be located in Putnam County on approximately 598 acres. Commercial Operation is projected to begin in December 2017.

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	Agricultural Production
2. Adjacent Areas	Agricultural Production, Forested And Non-Forested Uplands

f. General Environmental Features On and In the Site Vicinity

1. Natural Environment

Site is predominately agricultural with some herbaceous wetland areas.

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 adjacent to the site.

4. Other Significant Features

FPL is not aware of any other significant features on the site.

g. Design Features and Mitigation Options

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

h. Local Government Future Land Use Designations

Local government designation regarding land use on this site is Agricultural – 1 and Agricultural - 2.

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 North Florida region.

l. Projected Water Quantities for Various Uses

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable: Minimal

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 and Panel Cleaning: Delivered to the site by truck.

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: August 17, 2016

Florida Environmental Resources Permit (ERP) issued: December 5, 2016

USACE Section 404 Permit application: Not Applicable

Preferred Site # 5: Hammock Solar Energy Center

The Hammock Solar Energy Center, consisting of a PV facility of approximately 74.5 MW, will be located in Hendry County on approximately 970 acres. Commercial Operation is projected to begin in February 2018.

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	Agricultural Production (Citrus)
2. Adjacent Areas	Agricultural Production

f. General Environmental Features On and In the Site Vicinity

1. Natural Environment

Site is predominately agricultural with drainage ditches. Forested, herbaceous, and shrub marsh wetland areas present onsite.

2. Listed Species

The site is located in the USFW Secondary Panther Focus Zone. 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 adjacent to the site.

4. Other Significant Features

FPL is not aware of any other significant features of the site.

g. Design Features and Mitigation Options

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

h. Local Government Future Land Use Designations

Local government future land use on this site is Agricultural.

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 South 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 absence of sufficient rainfall.

m. Water Supply Sources by Type

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable and 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: December 14, 2016

Florida Environmental Resources Permit (ERP) issued: February 6, 2017

USACE Section 404 Permit: Not Applicable

Preferred Site # 6: Barefoot Bay Solar Energy Center

The Barefoot Bay Solar Energy Center, consisting of a PV facility of approximately 74.5 MW, will be located in Brevard County on approximately 455 acres. Commercial Operation is projected to begin in February 2018.

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	Agricultural Production (Citrus)
2. Adjacent Areas	Residential

f. General Environmental Features On and In the Site Vicinity

1. Natural Environment

Site is predominately agricultural with drainage ditches.

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 adjacent to the site.

4. Other Significant Features

FPL is not aware of any other significant features of the site.

g. Design Features and Mitigation Options

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

h. Local Government Future Land Use Designations

Local government future land use on this site is Residential 1.

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 South 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 absence of sufficient rainfall.

m. Water Supply Sources by Type

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable and 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: December 14, 2016

Florida Environmental Resources Permit (ERP) issued: January 12, 2017

USACE Section 404 Permit: Not Applicable

Preferred Site # 7: Blue Cypress Solar Energy Center

The Blue Cypress Solar Energy Center, consisting of a PV facility of approximately 74.5 MW, will be located in Indian River County on approximately 605 acres. Commercial Operation is projected to begin in February 2018.

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 Agricultural Production (Citrus)

2. Adjacent Areas Agricultural Production

f. General Environmental Features On and In the Site Vicinity

1. Natural Environment

Site is Site is predominately agricultural with drainage ditches.

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 adjacent to the site.

4. Other Significant Features

FPL is not aware of any other significant features of the site.

g. Design Features and Mitigation Options

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

h. Local Government Future Land Use Designations

Local government future land use on this site is Agricultural - 2.

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 South 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 absence of sufficient rainfall.

m. Water Supply Sources by Type

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable and 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: January 27, 2017

Florida Environmental Resources Permit (ERP) issued: March 9, 2017

USACE Section 404 Permit: Not Applicable

Preferred Site # 8: Loggerhead Solar Energy Center

The Loggerhead Solar Energy Center, consisting of a PV facility of approximately 74.5 MW, will be located in St. Lucie County on approximately 570 acres. Commercial Operation is projected to begin in February 2018.

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	Improved Pasture
2. Adjacent Areas	Agricultural Production With Forested, Herbaceous, And Shrub Marsh Wetland Areas.

f. General Environmental Features On and In the Site Vicinity

1. Natural Environment

Site is predominately agricultural with drainage ditches.

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 adjacent to the site.

4. Other Significant Features

FPL is not aware of any other significant features of the site.

g. Design Features and Mitigation Options

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

h. Local Government Future Land Use Designations

Local government future land use on this site is Agricultural - 5.

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 South 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 absence of sufficient rainfall.

m. Water Supply Sources by Type

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable and 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: December 14, 2016

Florida Environmental Resources Permit (ERP) issued: February 13, 2017

USACE Section 404 Permit: Not Applicable

Preferred Site # 9: Okeechobee Site, Okeechobee County

FPL chose clean and efficient natural gas-fired 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 PV and gas-fired 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	Agricultural production (cattle and citrus)
2. Adjacent Areas	Agricultural production, conservation, and existing electrical transmission

f. General Environmental Features On and In the Site Vicinity

1. Natural Environment

The site is comprised of unimproved pasture, 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 1,750 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-fired 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: 9 million gallons per day (mgd) daily average, 11 mgd maximum

Process: 0.08 mgd

Potable: 0.001 mgd

Panel Cleaning: Not Applicable

m. Water Supply Sources by Type

Cooling: Floridan Aquifer System

Process: Surficial 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 will be delivered via the new Sabal Trail/Florida Southeast Connection natural gas pipeline. Ultra-low Sulfur Diesel fuel 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 # 10: Lauderdale Plant Modernization (Dania Beach Clean Energy Center), 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 a new single combined cycle unit will be erected on the site. The name of the new combined cycle unit and site will be the Dania Beach Clean Energy Center.

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 and Ultra-Low Sulfur Distillate.

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 and economics. Environmental issues were not a deciding factor since this site does not exhibit significant environmental sensitivity or other environmental issues. However, there are environmental benefits of replacing the existing, outdated combined cycle units with a new highly efficient combined cycle unit, including a significant reduction in system air emissions. In addition, the modernization project at this existing site will not require a new gas pipeline and will make use of the existing transmission facilities and water supply.

j. Water Resources

Condenser cooling for the steam cycle portion of the new combined cycle unit and auxiliary cooling will come from the existing cooling water intake system. Process and potable water for the new unit will come from the existing water supply sources (Broward County and City of Hollywood).

k. Geological Features of Site and Adjacent Areas

See Figure at the end of this Chapter. The site is located in the South Florida region.

l. 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 SO2, 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 NOx, CO, and VOCs.

When firing natural gas, NOx emissions will be controlled using dry-low NOx combustion technology and selective catalytic reduction (SCR). Water injection and SCR will be used to reduce NOx 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: To Be Determined (TBD)

Fl. Site Certification Application Submitted: TBD

Prevention of Significant Deterioration (PSD) Application Submitted: TBD

USACE Section 404 Permit Application Filed: TBD

IWW Modification: TBD

Preferred Site # 11: 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 COLA in late 2017 or early 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 projects currently under construction by Georgia Power and SCANA. Construction of those projects is expected to be completed in approximately 2021. 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 2017 through 2026 time period addressed in this Site Plan. Nonetheless, the opportunity for additional nuclear capacity 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 the new nuclear units.

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, mullien 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 (BNP), 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 while being relatively close to the load center, economics, and the long-standing record of safe and secure operation of nuclear generation at the site since the early 1970s.

j. Water Resources

Water requirements will be met by reclaimed water from Miami-Dade County and a back-up supply of saline groundwater from below the marine environment of Biscayne Bay.

k. Geological Features of Site and Adjacent Areas

See Figure at the end of this Chapter. The site is located in the South Florida region.

l. 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: 2017

A COLA Application for Units 6 & 7: Submitted to the NRC in June 2009. At the time this Site Plan is being prepared, FPL expects to receive the COL decision in late 2017 or early 2018.

Miami-Dade County Unusual Use approvals: issued in 2007 and 2013.

Land Use Consistency Determination: issued in 2013.

Prevention of Significant Deterioration: issued in 2009.

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

Twelve (12) counties are currently identified as Potential Sites for future generation 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 water quantities discussed below are in reference to universal solar 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.

[11] As has been described in previous FPL Site Plans, FPL also considers a number of other sites 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.

Potential Site # 1: Alachua County

FPL is currently evaluating potential sites in Alachua 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 Sites # 2: Baker County

FPL is currently evaluating potential sites in Baker County for future PV facilities. 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: Collier County

FPL is currently evaluating potential sites in Collier 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: Columbia County

FPL is currently evaluating potential sites in Columbia 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 # 6: Hendry County

FPL currently views Hendry County as a region likely to be used for future large-scale generation including gas-fired and/or PV generation. This includes existing FPL-owned sites as well as other potential future sites.

a. **Geological Survey (USGS) Map**

See Figures at the end of this chapter.

b. **Existing Land Uses of Site and Adjacent Areas**

The existing FPL-owned sites and adjacent areas consist of agricultural and upland forest as well as the Seminole Big Cypress Reservation. Land use information on an additional location is not available because a specific additional location has not been selected at the time of publication of this report.

c. **Environmental Features**

The existing FPL-owned sites include woodland pasture that includes wetlands, upland scrub, pine and hardwoods. Environmental feature information is not available at the time of publication of this report on an additional location as a specific site has not been selected.

d. **Water Quantities Required (assuming CC generation)**

Cooling: 9 - 12 million gallons per day (mgd) daily average

Process: 0.24 mgd

Potable: 0.001 mgd

Panel Cleaning (if the site is selected for PV generation): Minimal and only in absence of sufficient rainfall.

e. **Supply Sources**

Cooling: Groundwater

Process: Groundwater

Potable: Existing Supply

Potential Site # 7: Miami-Dade County

FPL is currently evaluating 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 # 8: Putnam County

FPL currently views Putnam County as a region likely to be used for future large-scale generation including gas-fired and/or PV generation. This includes existing FPL-owned sites as well as other potential future sites.

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

See Figures at the end of this chapter.

b. **Existing Land Uses of Site and Adjacent Areas**

The existing FPL-owned sites and adjacent areas consist of industrial, power generation and associated facilities, mixed wetland hardwoods, residential, and hardwood. Land use information is not available at the time of publication of this report on an additional location as a specific site has not been selected.

c. **Environmental Features (assuming CC generation)**

FPL is not aware of any other significant features on or adjacent to the site.

d. **Water Quantities Required**

Cooling: 9 – 12 million gallons per day (mgd) daily average

Process: 0.24 mgd

Potable: 0.001 mgd

Panel Cleaning: Minimal and only in absence of sufficient rainfall.

e. Supply Sources

Cooling: St. John's River

Process: Groundwater

Potable: Putnam County Municipal Water Supply

Potential Sites # 9: St. Lucie County

FPL is currently evaluating potential sites in St. Lucie County for future PV facilities. 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: 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 # 11: 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.

Potential Site # 12: Volusia County

FPL is currently evaluating potential sites in Volusia 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. <u>Water Quantities Required</u>

Cooling: Not Applicable for PV

Process: Not Applicable for PV

Potable: Minimal

Panel Cleaning: Minimal and only in absence of sufficient rainfall.

e. <u>Supply Sources</u>

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

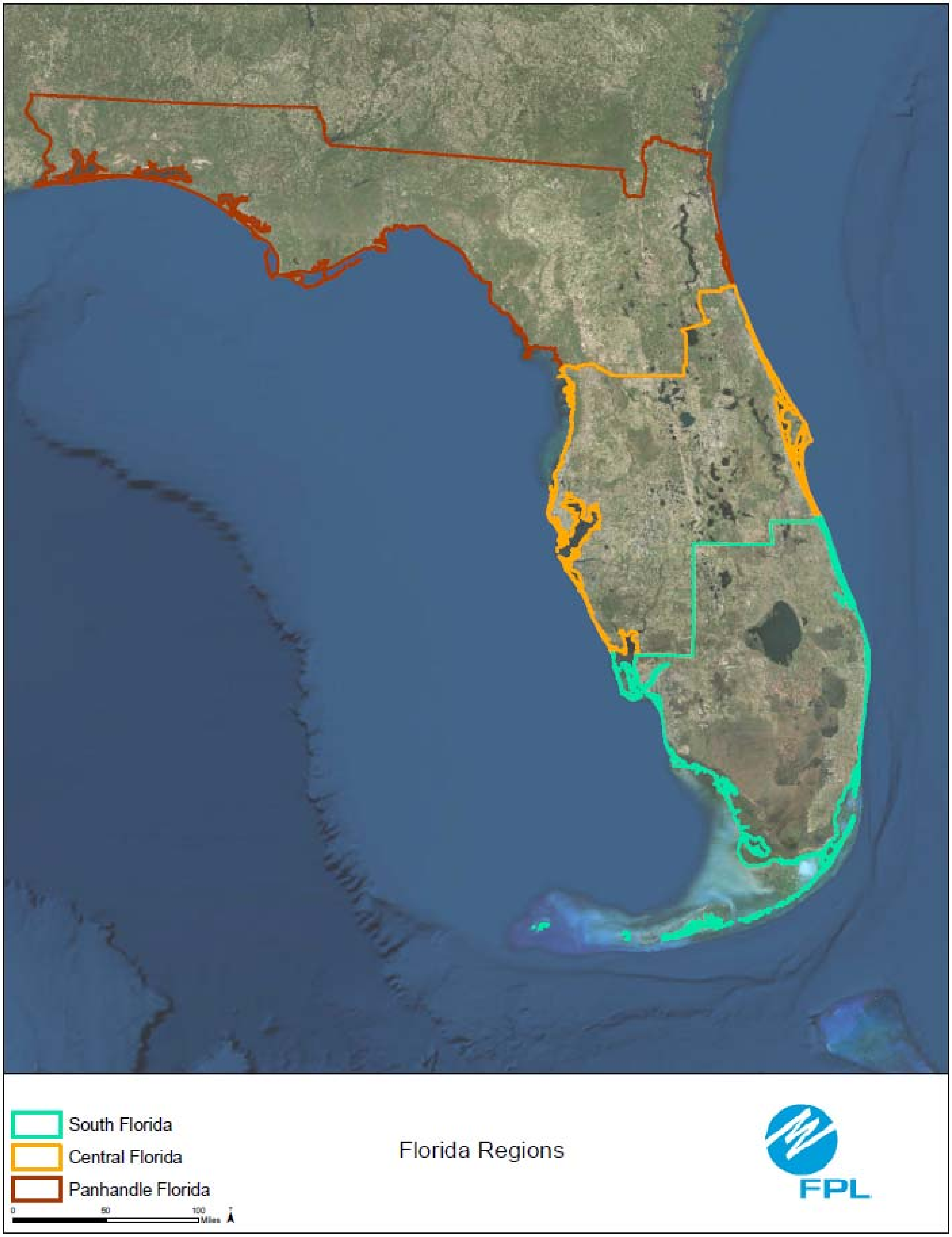
Relationship of Regional Hydrogeologic Units to Major Stratigraphic Units

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 11 Preferred Sites.



Note: This information is referred to in subsection k, Geological Features of Site and Adjacent Areas, for each of the 11 Preferred Sites.

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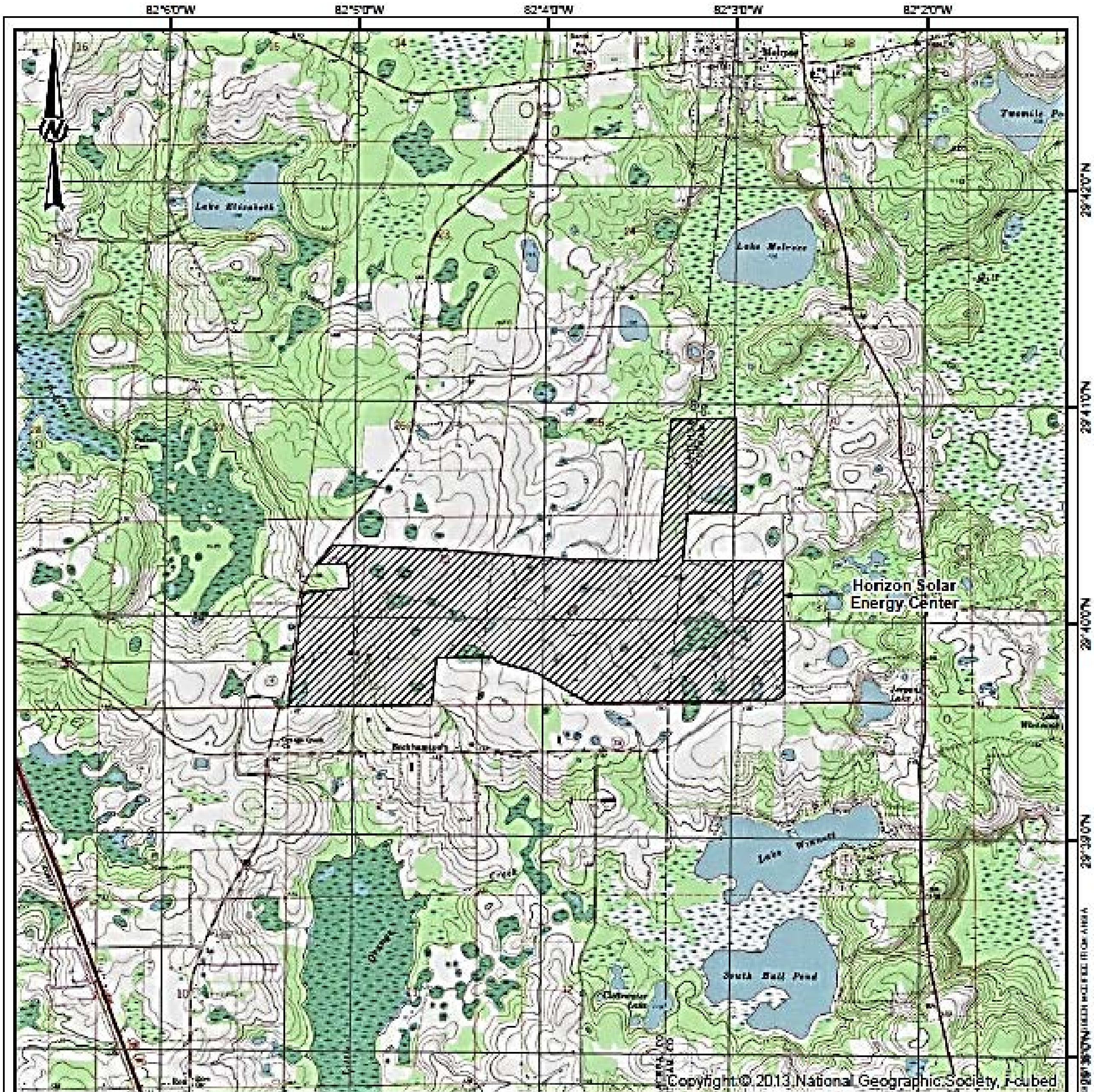
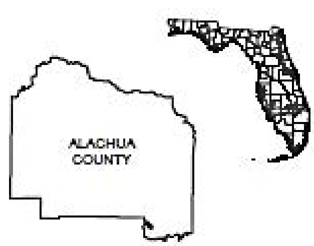
Environmental and Land Use Information: Supplemental Information

Preferred Site # 1: Horizon Solar Energy Center, Putnam and Alachua County



LEGEND

▨ Horizon Solar Energy Center



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1. USGS TOPO MAP QUARTER QUADS: MELROSE NW, MELROSE SE, MELROSE NE, MELROSE SW, 1997.

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

CLIENT
FPL

PROJECT
HORIZON SOLAR ENERGY CENTER

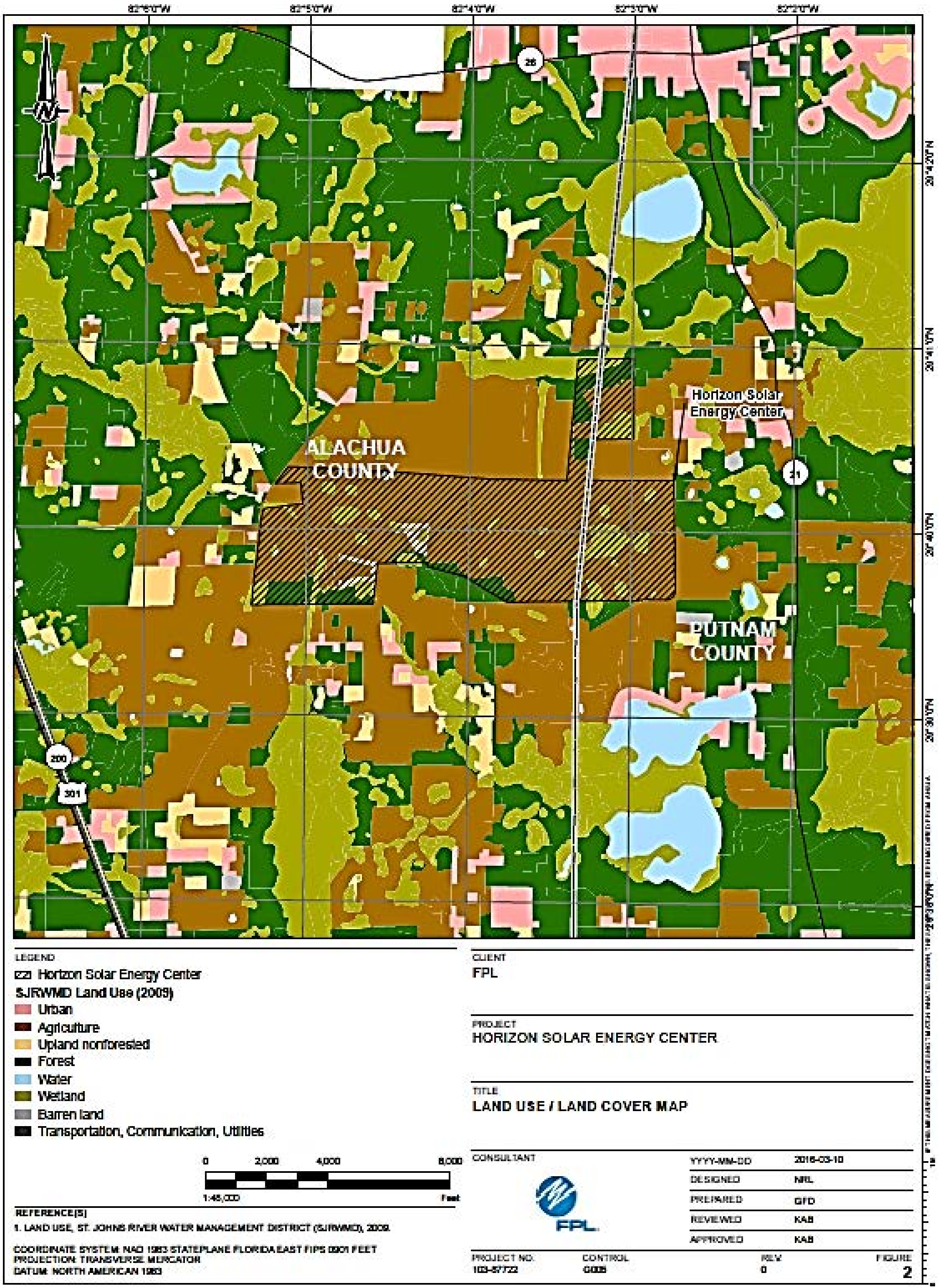
TITLE
USGS LOCATION MAP

CONSULTANT

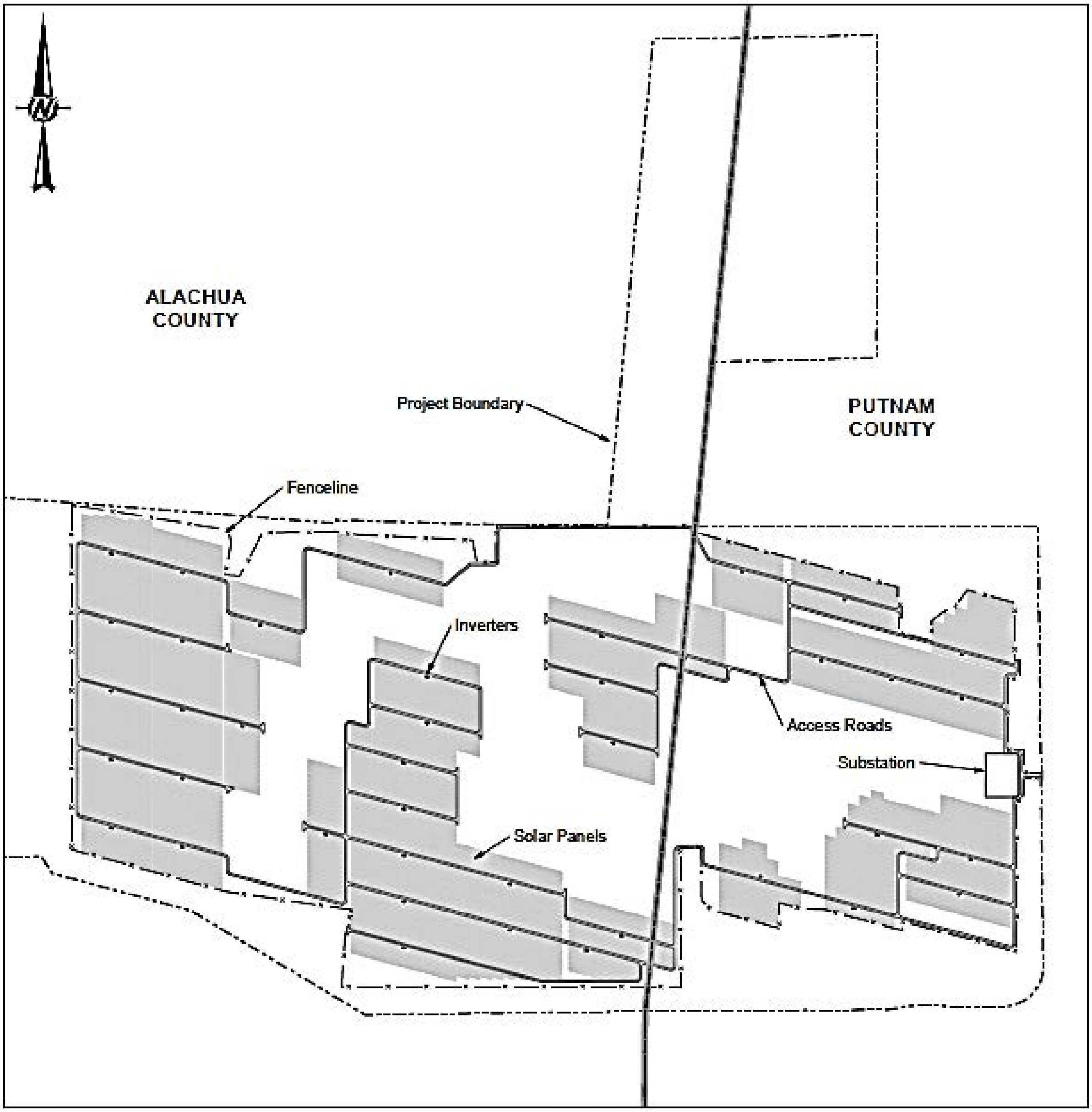
FPL

YYYY-MM-DD	2018-11-18
DESIGNED	NRL
PREPARED	GFD
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
103-87722	0004	0	1



Horizon Solar Energy Center
ALACHUA COUNTY
PUTNAM COUNTY
LEGEND
Horizon Solar 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
HORIZON SOLAR ENERGY CENTER
TITLE
LAND USE / LAND COVER MAP
CONSULTANT
YYYY-MM-DD 2016-03-10
DESIGNED NRL
PREPARED GFD
REVIEWED KAB
APPROVED KAB
PROJECT NO.
CONTROL
REV.
0
FIGURE
2



LEGEND

CLIENT
FPL

PROJECT
HORIZON SOLAR ENERGY CENTER

TITLE
FACILITY LAYOUT MAP

0 600 1,200 2,400
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REFERENCE(S)
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983

CONSULTANT

FPL

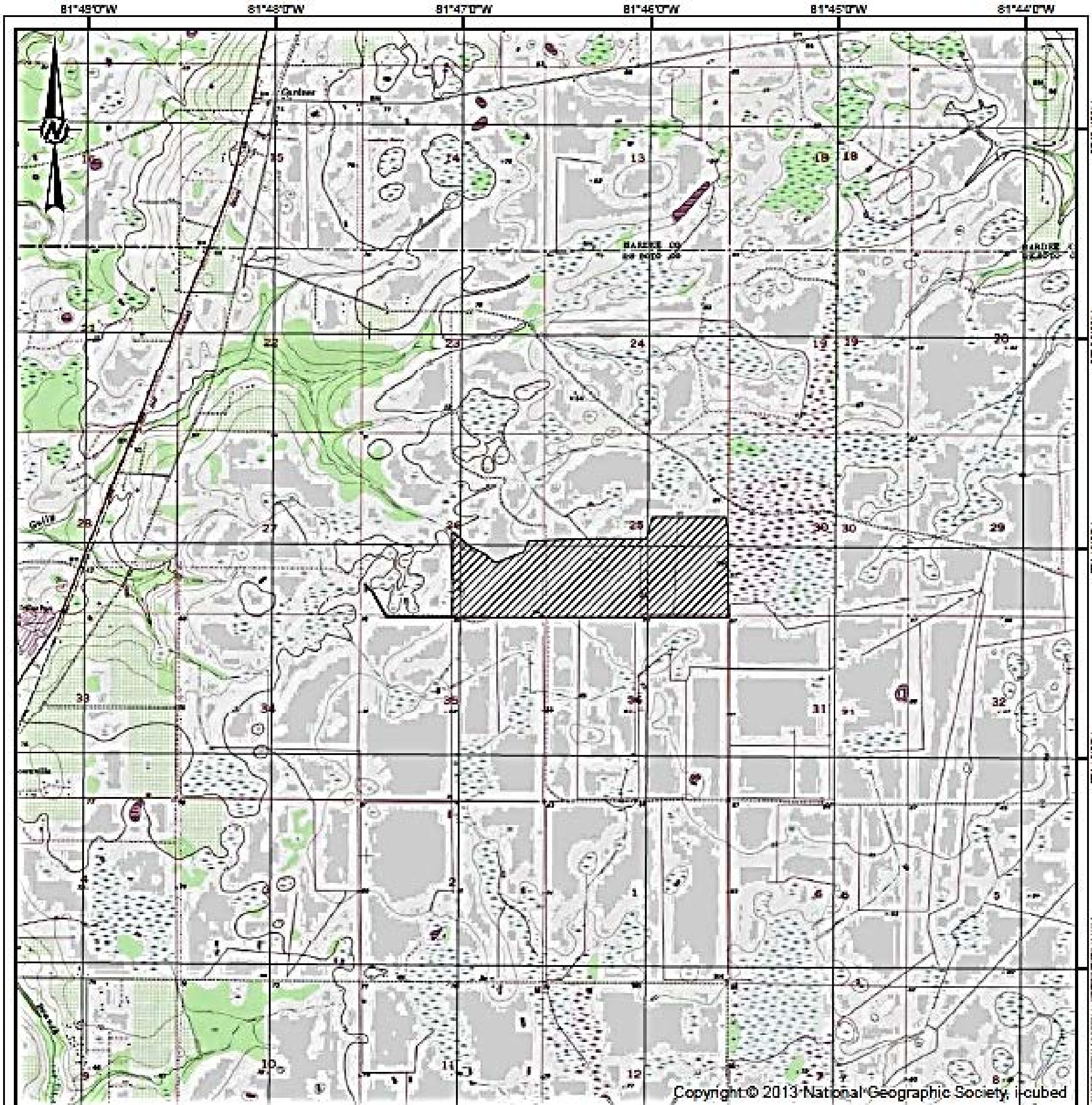
YYYY-MM-DD	2018-11-18
DESIGNED	NRL
PREPARED	GFD
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
103-87722	G008	0	3

Environmental and Land Use Information:

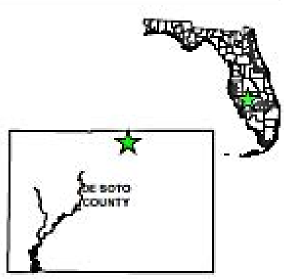
Supplemental Information

Preferred Site # 2: Wildflower Solar Energy Center, Desoto County



LEGEND

Wildflower Solar Energy Center



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REFERENCE(S)
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983

CLIENT
FPL

PROJECT
WILDFLOWER SOLAR ENERGY CENTER

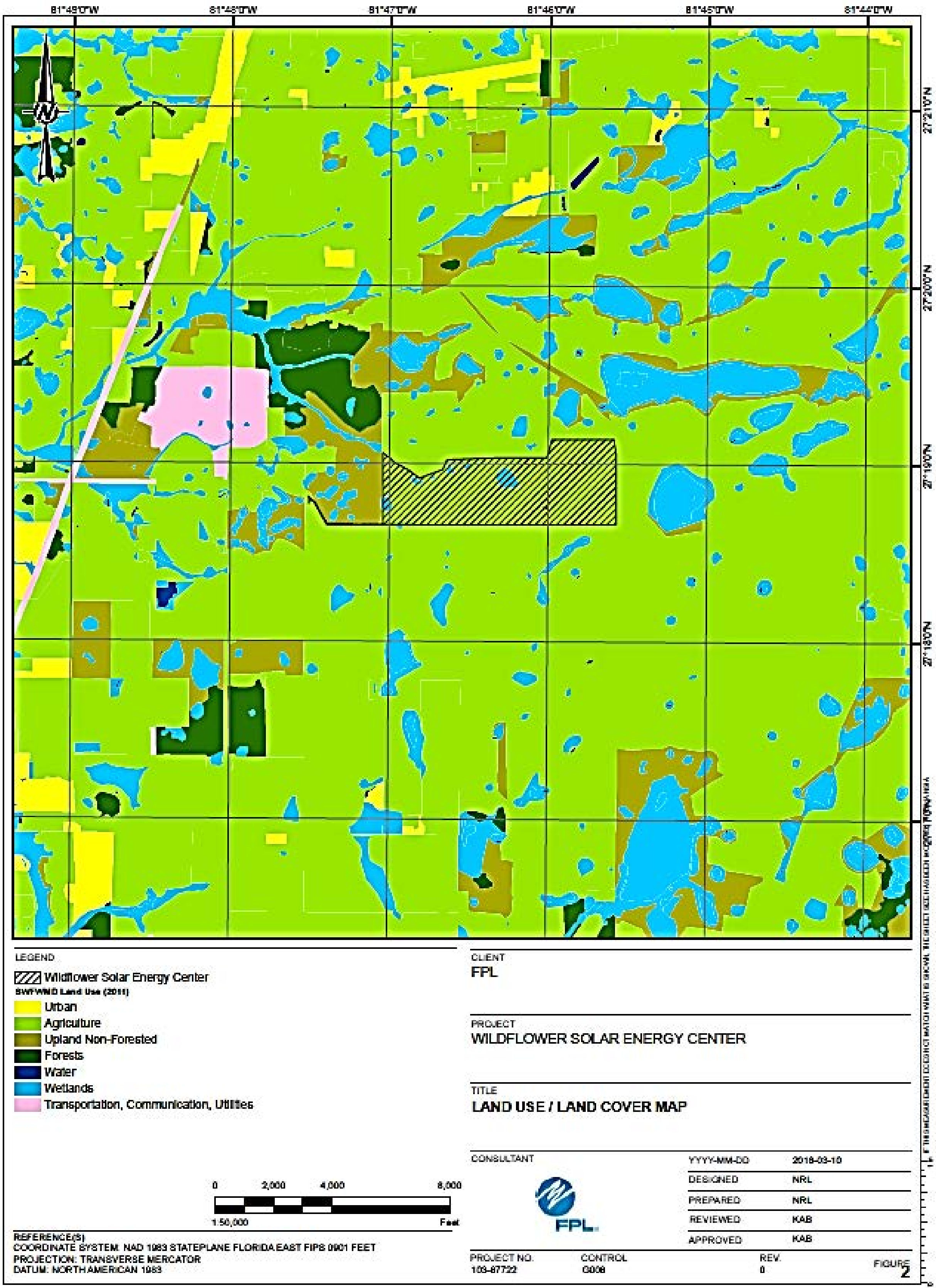
TITLE
USGS LOCATION MAP

CONSULTANT

FPL

YYYY-MM-DD	2018-11-16
DESIGNED	NRL
PREPARED	NRL
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
103-87722	G007	0	1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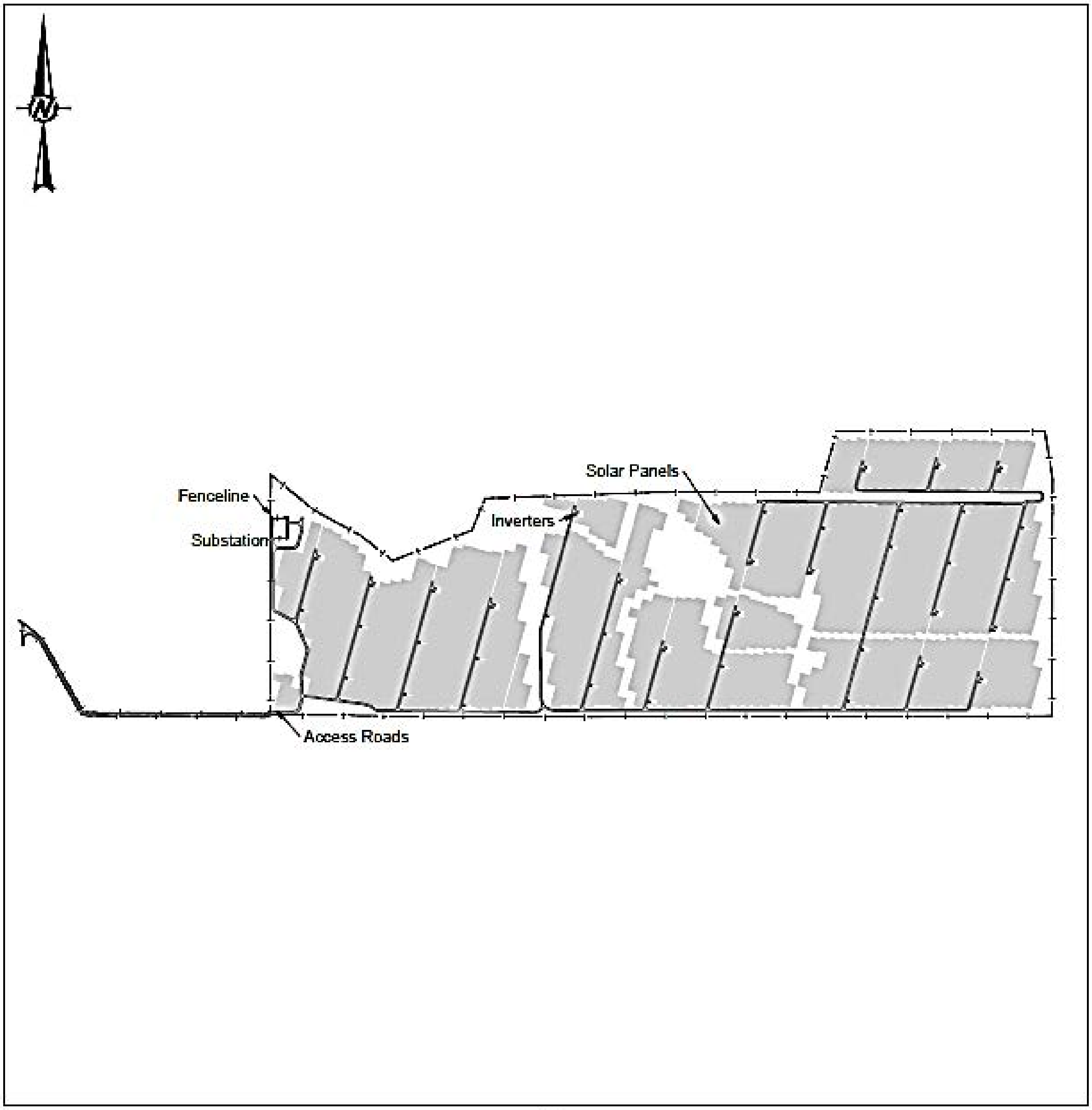
81°44'0"W
27°21'0"N
27°20'0"N
27°19'0"N
27°18'0"N
LEGEND
Wildflower Solar Energy Center
SWFWMD Land Use (2011)
Urban
Agriculture
Upland Non-Forested
Forests
Water
Wetlands
Transportation, Communication, Utilities
0 2,000 4,000 8,000
1:50,000
Feet
REFERENCE(S)
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
WILDFLOWER SOLAR ENERGY CENTER
TITLE
LAND USE / LAND COVER MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-10
DESIGNED NRL
PREPARED NRL
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL G008
REV. 0
FIGURE 2



LEGEND

Wildflower Solar Energy Center

0 750 1,500 3,000
Feet

REFERENCE(S)

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

CLIENT
FPL

PROJECT
WILDFLOWER SOLAR ENERGY CENTER

TITLE
FACILITY LAYOUT MAP

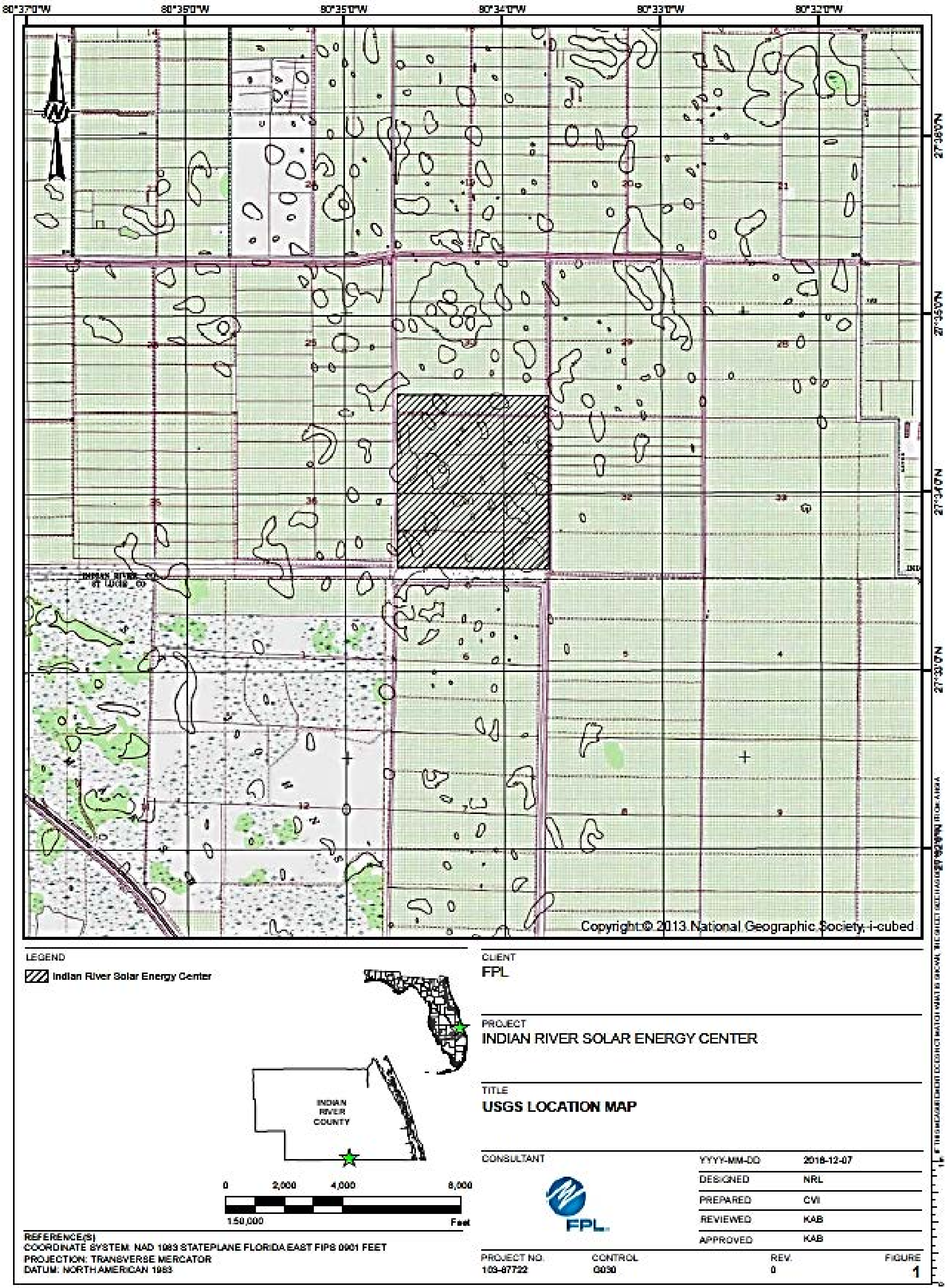
CONSULTANT

YYYY-MM-DD	2018-03-10
DESIGNED	NRL
PREPARED	GFD
REVIEWED	KAB
APPROVED	KAB

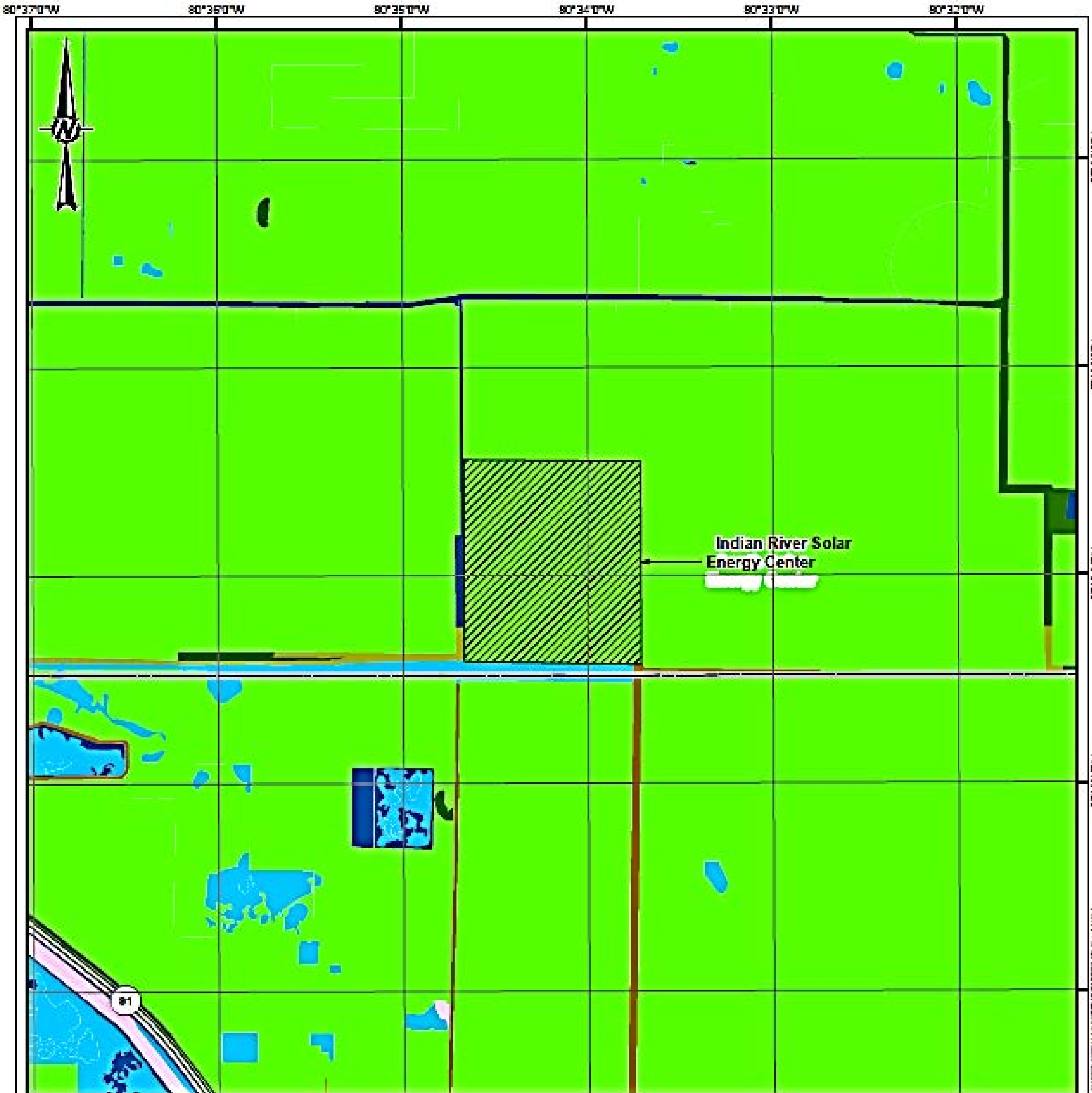
PROJECT NO.	CONTROL	REV.	FIGURE
103-87722	G009	0	3

Environmental and Land Use Information:
Supplemental Information

Preferred Site # 3: Indian River Solar Energy Center,
Indian River County



80°37'0"W
80°36'0"W
80°35'0"W
80°34'0"W
80°33'0"W
80°32'0"W
Copyright © 2013 National Geographic Society, i-cubed
LEGEND
Indian River Solar Energy Center
INDIAN RIVER COUNTY
0
2,000
4,000
8,000
1:50,000
Feet
REFERENCE(S)
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
INDIAN RIVER SOLAR ENERGY CENTER
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-12-07
DESIGNED NRL
PREPARED CVI
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL G030
REV. 0
FIGURE 1



LEGEND

Indian River Solar Energy Center

SFMWD Land Use (2008) and SJRWMD Land Use (2009)

- 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, ST. JOHNS RIVER WATER MANAGEMENT DISTRICT (SJRWMD), 2009 AND SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD) 2008

COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR

CLIENT
FPL

PROJECT
INDIAN RIVER SOLAR ENERGY CENTER

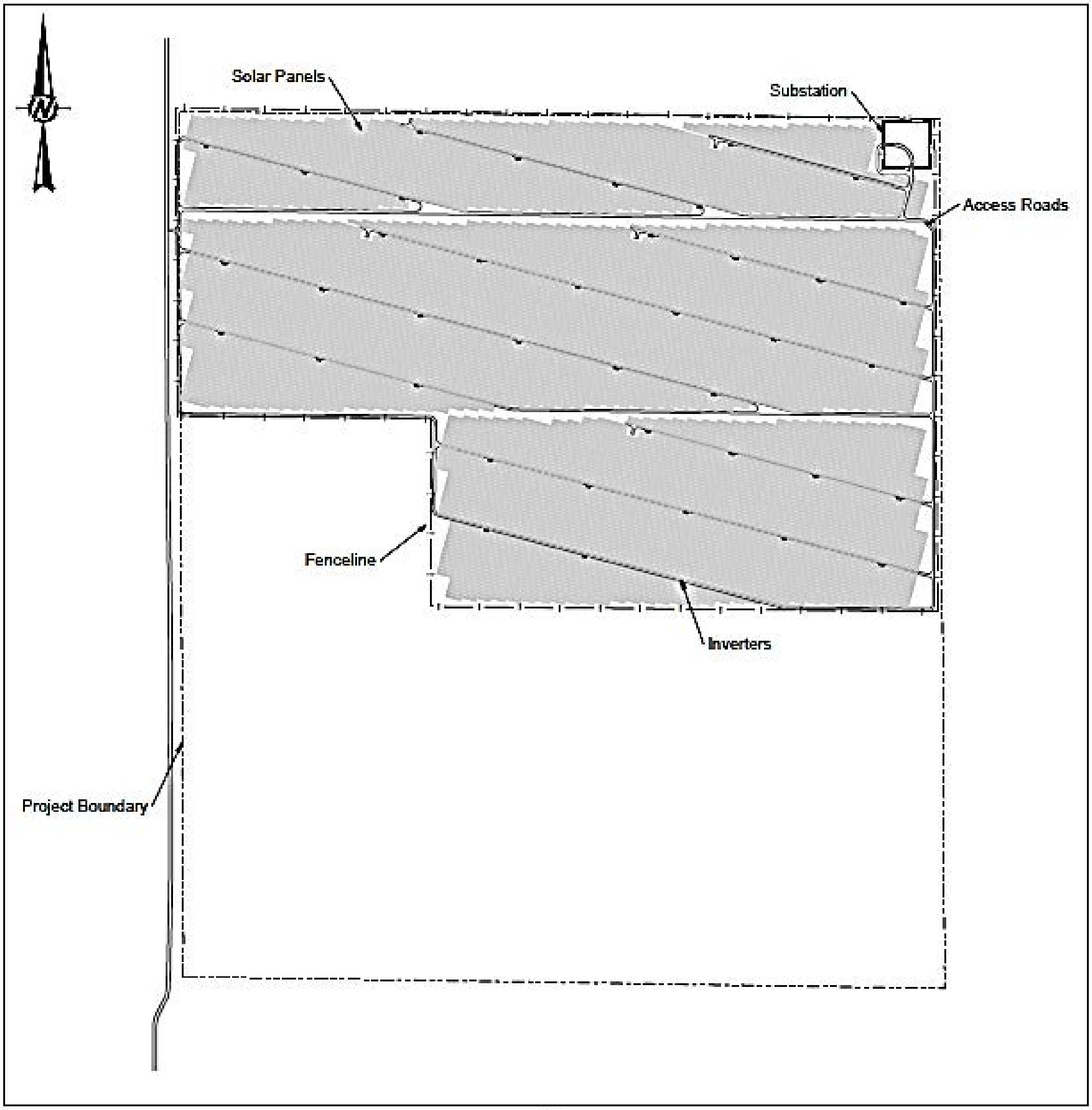
TITLE
LAND USE / LAND COVER MAP

CONSULTANT

FPL

YYYY-MM-DD	2018-12-07
DESIGNED	NRL
PREPARED	CVI
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
103-87722	0031	0	2



LEGEND

Indian River Solar Energy Center

0 500 1,000 2,000

1: 12,000 Feet

REFERENCE(S)
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983

CLIENT
FPL

PROJECT
INDIAN RIVER SOLAR ENERGY CENTER

TITLE
FACILITY LAYOUT MAP

CONSULTANT

FPL

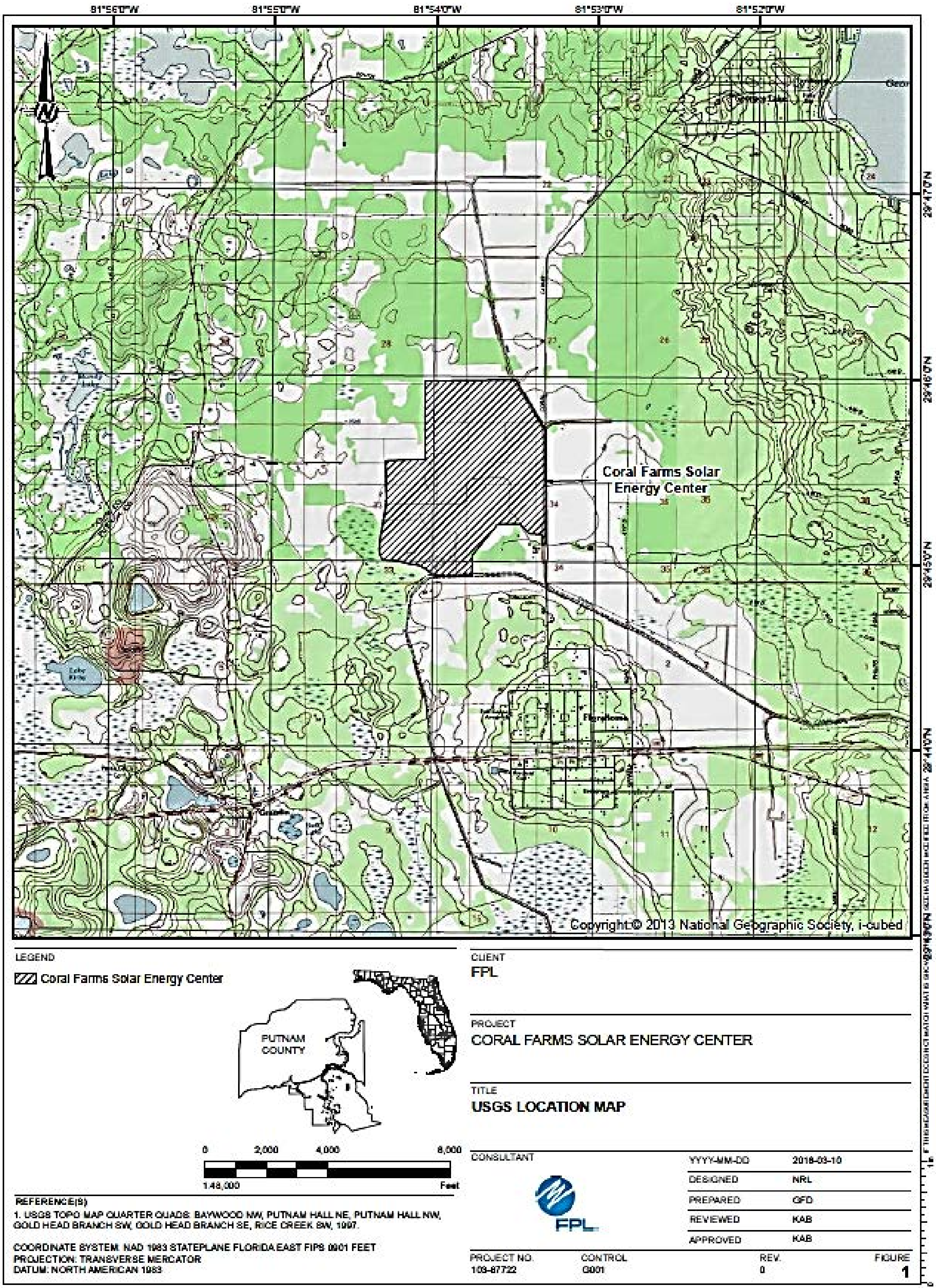
YYYY-MM-DD	2018-12-07
DESIGNED	NRL
PREPARED	CVI
REVIEWED	KAB
APPROVED	KAB

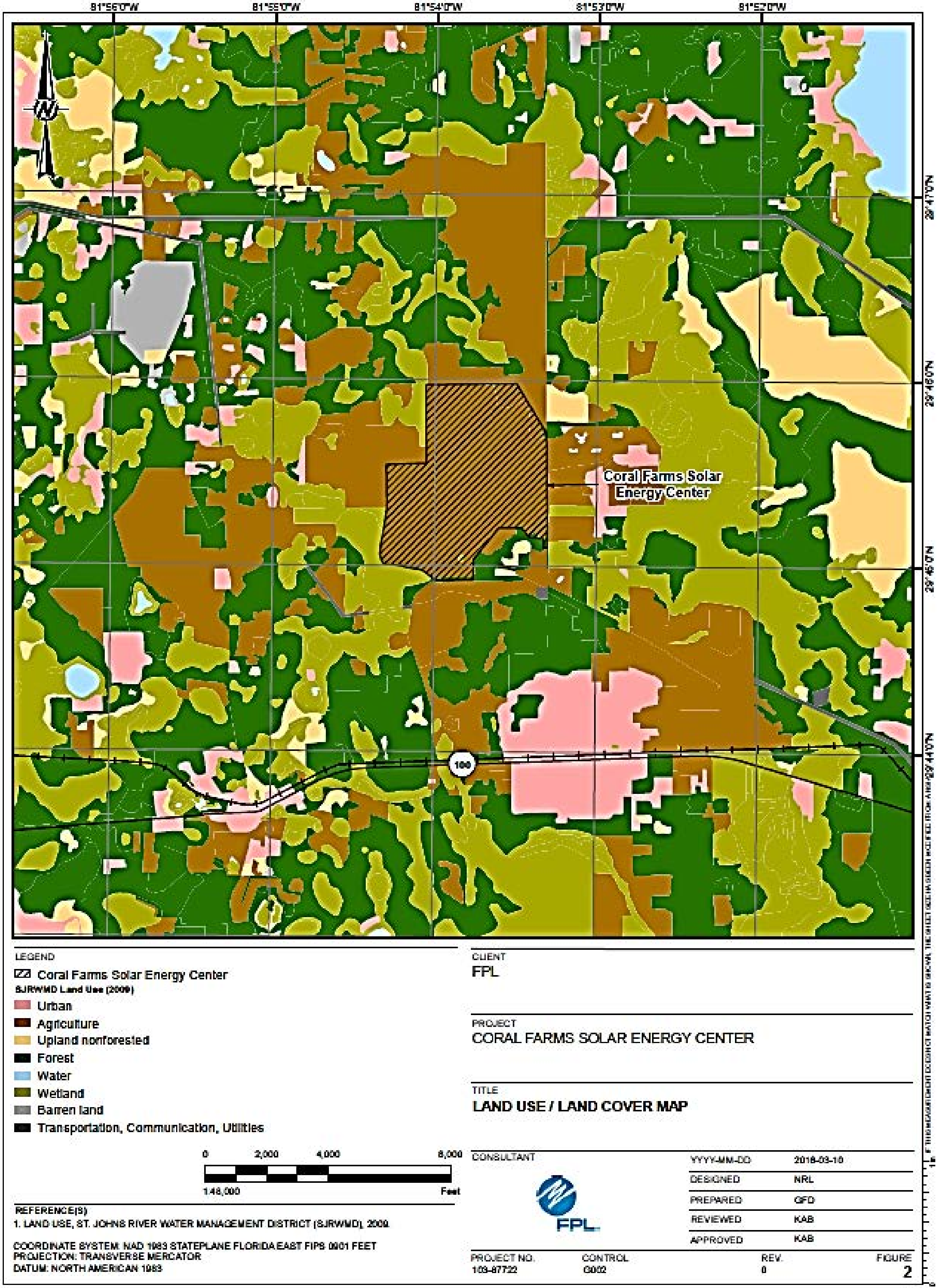
PROJECT NO.	CONTROL	REV.	FIGURE
103-87722	G032	0	3

Environmental and Land Use Information:

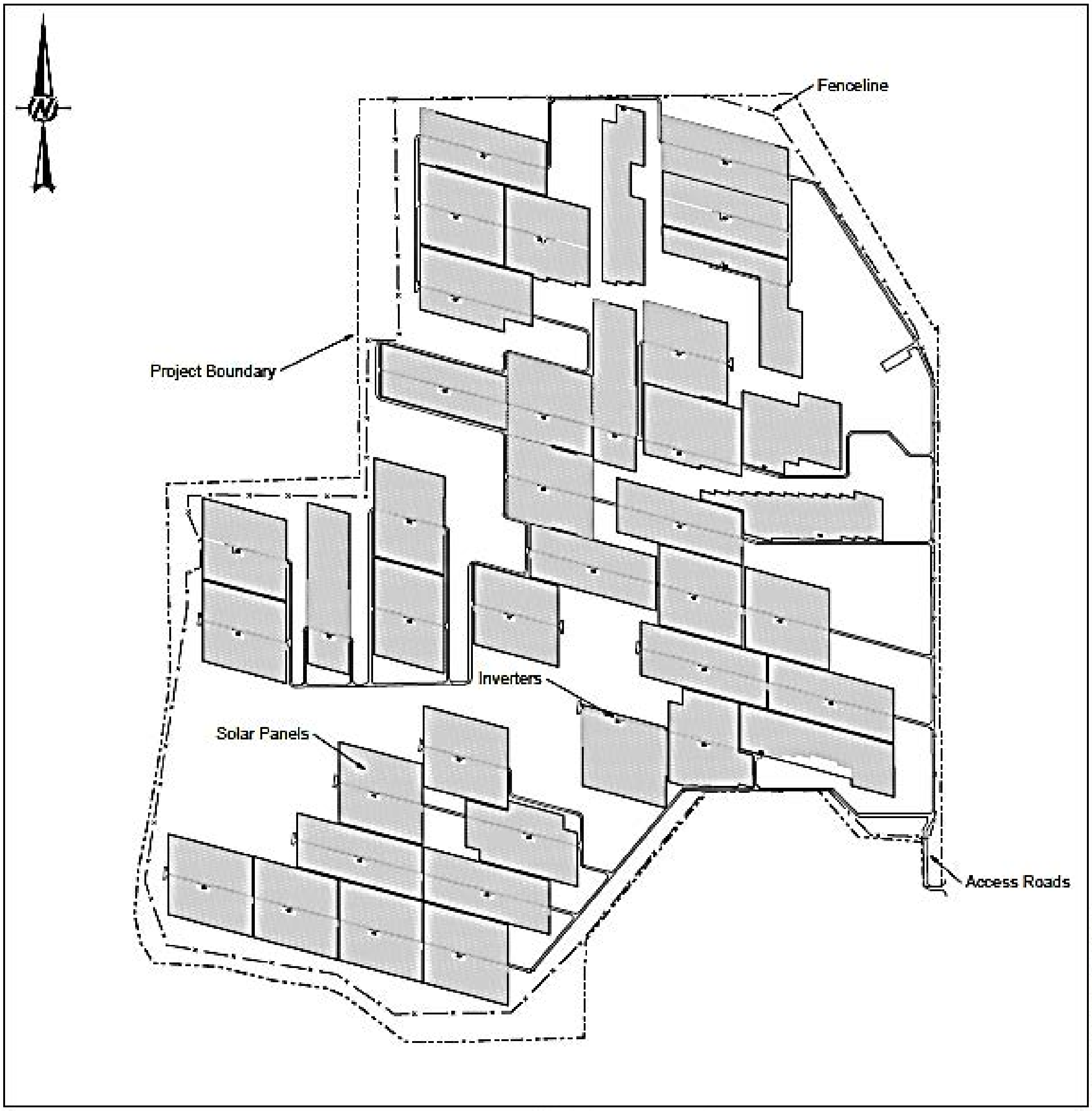
Supplemental Information

Preferred Site # 4: Coral Farms Solar Energy Center, Putnam County


81°56'0"W
81°55'0"W
81°54'0"W
81°53'0"W
81°52'0"W
29°47'0"N
29°46'0"N
29°45'0"N
29°44'0"N
N
Coral Farms Solar Energy Center
Copyright © 2013 National Geographic Society, i-cubed
LEGEND
Coral Farms Solar Energy Center
PUTNAM COUNTY
0
2,000
4,000
8,000
1:48,000
Feet
REFERENCE(S)
1. USGS TOPO MAP QUARTER QUADS: BAYWOOD NW, PUTNAM HALL NE, PUTNAM HALL NW, GOLD HEAD BRANCH SW, GOLD HEAD BRANCH SE, RICE CREEK SW, 1997.
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
CORAL FARMS SOLAR ENERGY CENTER
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-10
DESIGNED NRL
PREPARED GFD
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL 0001
REV. 0
FIGURE 1



81°56'0"W
81°55'0"W
81°54'0"W
81°53'0"W
81°52'0"W
29°47'0"N
29°46'0"N
29°45'0"N
29°44'0"N
N
100
Coral Farms Solar Energy Center
LEGEND
Coral Farms Solar 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
CORAL FARMS SOLAR ENERGY CENTER
TITLE
LAND USE / LAND COVER MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-03-10
DESIGNED NRL
PREPARED GFD
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL G002
REV. 0
FIGURE 2



LEGEND

CLIENT	FPL
PROJECT	CORAL FARMS SOLAR ENERGY CENTER
TITLE	FACILITY LAYOUT MAP

0 500 1,000 2,000

1:12,000 Feet

REFERENCE(S)
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983

CONSULTANT

FPL

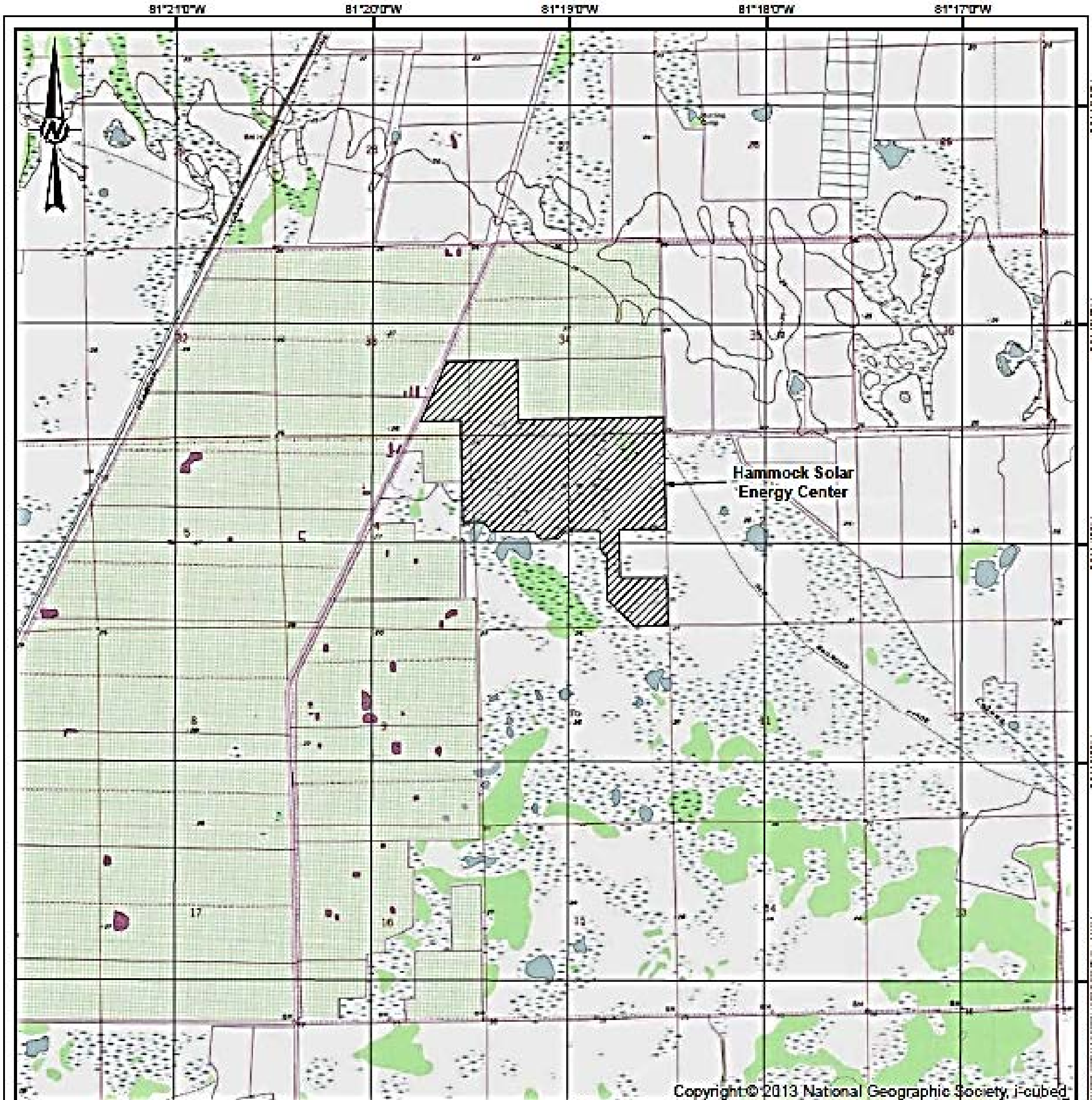
YYYY-MM-DD	2018-11-18
DESIGNED	NRL
PREPARED	GFD
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
103-87722	G003	0	3

Environmental and Land Use Information:

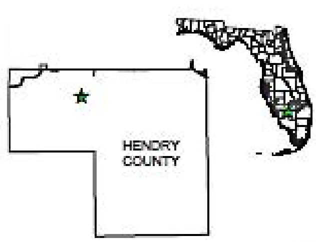
Supplemental Information

Preferred Site # 5: Hammock Solar Energy Center, Hendry County



LEGEND

Hammock Solar Energy Center



0 2,000 4,000 8,000

1:48,000 Feet

REFERENCE(S)

1. USGS TOPO MAP QUARTER QUADS: FELDA NE SW, FELDA NE NW, FELDA NE SE, FELDA NE NE, 1997.

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

CLIENT
FPL

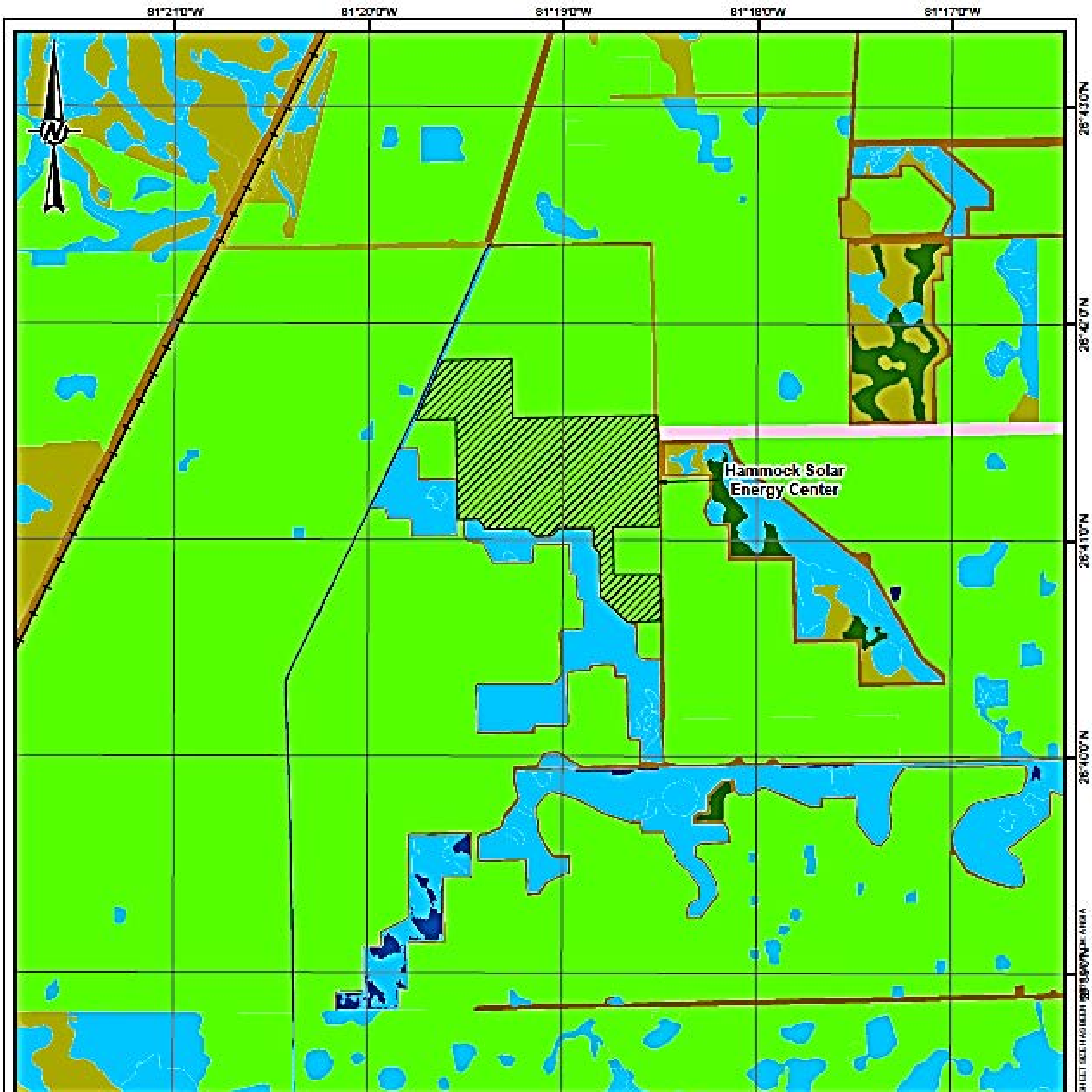
PROJECT
HAMMOCK SOLAR ENERGY CENTER

TITLE
USGS LOCATION MAP

CONSULTANT

YYYY-MM-DD	2018-12-05
DESIGNED	NRL
PREPARED	CVI
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
103-87722	0018	0	1



LEGEND

Hammock Solar Energy Center

SFWMD Land Use (2008)

- Agriculture
- Rangeland
- Upland Forests
- Water
- Wetlands
- 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), 2008.

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

CLIENT
FPL

PROJECT
HAMMOCK SOLAR ENERGY CENTER

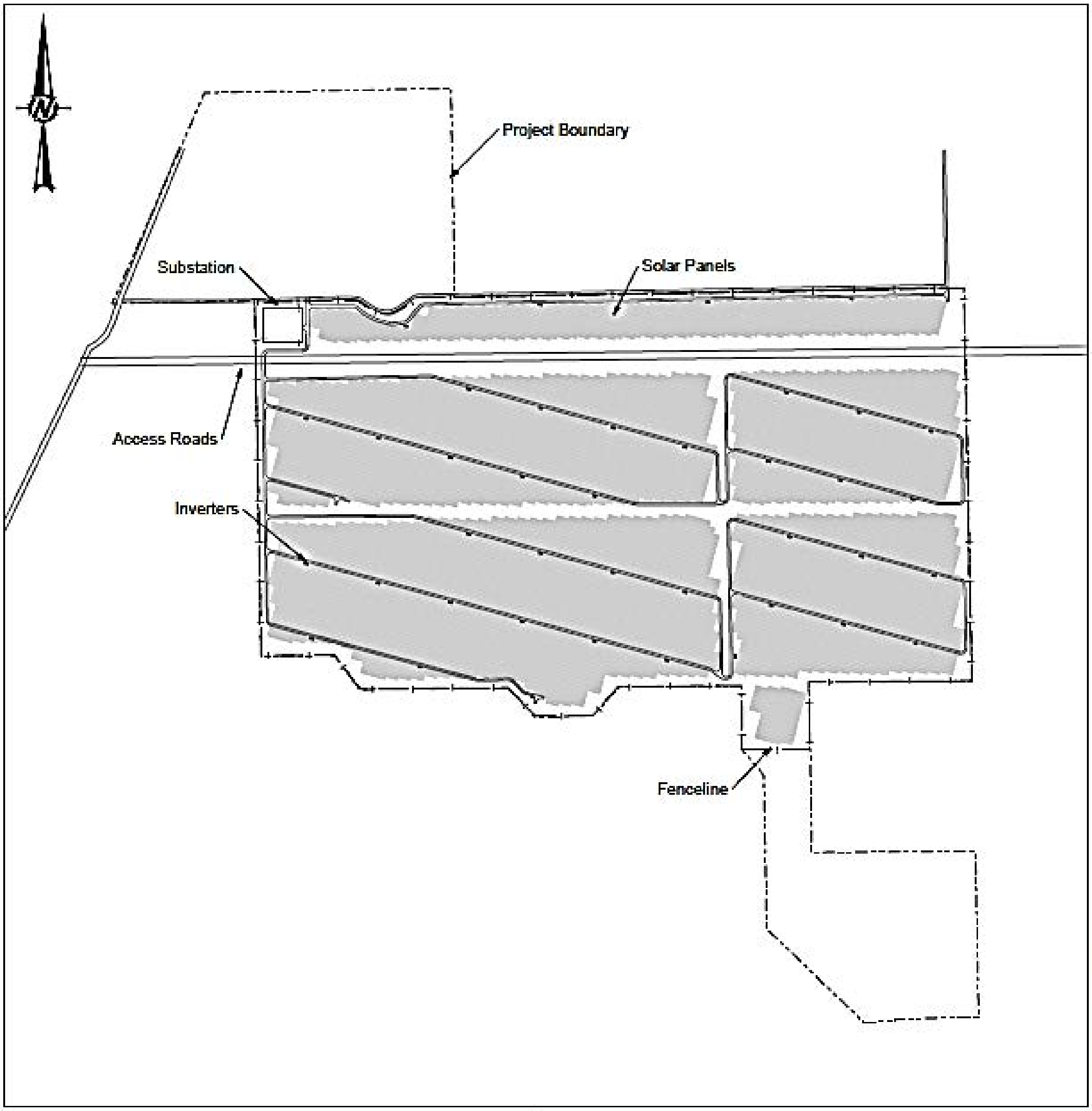
TITLE
LAND USE / LAND COVER MAP

CONSULTANT

FPL

YYYY-MM-DD	2018-12-05
DESIGNED	NRL
PREPARED	CVI
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
103-87722	0017	0	2



LEGEND

Hammock Solar Energy Center

0 500 1,000 2,000

1:14,000 Feet

REFERENCE(S)

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

CLIENT
FPL

PROJECT
HAMMOCK SOLAR ENERGY CENTER

TITLE
FACILITY LAYOUT MAP

CONSULTANT

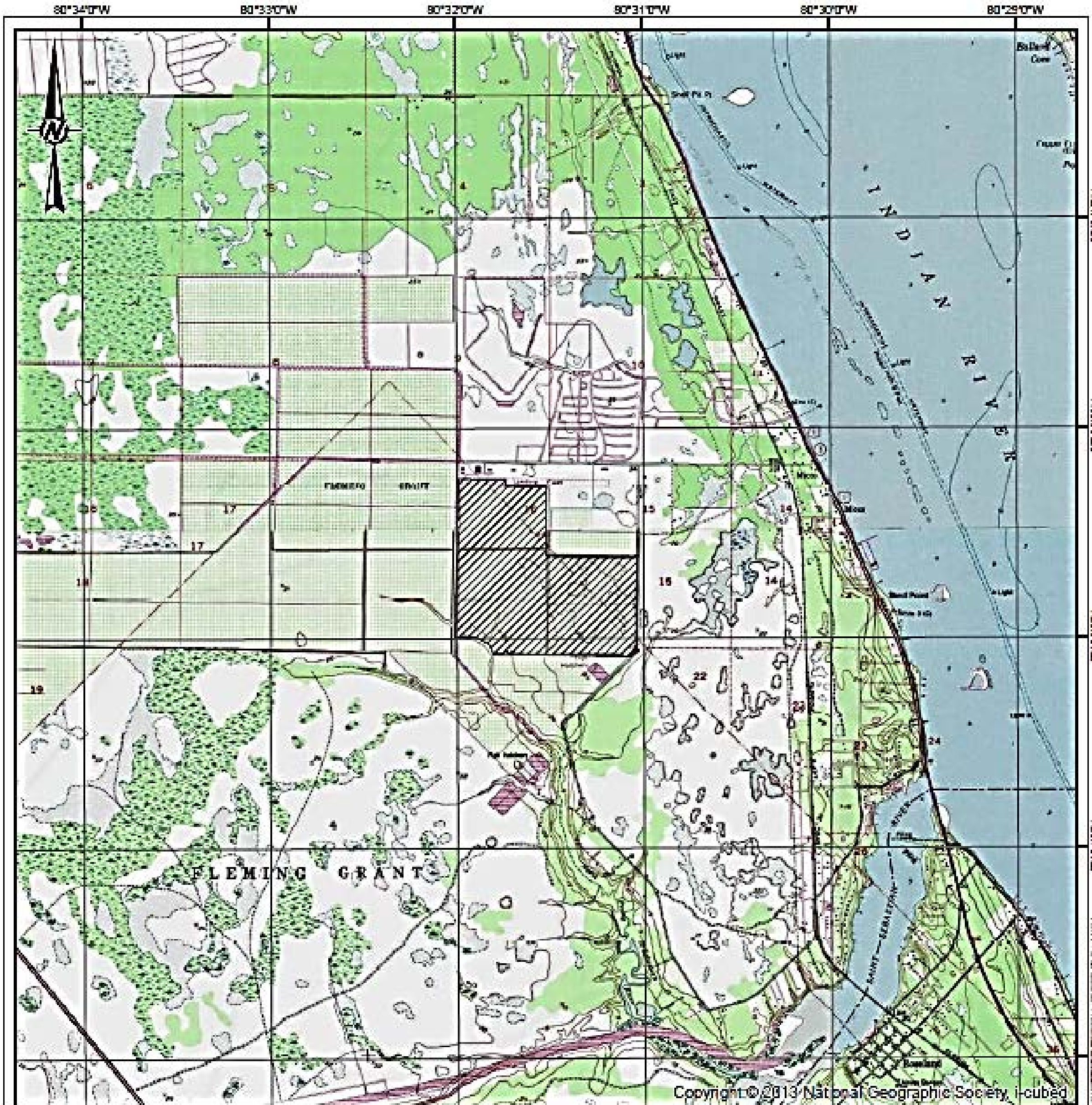
YYYY-MM-DD	2018-12-05
DESIGNED	NRL
PREPARED	CVI
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
103-87722	0018	0	3

Environmental and Land Use Information:

Supplemental Information

Preferred Site # 6: Barefoot Bay Solar Energy Center, Brevard County



LEGEND

Barefoot Bay Solar Energy Center

0 2,000 4,000 8,000

1:50,000 Feet

REFERENCE(S)
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983

CLIENT
FPL

PROJECT
BAREFOOT BAY SOLAR ENERGY CENTER

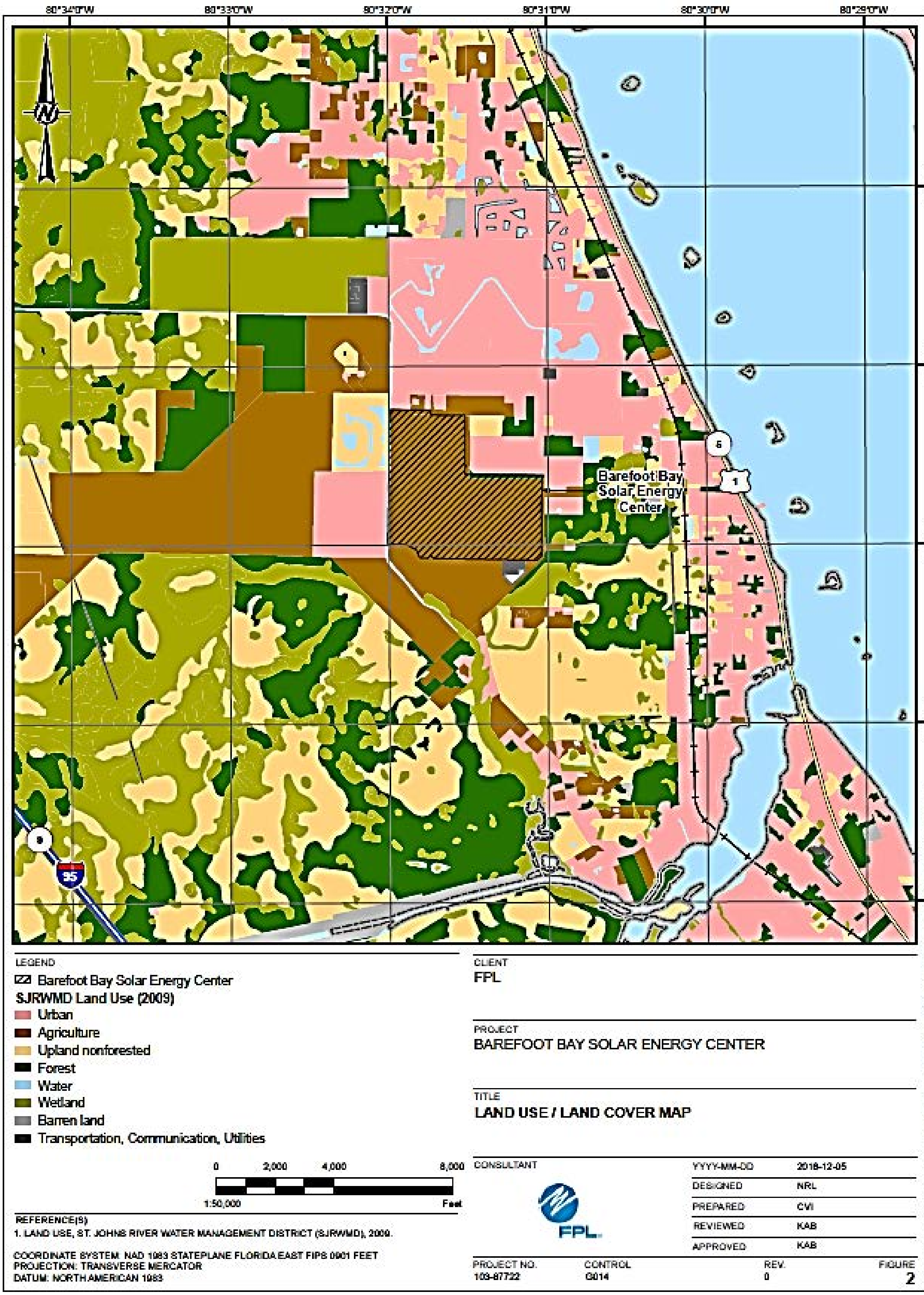
TITLE
USGS LOCATION MAP

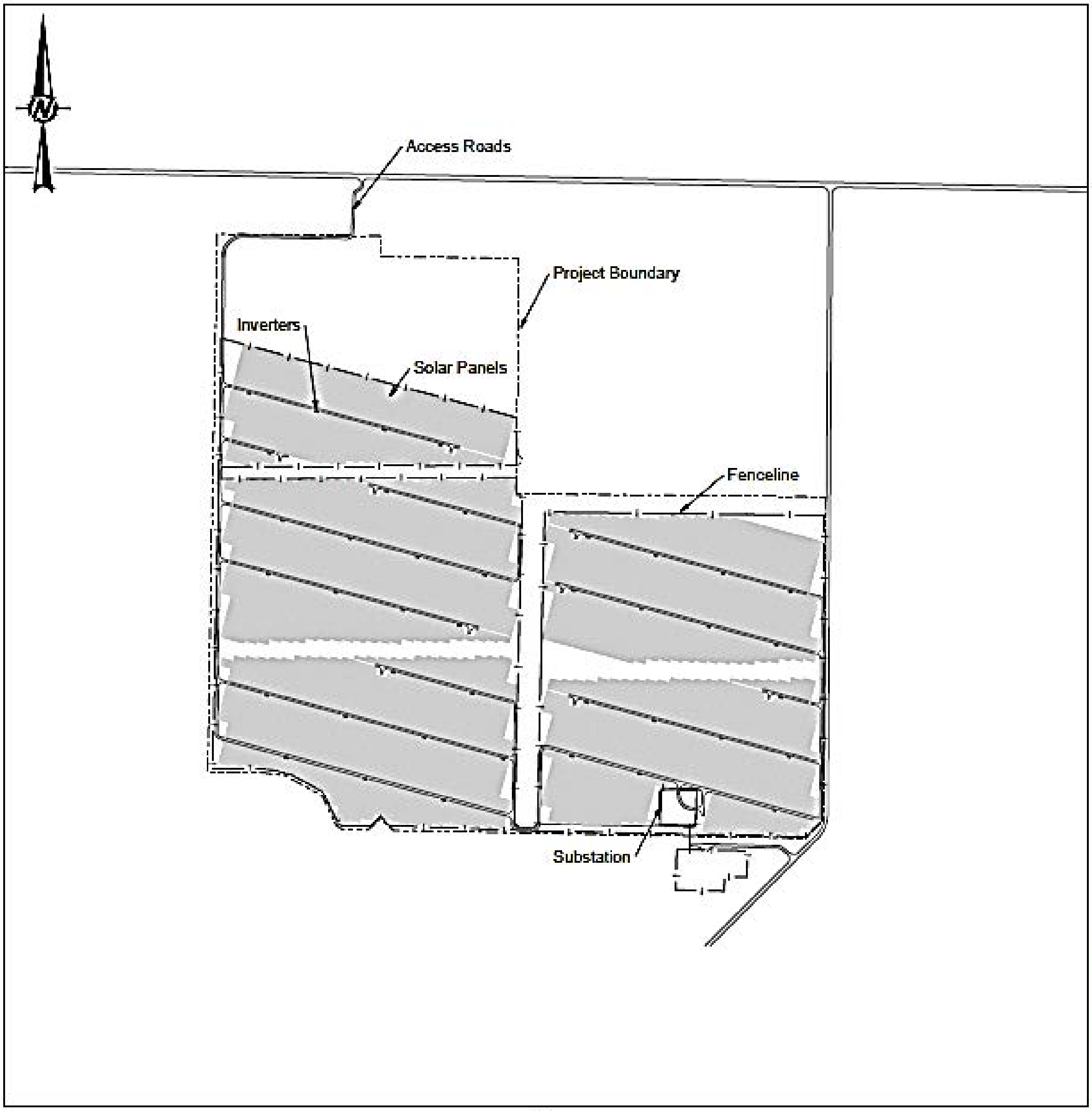
CONSULTANT

FPL

YYYY-MM-DD	2018-12-05
DESIGNED	NRL
PREPARED	CVI
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
103-87722	0013	0	1


80°34'0"W
80°33'0"W
80°32'0"W
80°31'0"W
80°30'0"W
80°29'0"W
27°54'0"N
27°53'0"N
27°52'0"N
27°51'0"N
Barefoot Bay Solar Energy Center
95
LEGEND
Barefoot Bay Solar 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
1:50,000 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
BAREFOOT BAY SOLAR ENERGY CENTER
TITLE
LAND USE / LAND COVER MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-12-05
DESIGNED NRL
PREPARED CVI
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL G014
REV. 0
FIGURE 2



LEGEND

Barefoot Bay Solar Energy Center

0 500 1,000 2,000

1:15,000 Feet

REFERENCE(S)

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

CLIENT
FPL

PROJECT
BAREFOOT BAY SOLAR ENERGY CENTER

TITLE
FACILITY LAYOUT MAP

CONSULTANT

FPL

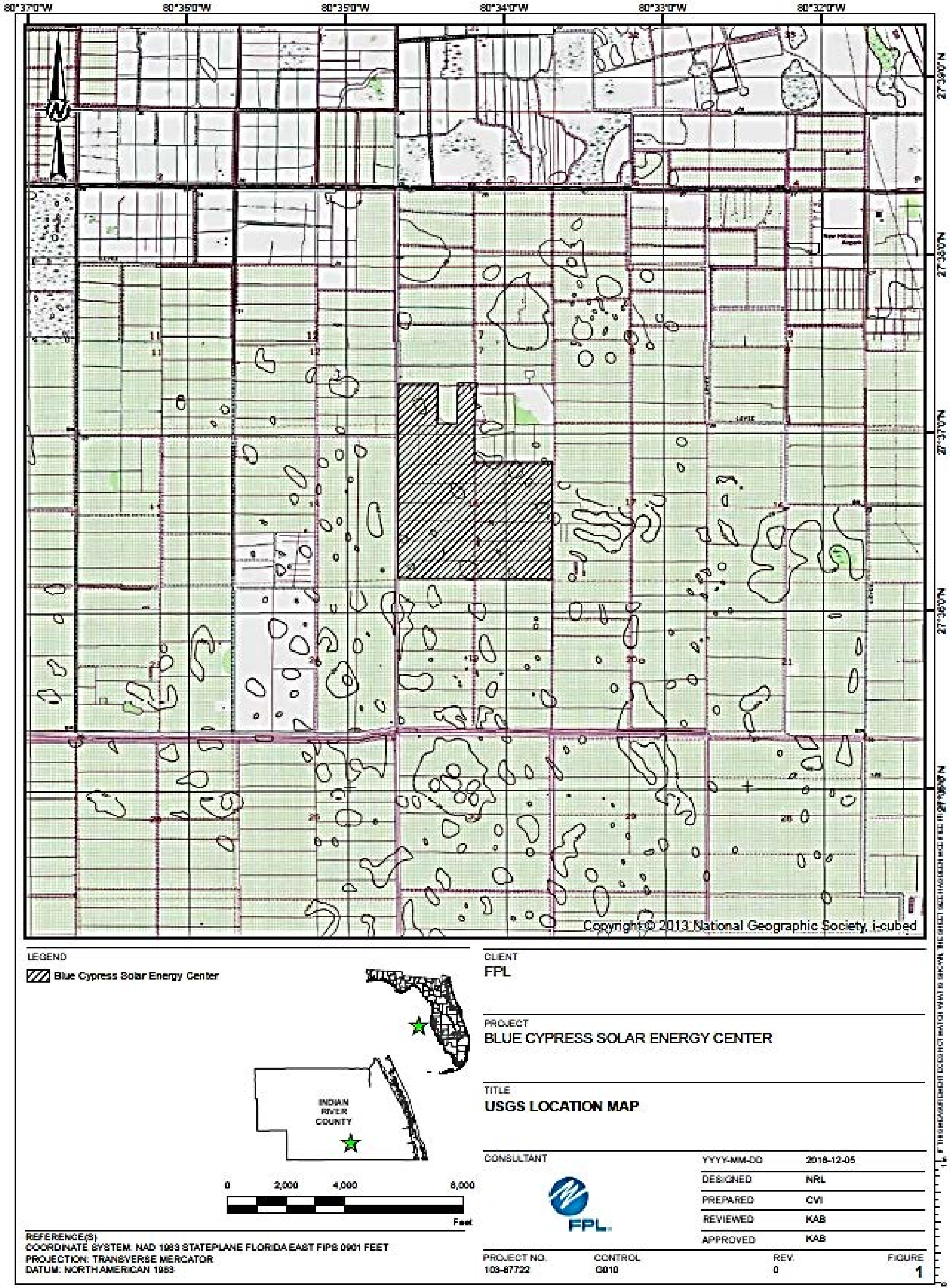
YYYY-MM-DD	2018-12-05
DESIGNED	NRL
PREPARED	CVI
REVIEWED	KAB
APPROVED	KAB

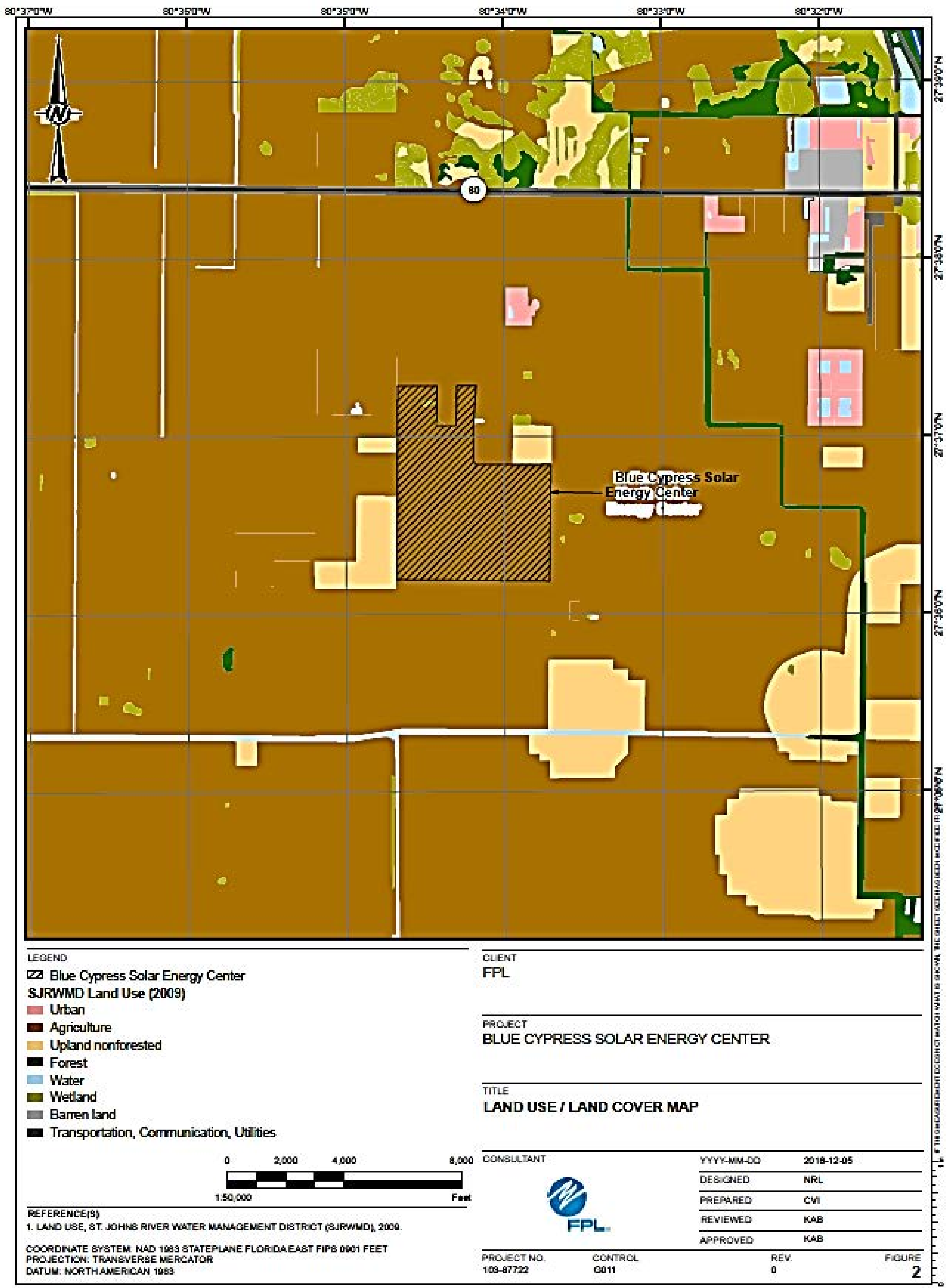
PROJECT NO.	CONTROL	REV.	FIGURE
103-87722	0015	0	3

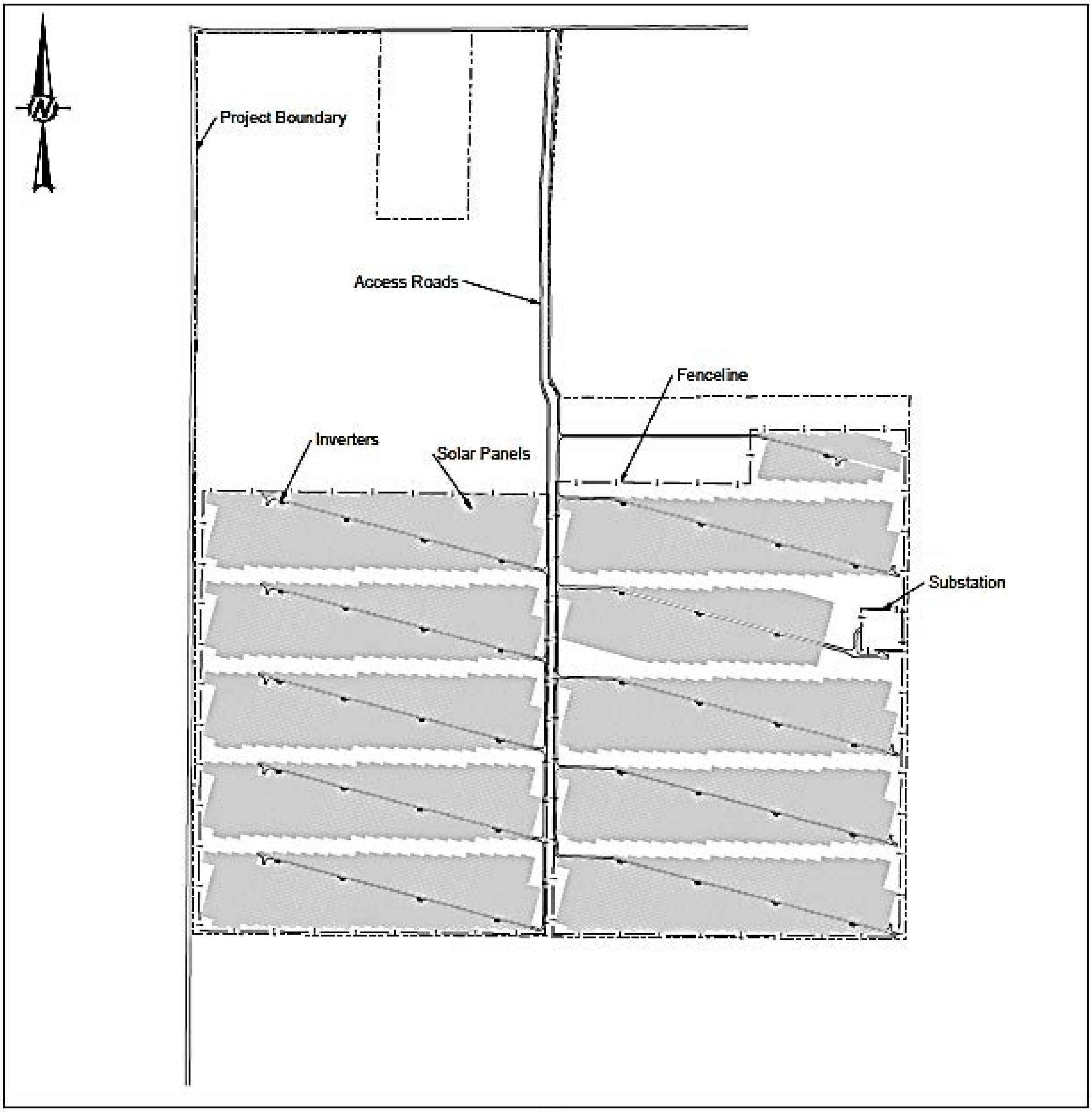
Environmental and Land Use Information:

Supplemental Information

Preferred Site # 7: Blue Cypress Solar Energy Center, Indian River County


80°37'0"W
80°36'0"W
80°35'0"W
80°34'0"W
80°33'0"W
80°32'0"W
27°39'0"N
27°38'0"N
27°37'0"N
27°36'0"N
Copyright:© 2013 National Geographic Society, i-cubed
LEGEND
Blue Cypress Solar Energy Center
INDIAN RIVER COUNTY
0
2,000
4,000
8,000
Feet
REFERENCE(S)
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
BLUE CYPRESS SOLAR ENERGY CENTER
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-12-05
DESIGNED NRL
PREPARED CVI
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL 0010
REV. 0
FIGURE 1


80°37'0"W
80°36'0"W
80°35'0"W
80°34'0"W
80°33'0"W
80°32'0"W
27°39'0"N
27°38'0"N
27°37'0"N
27°36'0"N
N
60
Blue Cypress Solar Energy Center
LEGEND
Blue Cypress Solar 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
1:50,000 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
BLUE CYPRESS SOLAR ENERGY CENTER
TITLE
LAND USE / LAND COVER MAP
CONSULTANT
FPL
YYYY-MM-DD 2018-12-05
DESIGNED NRL
PREPARED CVI
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL G011
REV. 0
FIGURE 2



LEGEND

⊏⊐ Blue Cypress Solar Energy Center

0 500 1,000 2,000

1:13,000 Feet

REFERENCE(S)

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

CLIENT
FPL

PROJECT
BLUE CYPRESS SOLAR ENERGY CENTER

TITLE
FACILITY LAYOUT MAP

CONSULTANT

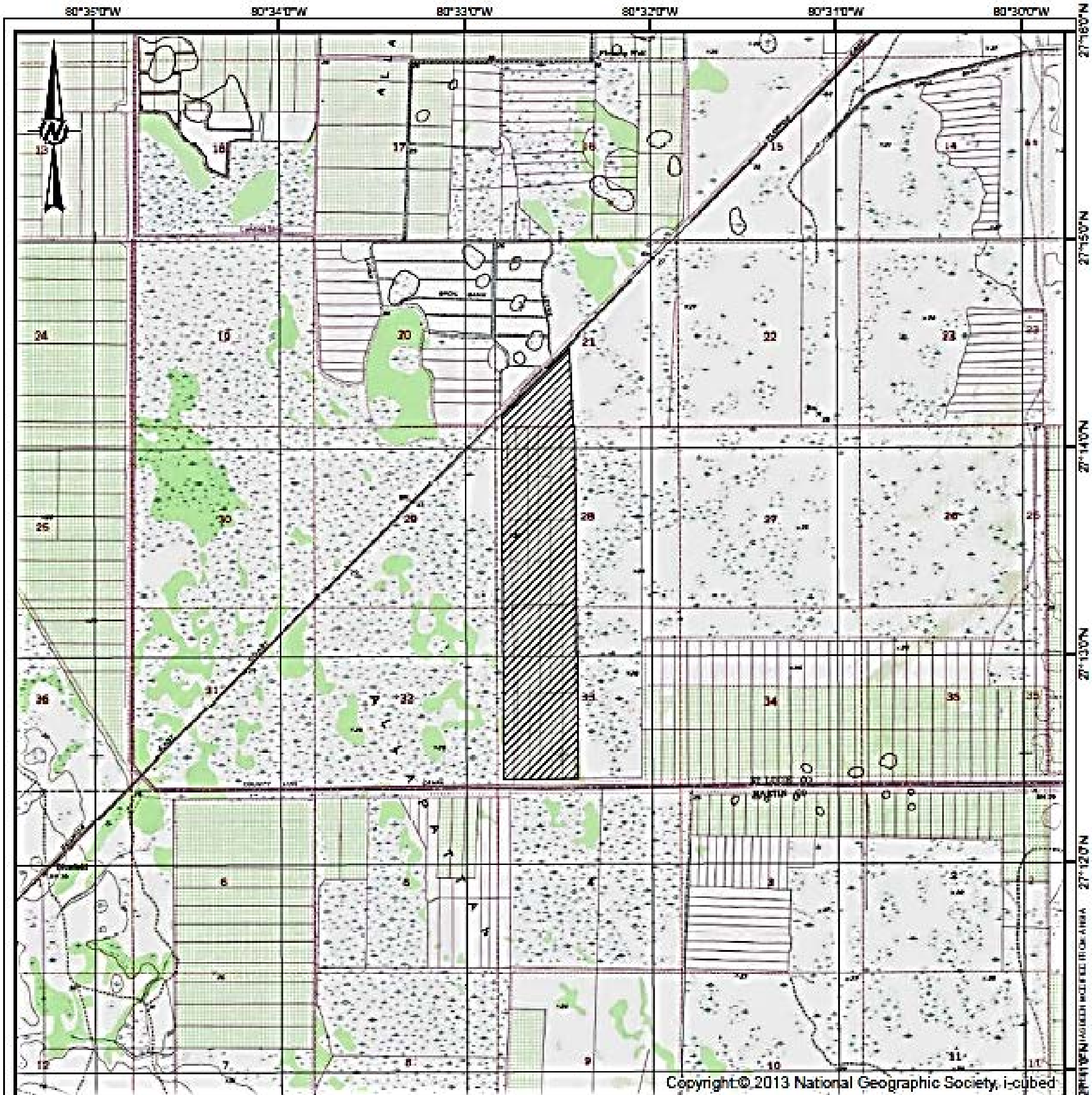
YYYY-MM-DD	2018-12-05
DESIGNED	NRL
PREPARED	CVI
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
103-87722	G012	0	3

Environmental and Land Use Information:

Supplemental Information

Preferred Site # 8: Loggerhead Solar Energy Center, St. Lucie County



LEGEND

Loggerhead Solar Energy Center

0 2,000 4,000 8,000

1:50,000 Feet

REFERENCE(S)
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983

CLIENT
FPL

PROJECT
LOGGERHEAD SOLAR ENERGY CENTER

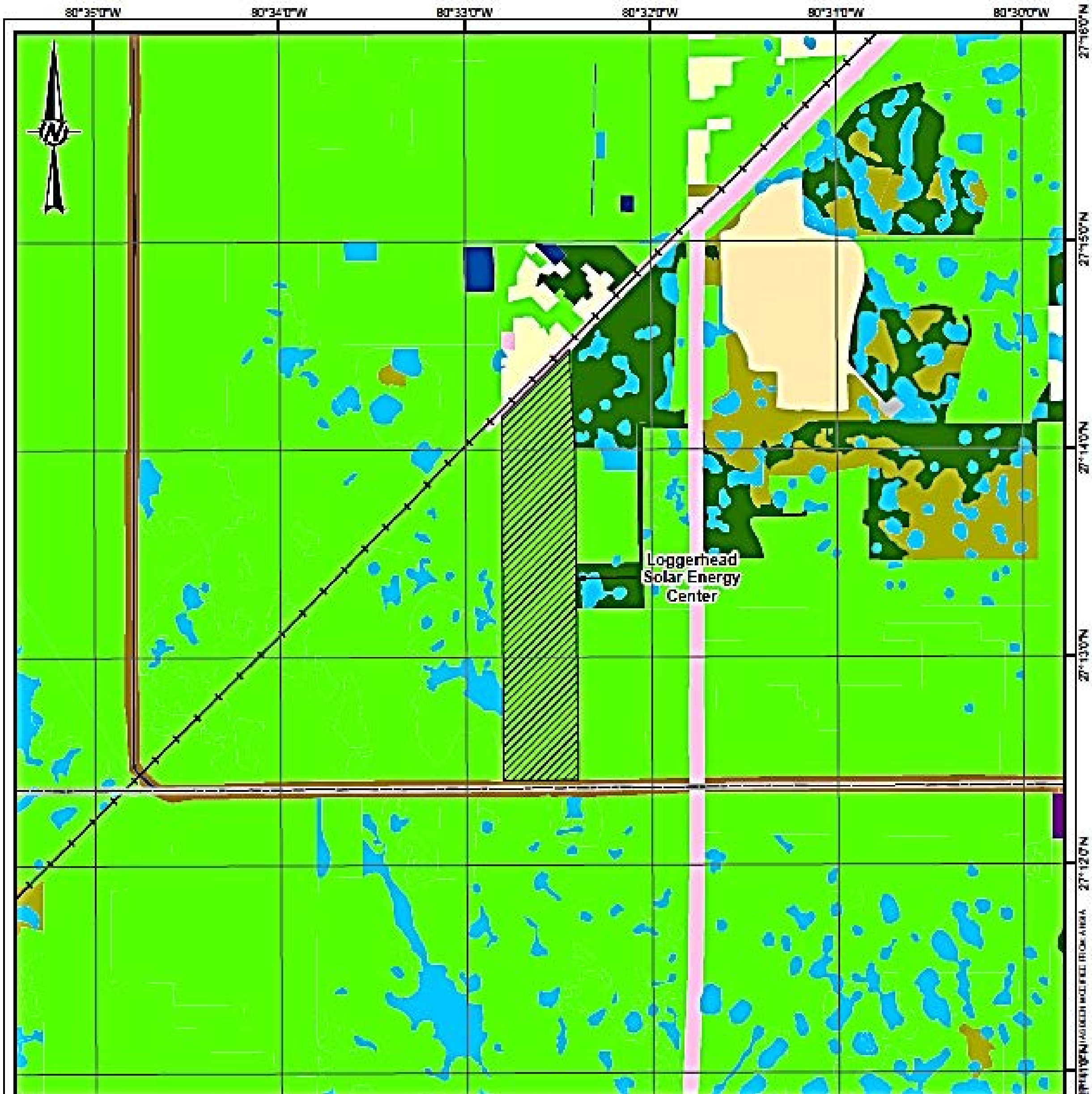
TITLE
USGS LOCATION MAP

CONSULTANT

FPL

YYYY-MM-DD	2018-12-07
DESIGNED	NRL
PREPARED	CVI
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
103-87722	0023	0	1



LEGEND

- Loggerhead Solar Energy Center

SFWMD Land Use (2008)

- Low Density Urban
- Industrial
- Mining
- Institutional
- 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
LOGGERHEAD SOLAR ENERGY CENTER

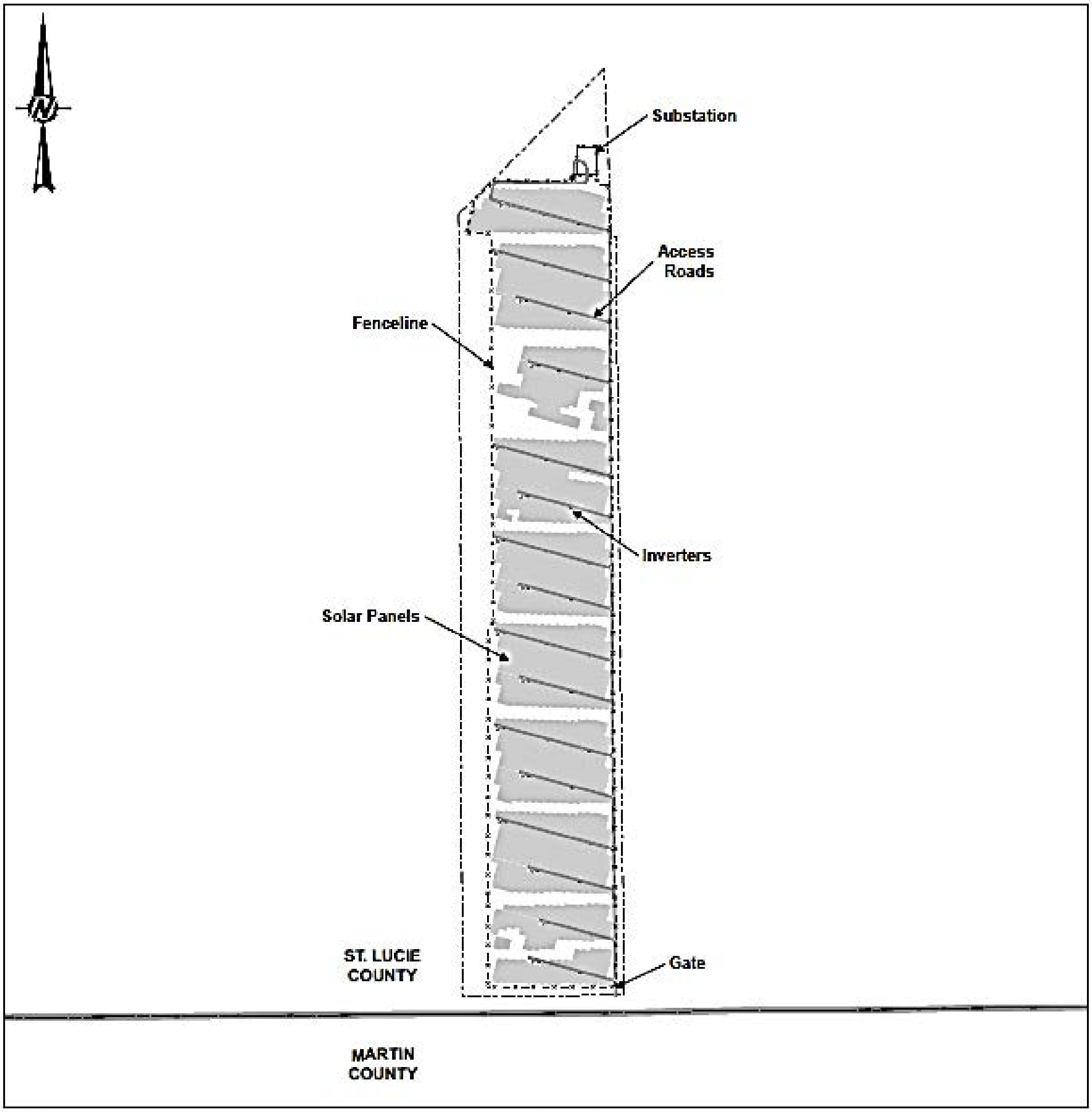
TITLE
LAND USE / LAND COVER MAP

CONSULTANT

FPL

YYYY-MM-DD	2018-12-07
DESIGNED	NRL
PREPARED	CVI
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
103-87722	G024	0	2



LEGEND

Loggerhead Solar Energy Center

0 1,000 2,000 4,000
Feet

REFERENCE(S)

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

CLIENT
FPL

PROJECT
LOGGERHEAD SOLAR ENERGY CENTER

TITLE
FACILITY LAYOUT MAP

CONSULTANT

FPL

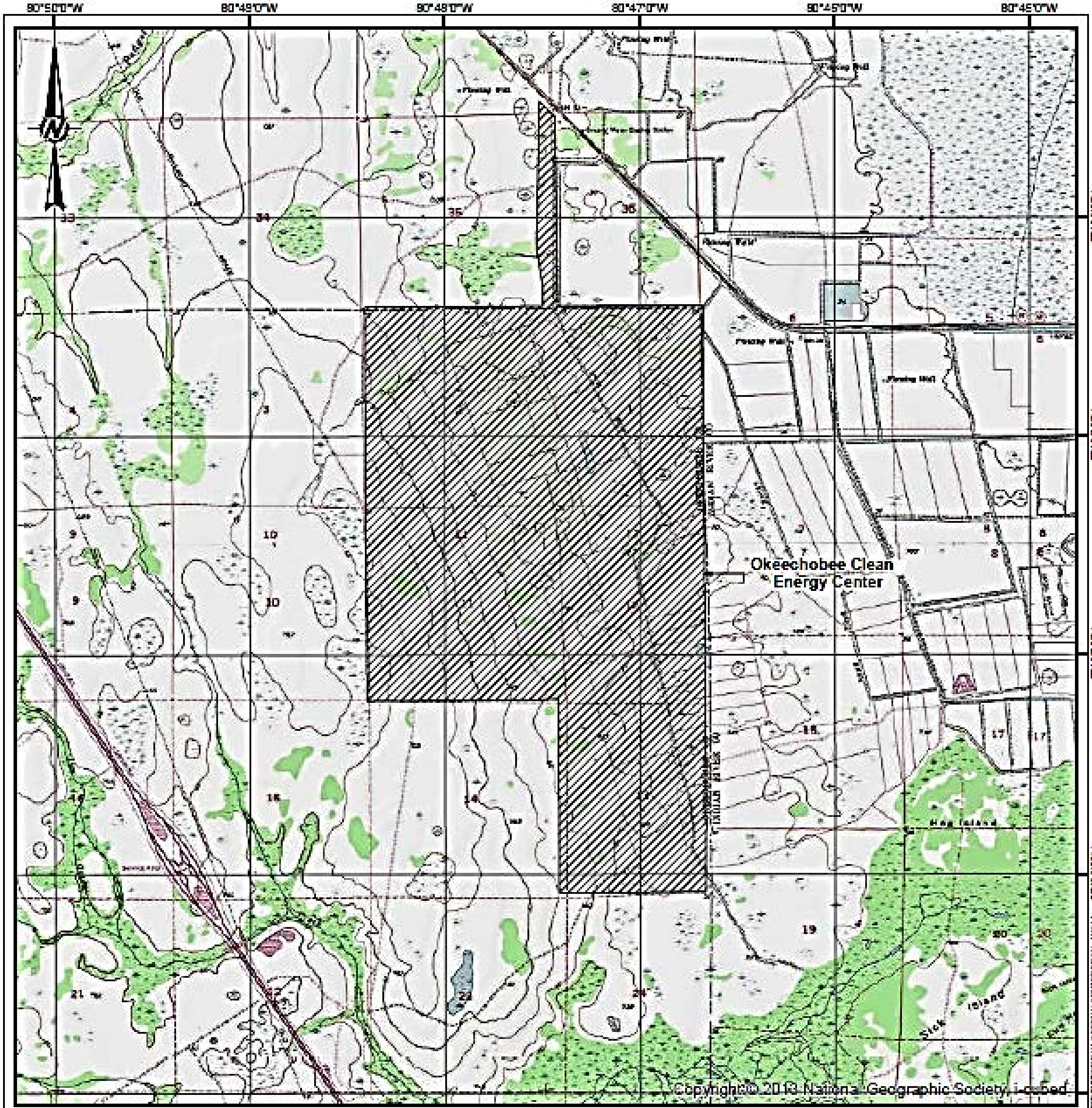
YYYY-MM-DD	2017-01-09
DESIGNED	NRL
PREPARED	NRL
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
103-87722	G033	0	3

Environmental and Land Use Information:

Supplemental Information

Preferred Site # 9: Okeechobee Clean Energy Center, Okeechobee County



LEGEND

▨ Okeechobee Clean Energy Center

0 2,000 4,000 8,000
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

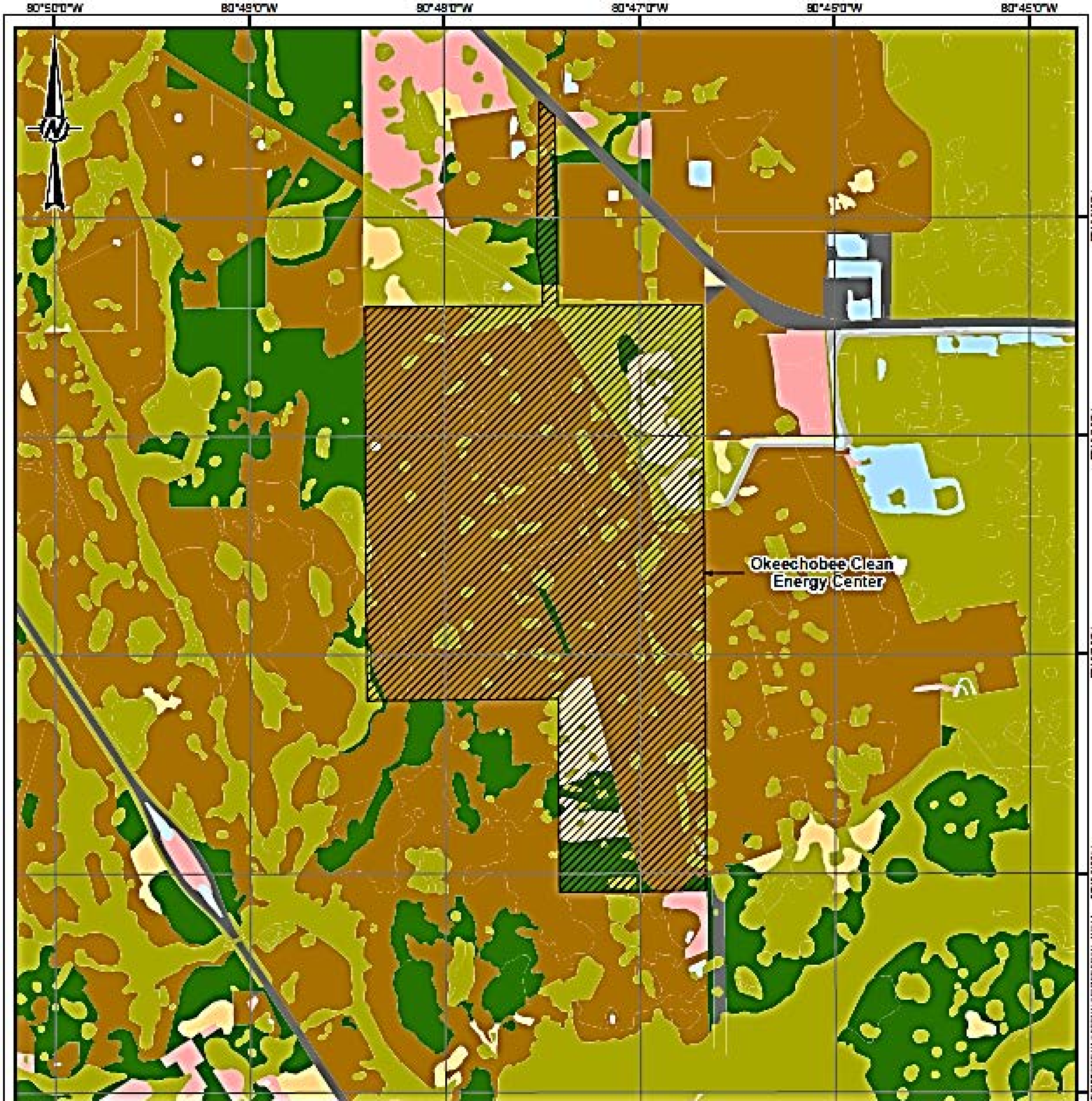
TITLE
USGS LOCATION MAP

CONSULTANT

FPL

YYYY-MM-DD	2015-01-12
DESIGNED	NRL
PREPARED	NRL
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
103-87722	E007	0	1



LEGEND

Okeechobee Clean Energy Center

SJRWMD Land Use (2006)

- Urban
- Agriculture
- Upland nonforested
- Forest
- Water
- Wetland
- Barren land
- Transportation, Communication, Utilities

0 2,000 4,000 8,000 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
LAND USE / LAND COVER MAP

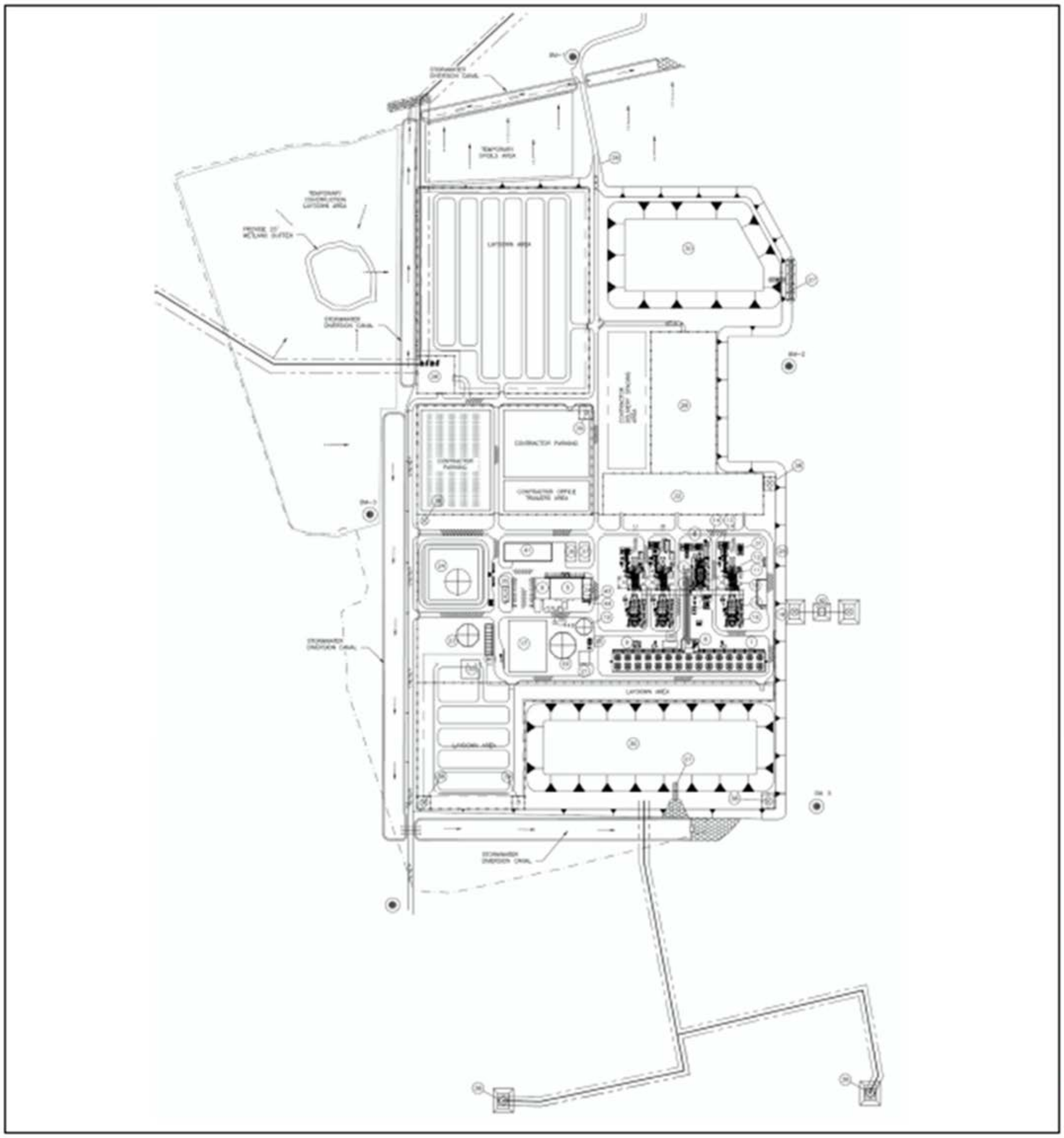
CONSULTANT

FPL

YYYY-MM-DD	2015-01-12
DESIGNED	NRL
PREPARED	NRL
REVIEWED	KAB
APPROVED	KAB

3

PROJECT NO.	CONTROL	REV.	FIGURE
103-87722	E009	0	2



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
FACILITY PLOT PLAN

CONSULTANT

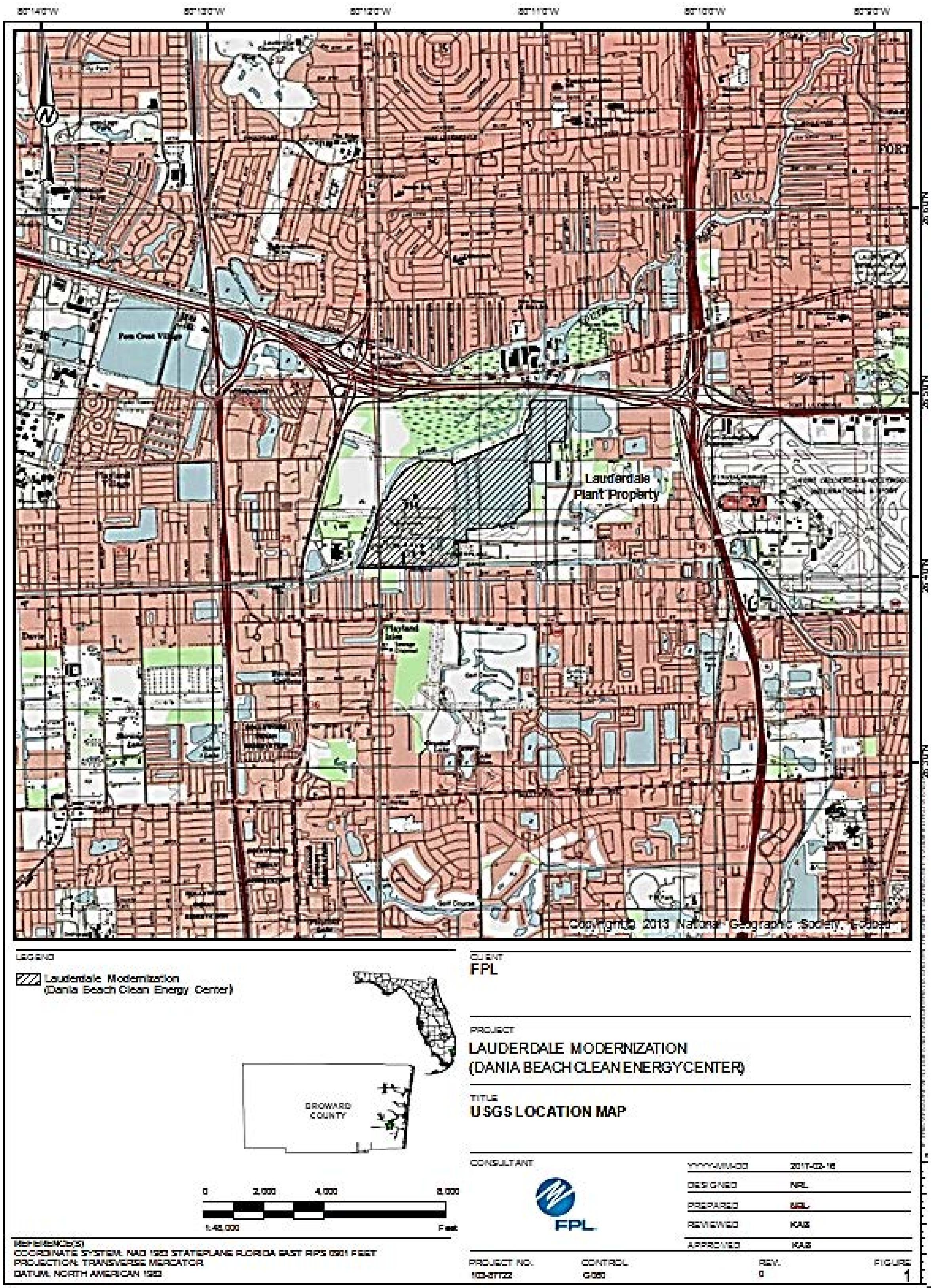
YYYY-MM-DD	2016-03-29
DESIGNED	NRL
PREPARED	NRL
REVIEWED	KAB
APPROVED	KFK

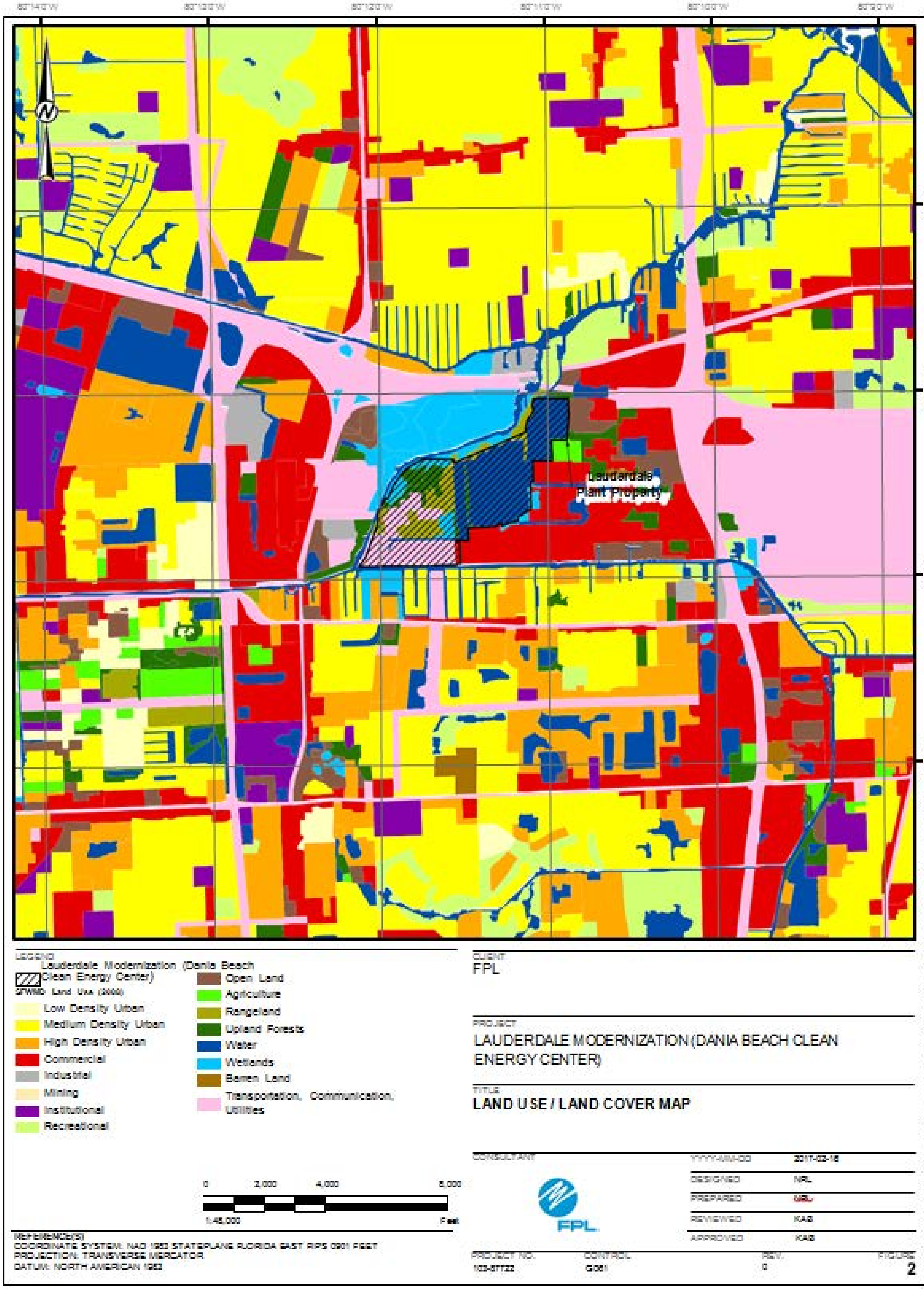
FPL

PROJECT NO.	CONTROL	REV.	FIGURE
103-87722	F010	0	3

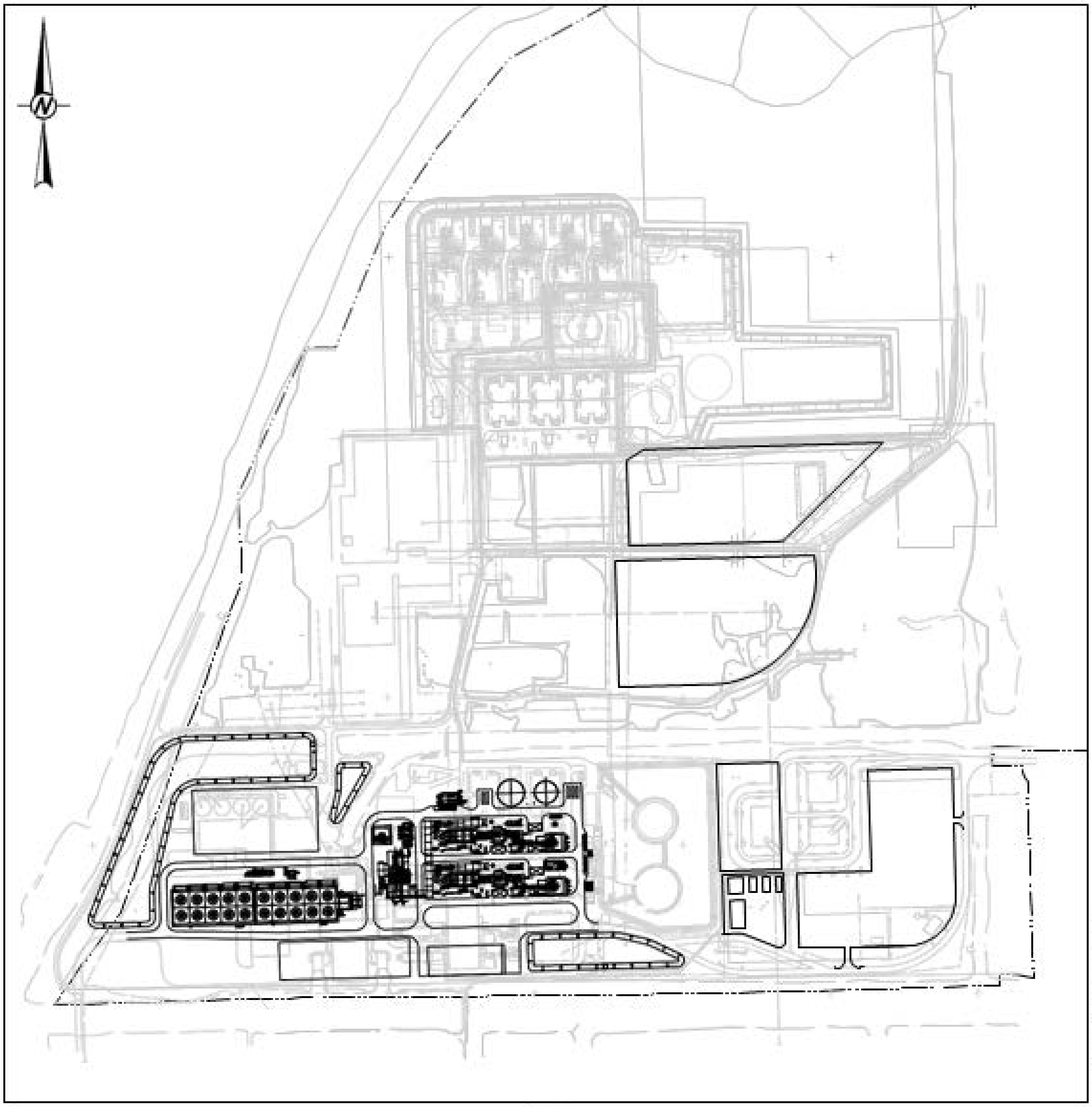
Environmental and Land Use Information: Supplemental Information

Preferred Site # 10: Lauderdale Modernization (Dania Beach Clean Energy Center), Broward County


Lauderdale
Plant Property
Copyright© 2013 National Geographic Society, i-cubed
LEGEND
Lauderdale Modernization
(Dania Beach Clean Energy Center)
BROWARD
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
LAUDERDALE MODERNIZATION
(DANIA BEACH CLEAN ENERGY CENTER)
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2017-02-16
DESIGNED NRL
PREPARED
REVIEWED KAS
APPROVED KAS
PROJECT NO.
CONTROL
G060
REV.
0
FIGURE
1



Lauderdale Plant Property
LEGEND
Lauderdale Modernization (Dania Beach Clean Energy Center)
SFWMD Land Use (2009)
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
1:48,000 Feet
REFERENCE(S)
COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
LAUDERDALE MODERNIZATION (DANIA BEACH CLEAN ENERGY CENTER)
TITLE
LAND USE / LAND COVER MAP
CONSULTANT
YYYY-MM-DD 2017-02-16
DESIGNED NRL
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL G061
REV. 0
FIGURE 2



LEGEND

Lauderdale Modernization (Dania Beach Clean Energy Center)

Center Existing

Lauderdale Plant

Lauderdale Plant Property

CLIENT

FPL

PROJECT

LAUDERDALE MODERNIZATION (DANIA BEACH CLEAN ENERGY CENTER)

TITLE

FACILITY LAYOUT

0 250 500 1,000

1:6,000 Feet

REFERENCE(S)

COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA EAST FIPS 0901 FEET

PROJECTION: TRANSVERSE MERCATOR

DATUM: NORTH AMERICAN 1983

CONSULTANT

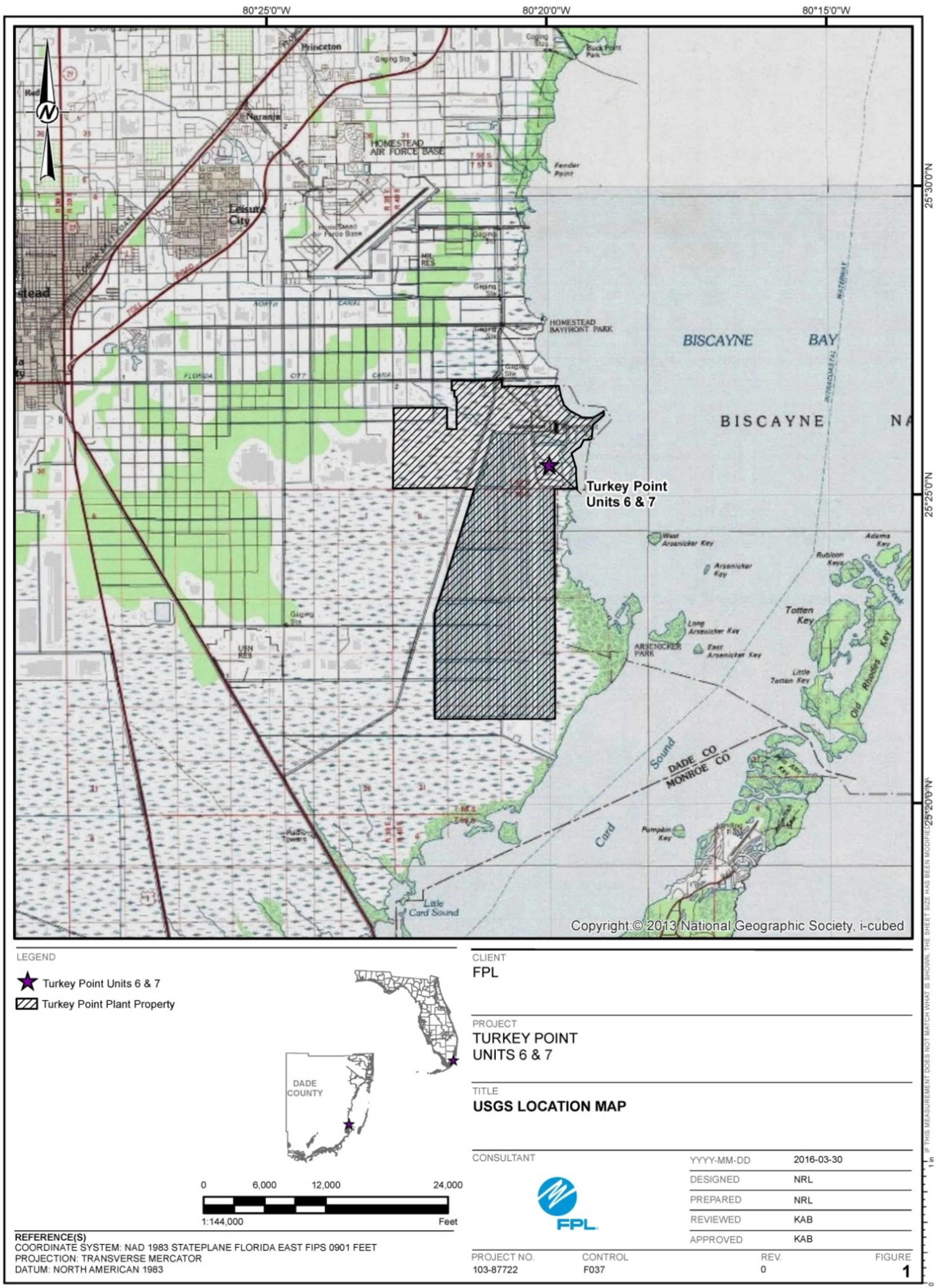
FPL

YYYY-MM-DD	2017-02-16
DESIGNED	NRL
PREPARED	NRL
REVIEWED	KAB
APPROVED	KAB

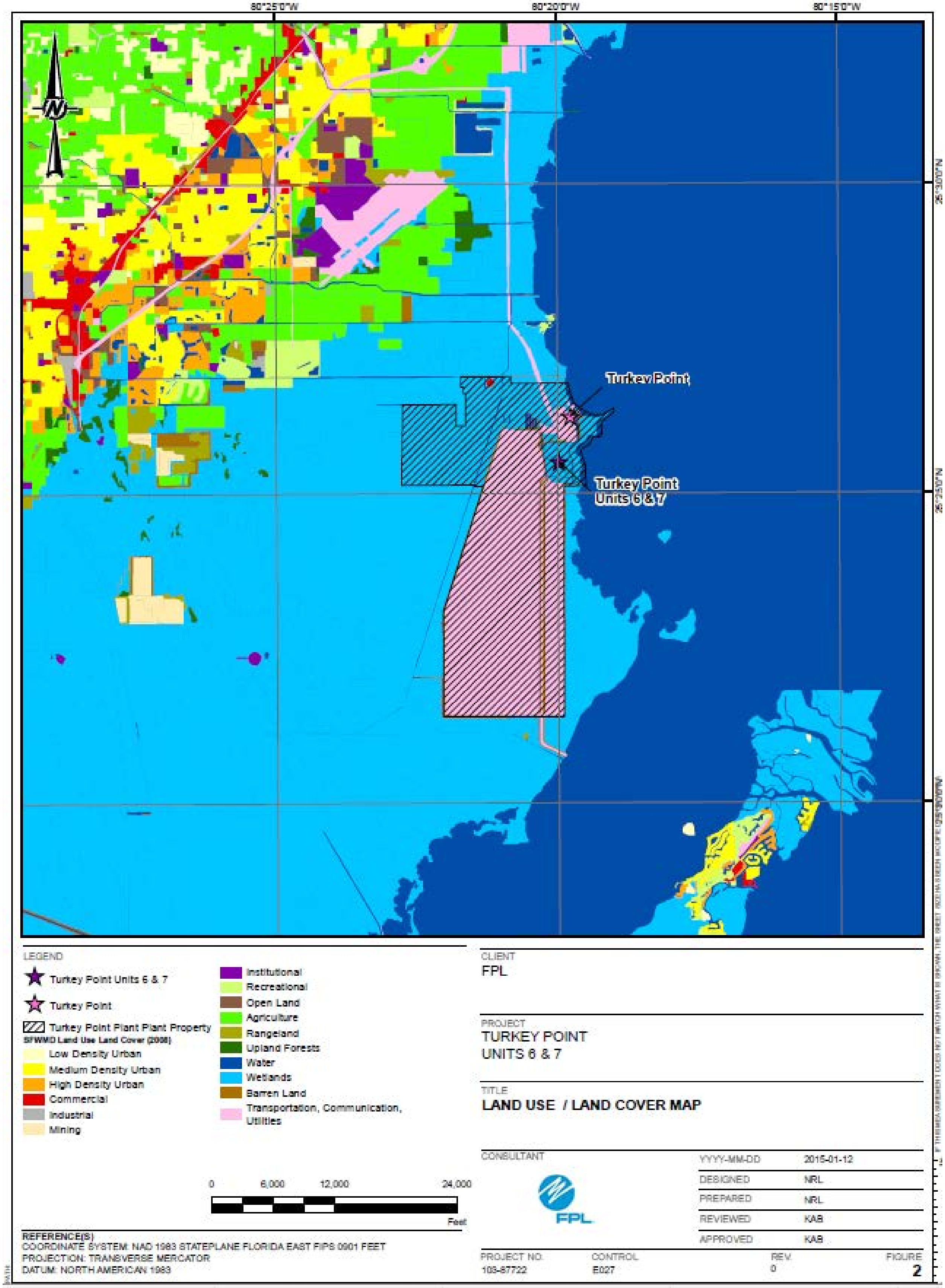
PROJECT NO.	CONTROL	REV.	FIGURE
103-87722	G062	0	3

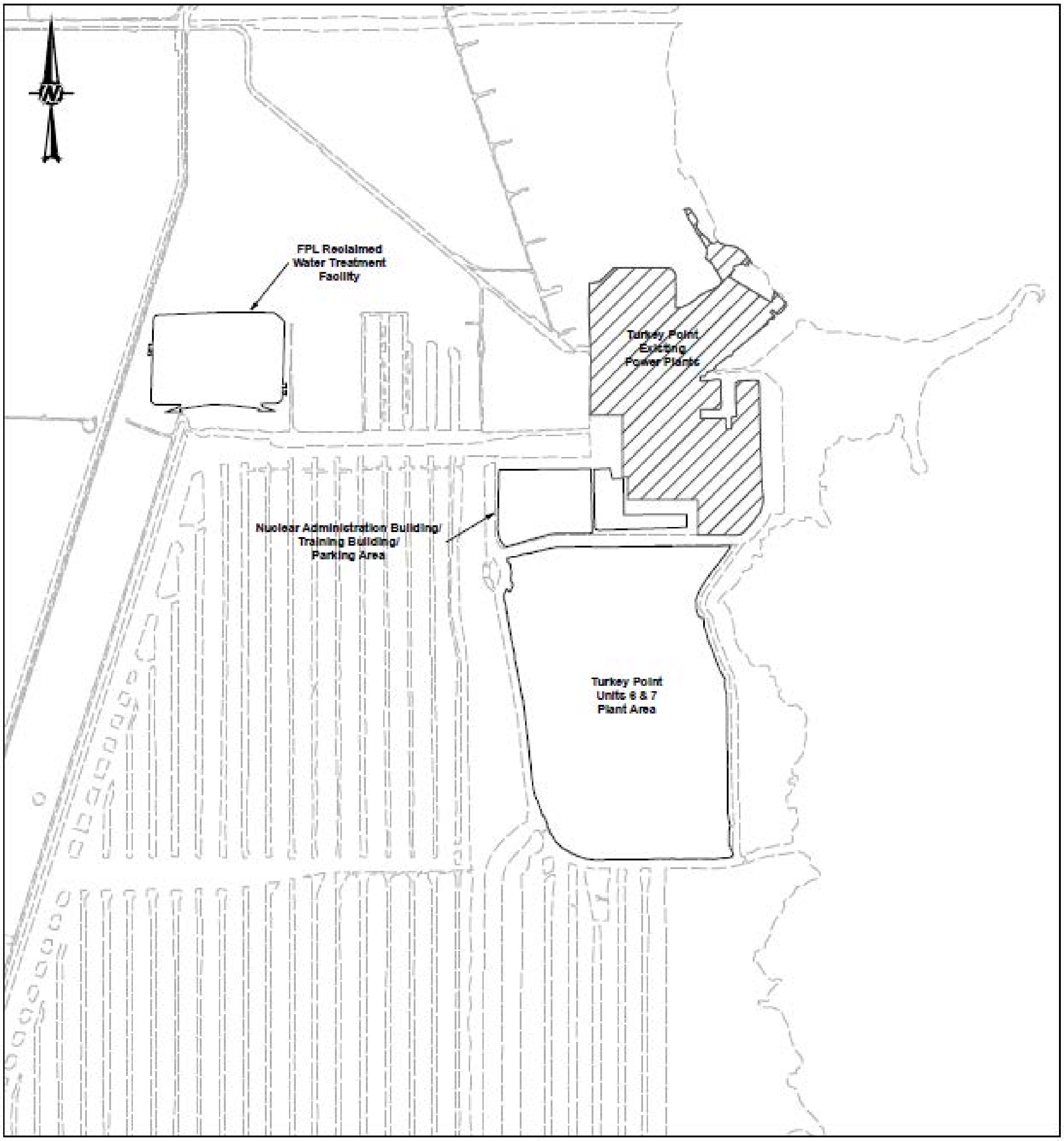
Environmental and Land Use Information: Supplemental Information

Preferred Site # 11: 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
Leisure City
HOMESTEAD BAYFRONT PARK
BISCAYNE BAY
BISCAYNE
Turkey Point Units 6 & 7
Totten Key
Old Rhodes Key
DADE CO
MONROE CO
Card Sound
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 2016-03-30
DESIGNED NRL
PREPARED NRL
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL F037
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
Turkey Point Units 6 & 7
LEGEND
Turkey Point Units 6 & 7
Turkey Point
Turkey Point Plant 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
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
YYYY-MM-DD 2015-01-12
DESIGNED NRL
PREPARED NRL
REVIEWED KAB
APPROVED KAB
PROJECT NO. 103-87722
CONTROL E027
REV. 0
FIGURE 2



CLIENT
FPL

PROJECT
TURKEY POINT
UNITS 6 & 7

TITLE
FACILITY PLOT PLAN

0 900 1,800 3,600
Feet

CONSULTANT

YYYY-MM-DD	2015-03-20
DESIGNED	NRL
PREPARED	NRL
REVIEWED	KAB
APPROVED	KFK

REFERENCE(S)
FACILITY FEATURES, EXISTING TURKEY POINT PLANT AREA, FPL / GOLDER ASSOCIATES INC., 2009-2015

PROJECT NO.	CONTROL	REV.	FIGURE
103-87722	E030	0	3

Environmental and Land Use Information:

Supplemental Information

Potential Site #1: Alachua County

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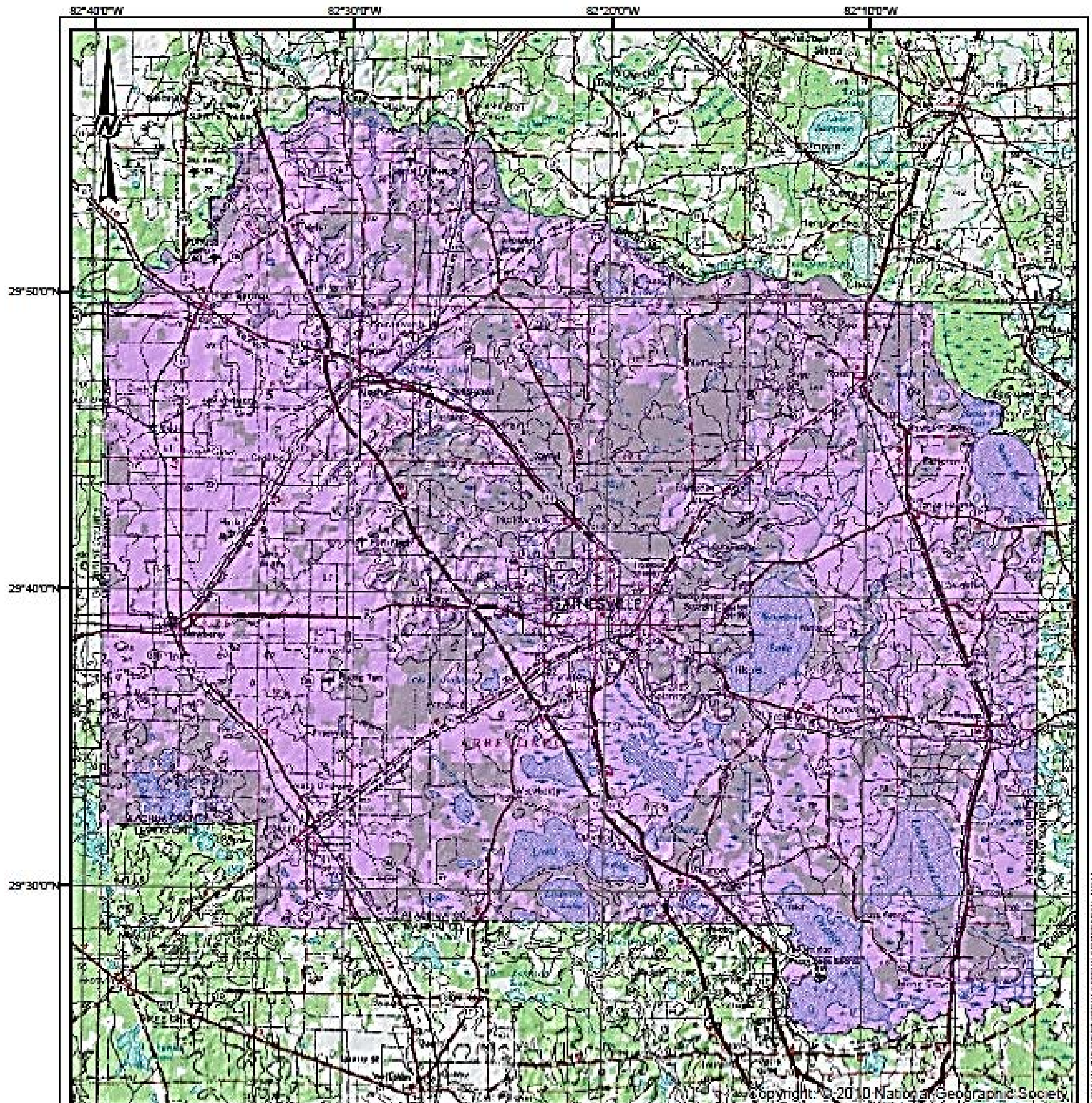
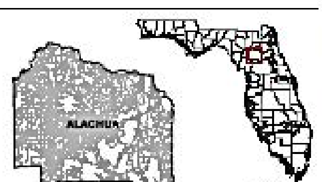


LEGEND

Alachua County



0 14,000 28,000 56,000

1:336,000 Feet

REFERENCE(S)

1. ALACHUA COUNTY, FPL, 2016.

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

CLIENT
FPL

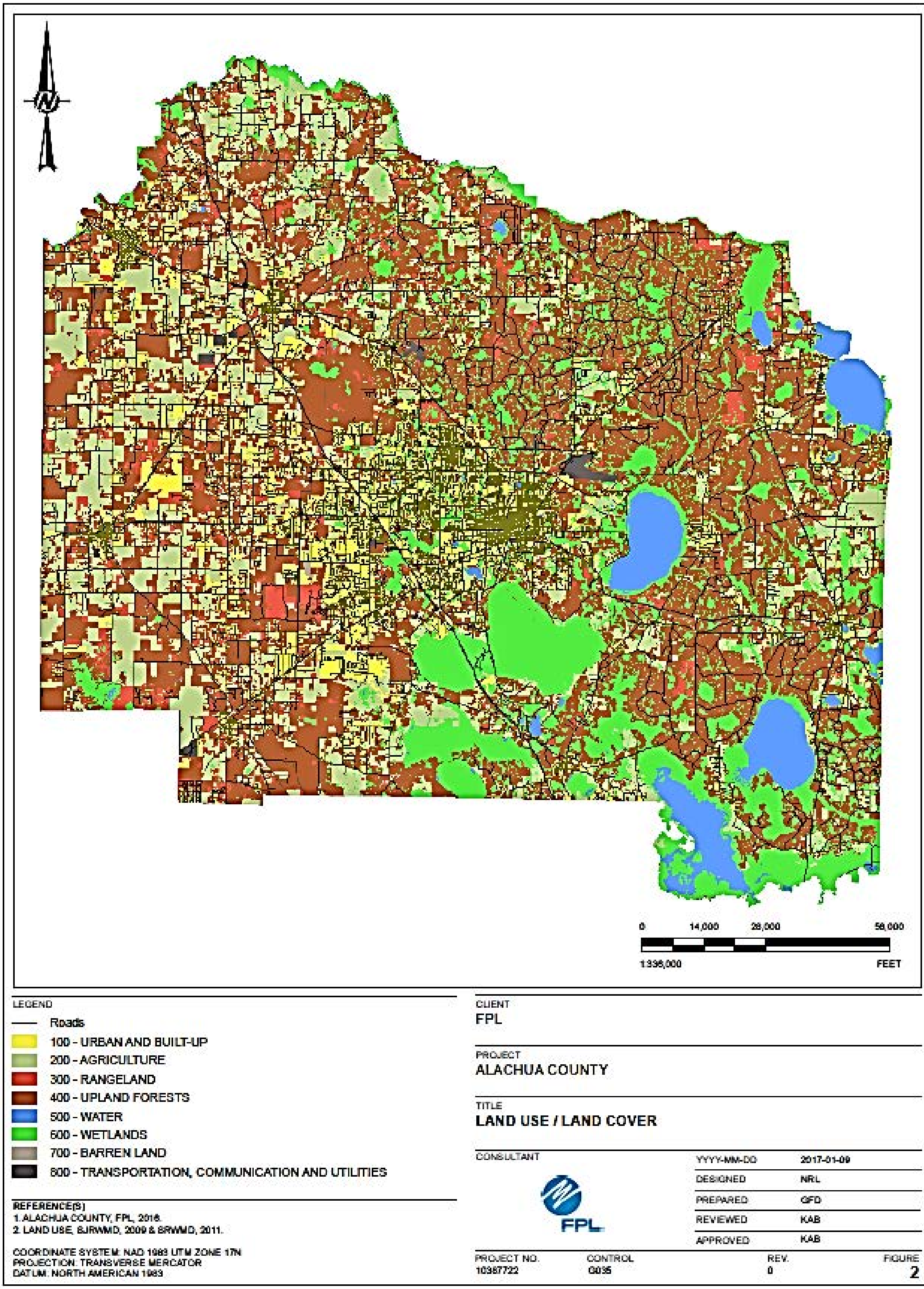
PROJECT
ALACHUA COUNTY

TITLE
USGS LOCATION MAP

CONSULTANT

YYYY-MM-DD	2017-01-09
DESIGNED	NRL
PREPARED	GFD
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
10387722	G034	0	1


N
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. ALACHUA 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
ALACHUA COUNTY
TITLE
LAND USE / LAND COVER
CONSULTANT
YYYY-MM-DD 2017-01-09
DESIGNED NRL
PREPARED GFD
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL G035
REV. 0
FIGURE 2

Environmental and Land Use Information: Supplemental Information

Potential Site #2: Baker County

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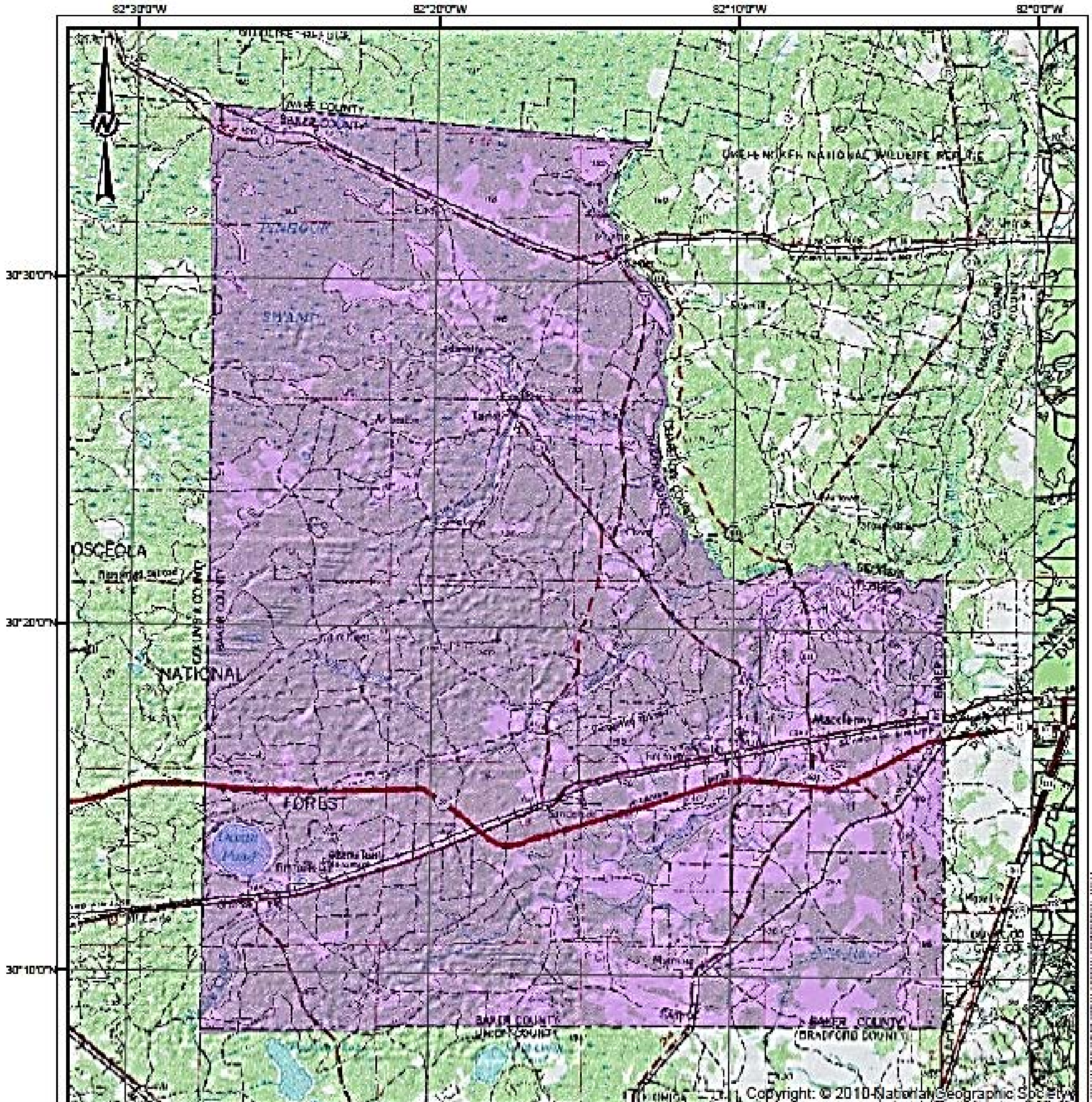


LEGEND

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

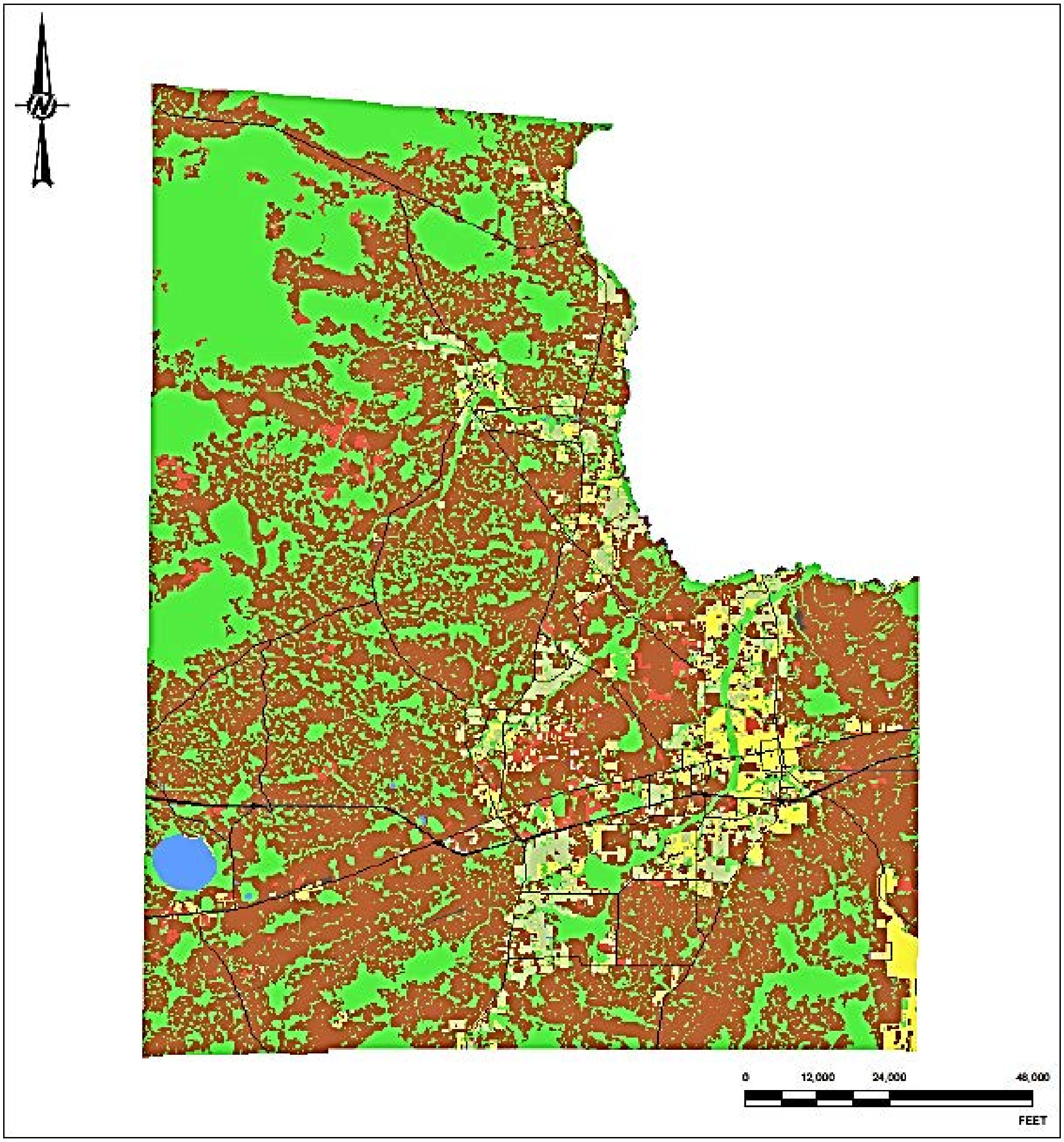
TITLE
USGS LOCATION MAP

CONSULTANT

FPL

YYYY-MM-DD	2017-01-09
DESIGNED	NRL
PREPARED	NRL
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
10387722	0048	0	1



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	2017-01-09
DESIGNED	NRL
PREPARED	GFD
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
10387722	G047	0	2

***Environmental and Land Use Information*:**
Supplemental Information

Potential Site #3: Clay County

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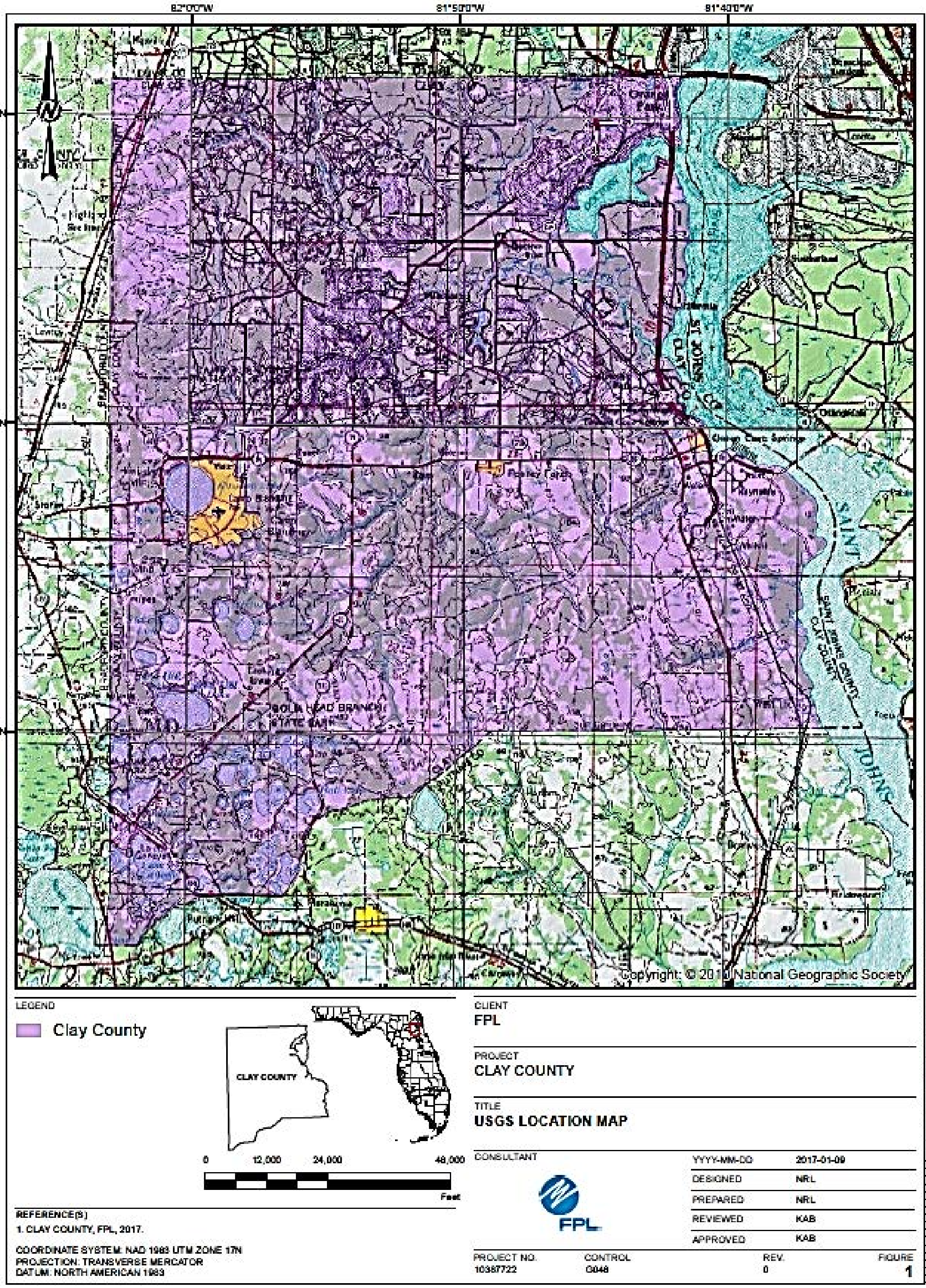
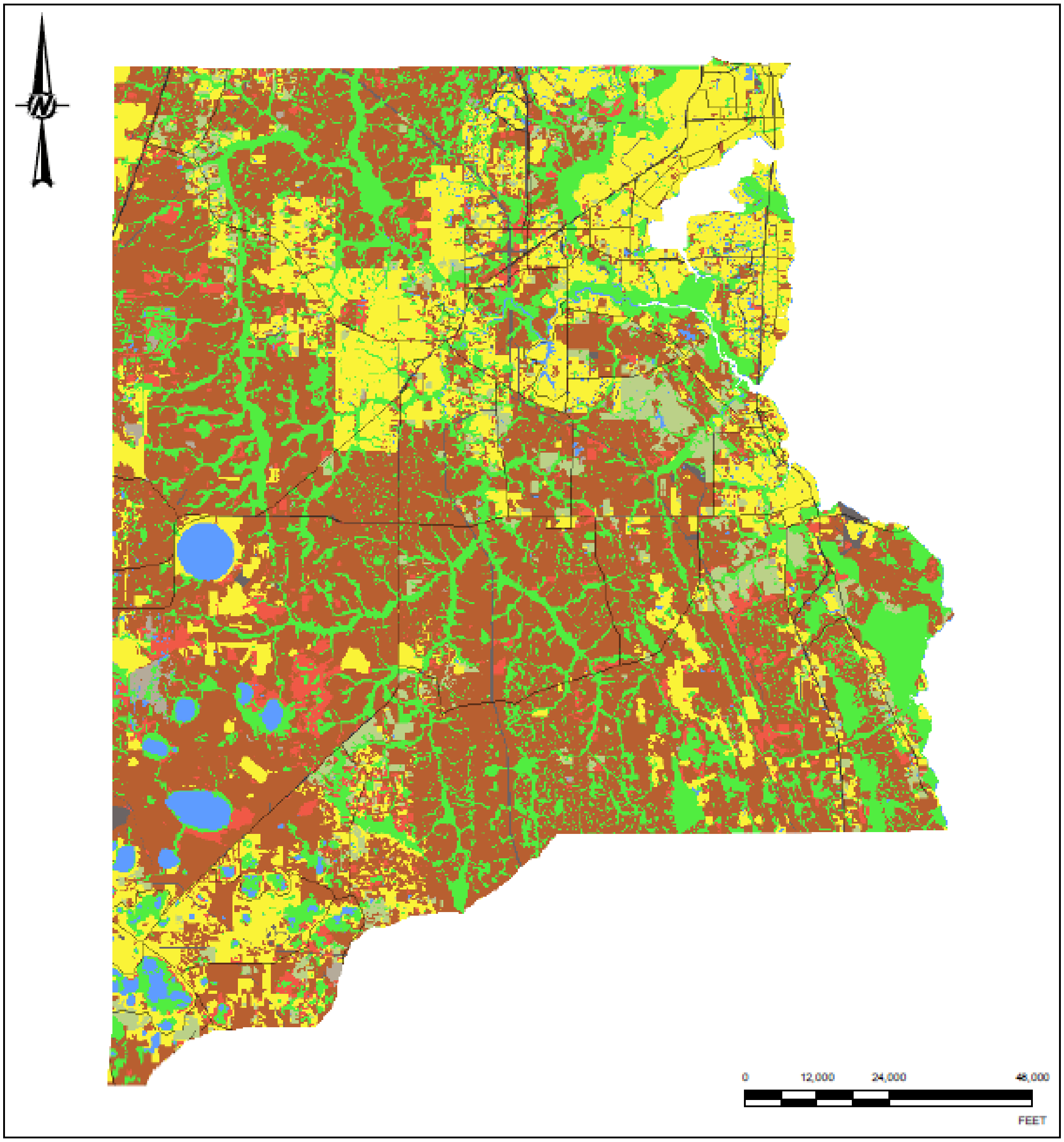

82°0'0"W
81°50'0"W
81°40'0"W
30°10'0"N
30°0'0"N
29°50'0"N
N
Copyright: © 2013 National Geographic Society
LEGEND
Clay County
CLAY COUNTY
0 12,000 24,000 48,000
Feet
REFERENCE(S)
1. CLAY COUNTY, FPL, 2017.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
CLAY COUNTY
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2017-01-09
DESIGNED NRL
PREPARED NRL
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL 0048
REV. 0
FIGURE 1



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

YYYY-MM-DD	2017-01-09
DESIGNED	NRL
PREPARED	GFD
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
10387722	G049	0	2

***Environmental and Land Use Information*:**

Supplemental Information

Potential Site #4: Collier County

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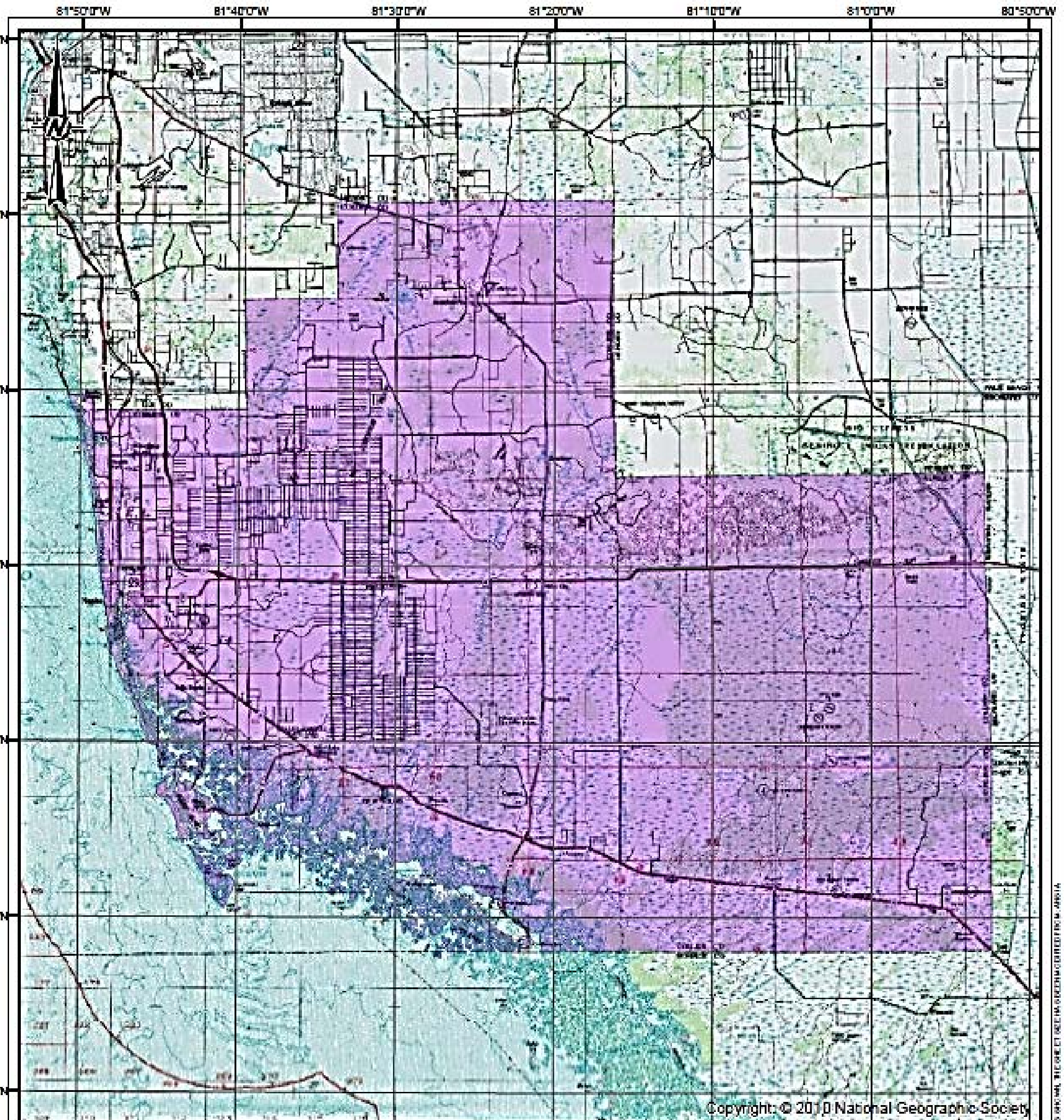
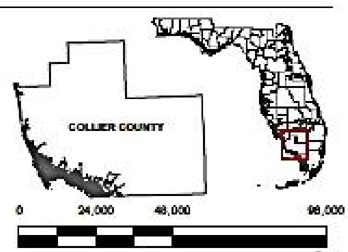


LEGEND

Collier County



REFERENCE(S)

1. COLLIER COUNTY, FPL, 2017.

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

CLIENT
FPL

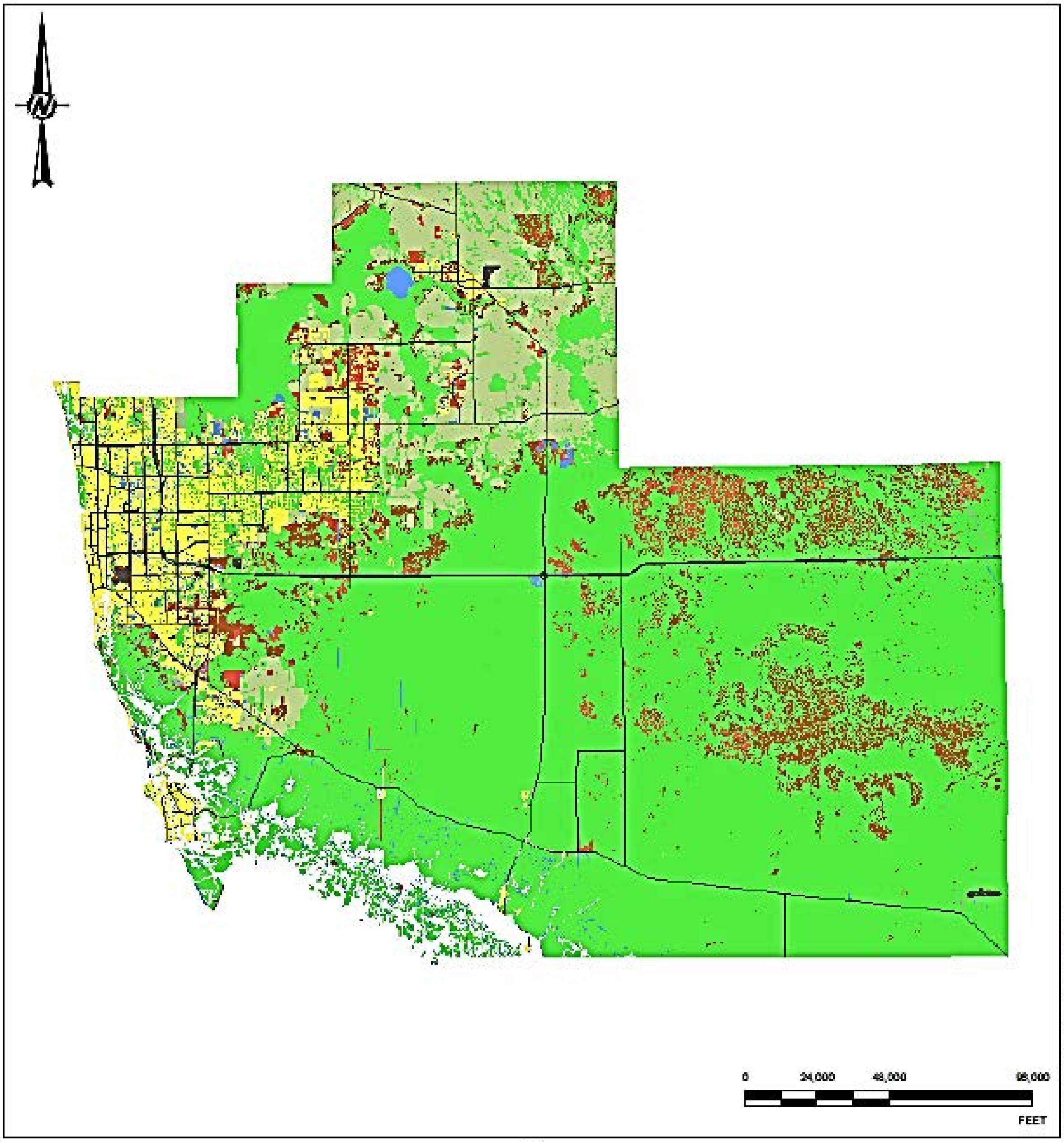
PROJECT
COLLIER COUNTY

TITLE
USGS LOCATION MAP

CONSULTANT

YYYY-MM-DD	2017-01-09
DESIGNED	NRL
PREPARED	NRL
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
10387722	G050	0	1



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. COLLIER 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
COLLIER COUNTY

TITLE
LAND USE / LAND COVER

CONSULTANT

FPL

YYYY-MM-DD	2017-01-09
DESIGNED	NRL
PREPARED	GFD
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
10387722	G051	0	2

***Environmental and Land Use Information*:**

Supplemental Information

Potential Site #5: Columbia County

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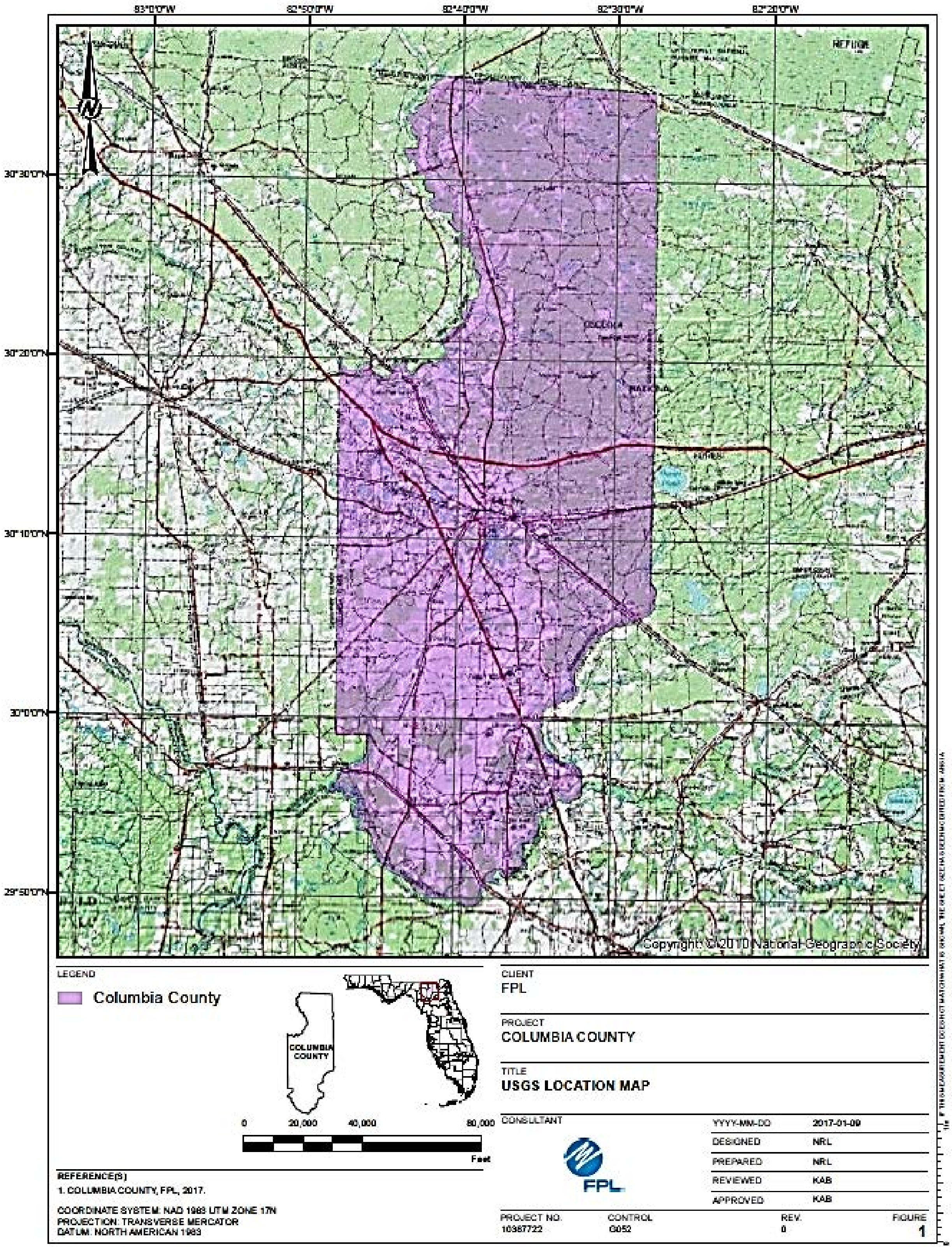
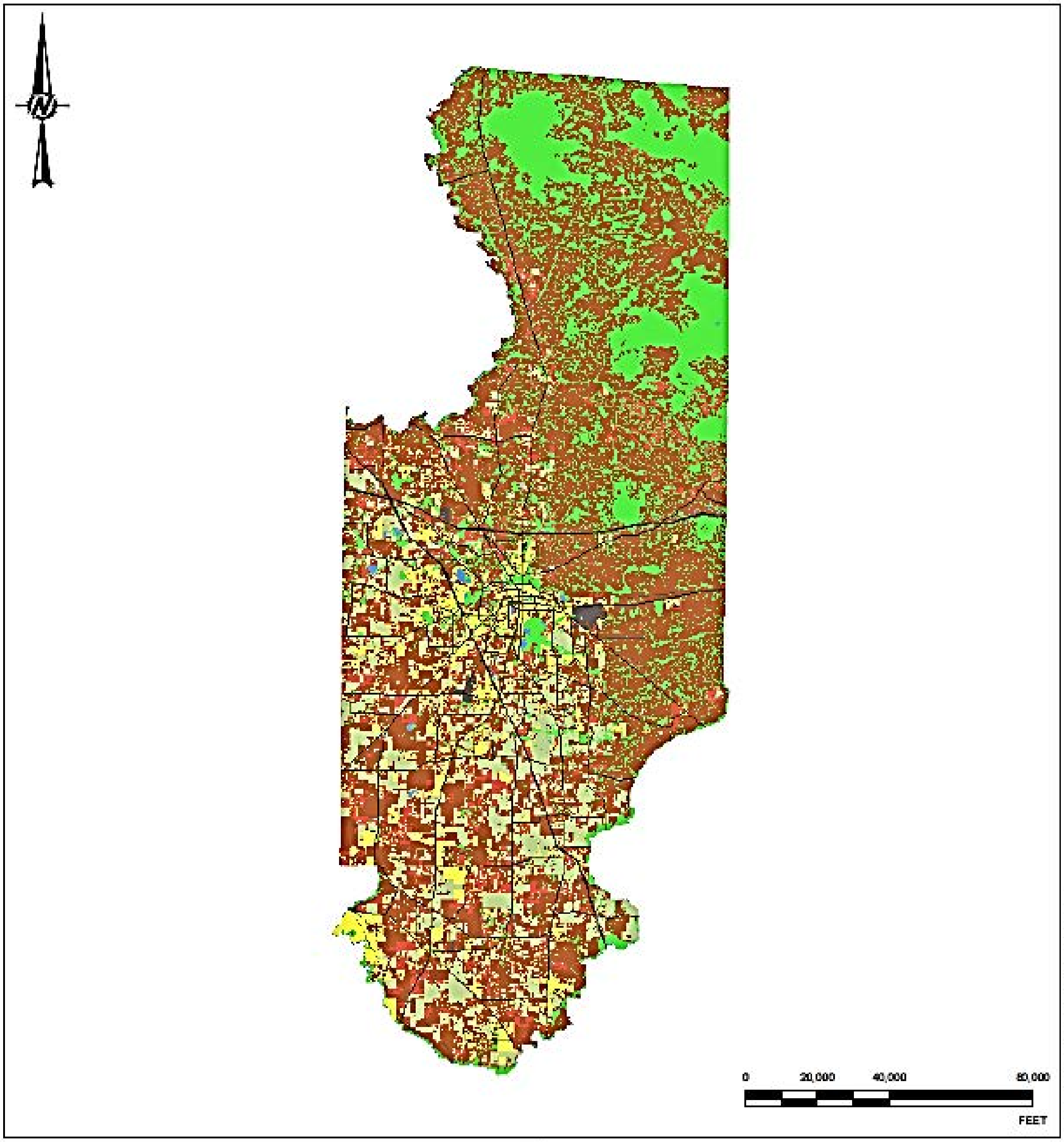

83°0'0"W
82°50'0"W
82°40'0"W
82°30'0"W
82°20'0"W
30°30'0"N
30°20'0"N
30°10'0"N
30°0'0"N
29°50'0"N
Copyright: ©2010 National Geographic Society
LEGEND
Columbia County
COLUMBIA COUNTY
0
20,000
40,000
80,000
Feet
REFERENCE(S)
1. COLUMBIA COUNTY, FPL, 2017.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
COLUMBIA COUNTY
TITLE
USGS LOCATION MAP
CONSULTANT
YYYY-MM-DD 2017-01-09
DESIGNED NRL
PREPARED NRL
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL G052
REV. 0
FIGURE 1



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. COLUMBIA 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
COLUMBIA COUNTY

TITLE
LAND USE / LAND COVER

CONSULTANT

FPL

YYYY-MM-DD	2017-01-09
DESIGNED	NRL
PREPARED	GFD
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
10387722	0053	0	2

Environmental and Land Use Information:
Supplemental Information

Potential Site #6: Hendry County

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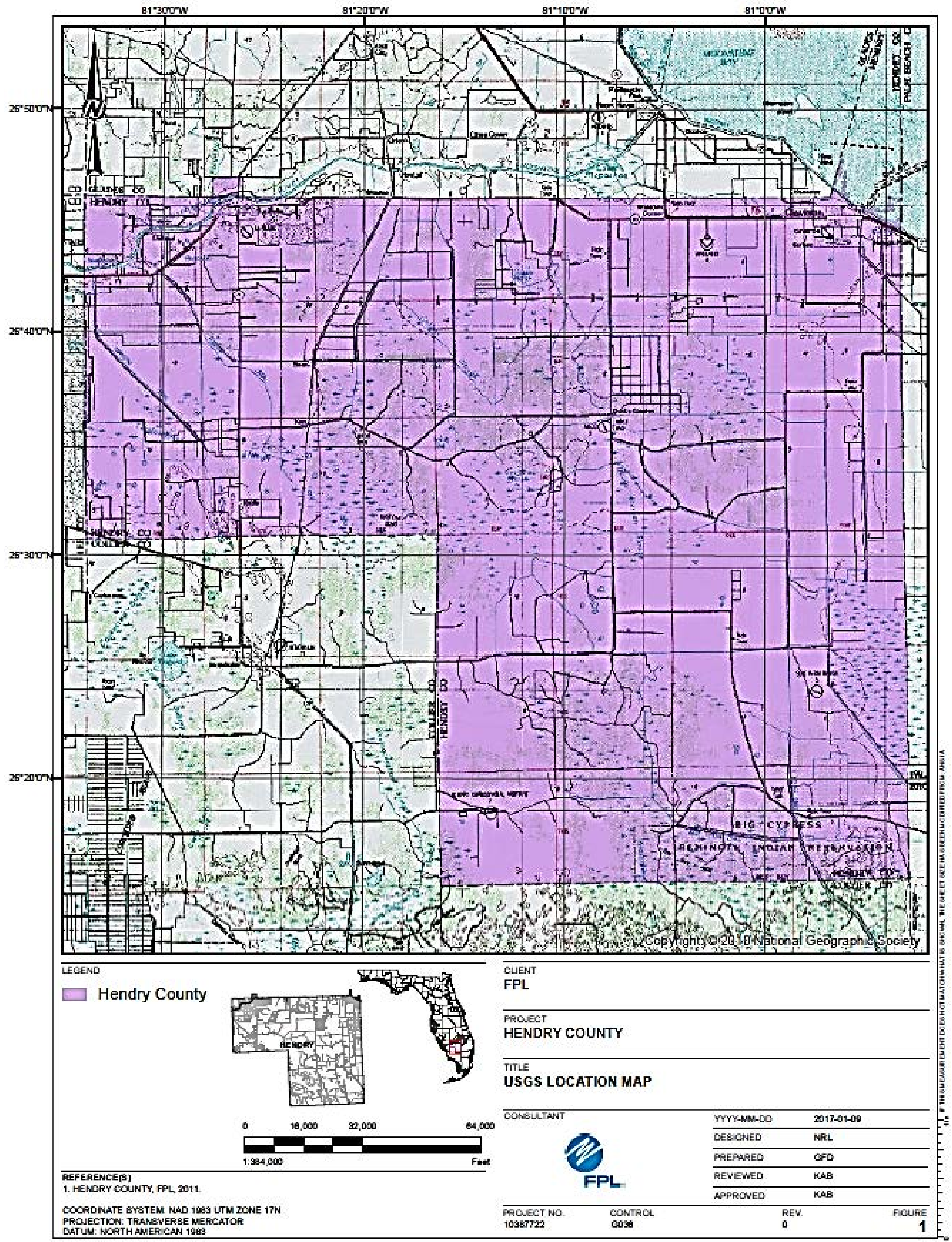
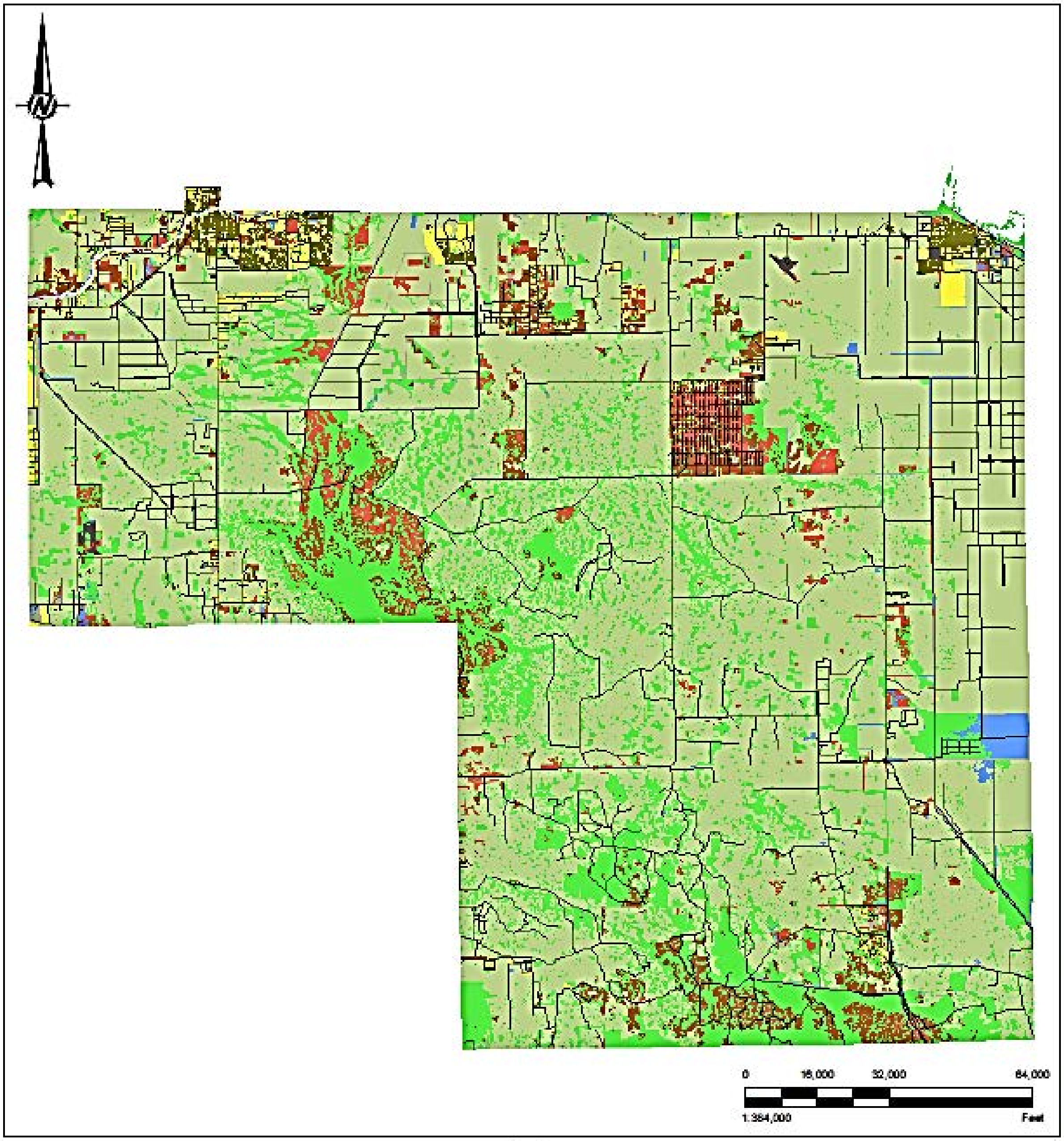

81°30'0"W
81°20'0"W
81°10'0"W
81°0'0"W
26°50'0"N
26°40'0"N
26°30'0"N
26°20'0"N
HENDRY CO
BIG CYPRESS
SEMINOLE INDIAN RESERVATION
Copyright:© 2010 National Geographic Society
LEGEND
Hendry County
HENDRY
0
16,000
32,000
64,000
1:384,000
Feet
REFERENCE(S)
1. HENDRY COUNTY, FPL, 2011.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
HENDRY COUNTY
TITLE
USGS LOCATION MAP
CONSULTANT
YYYY-MM-DD
2017-01-09
DESIGNED
NRL
PREPARED
GFD
REVIEWED
KAB
APPROVED
KAB
FPL
PROJECT NO.
10387722
CONTROL
G038
REV.
0
FIGURE
1



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	2017-01-09
DESIGNED	NRL
PREPARED	GFD
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
10387722	G037	0	2

***Environmental and Land Use Information*:**
Supplemental Information

Potential Site #7: Miami-Dade County

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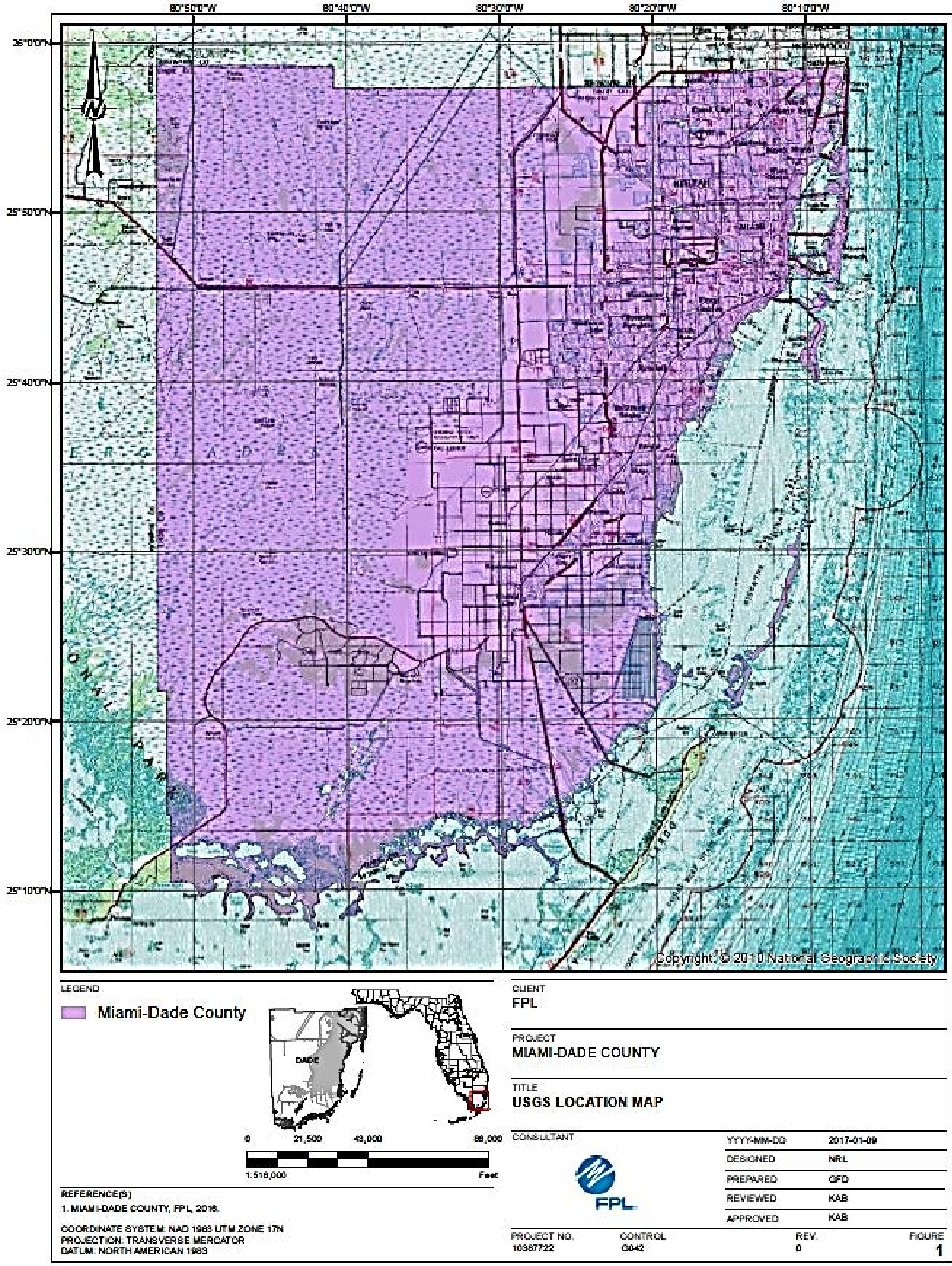
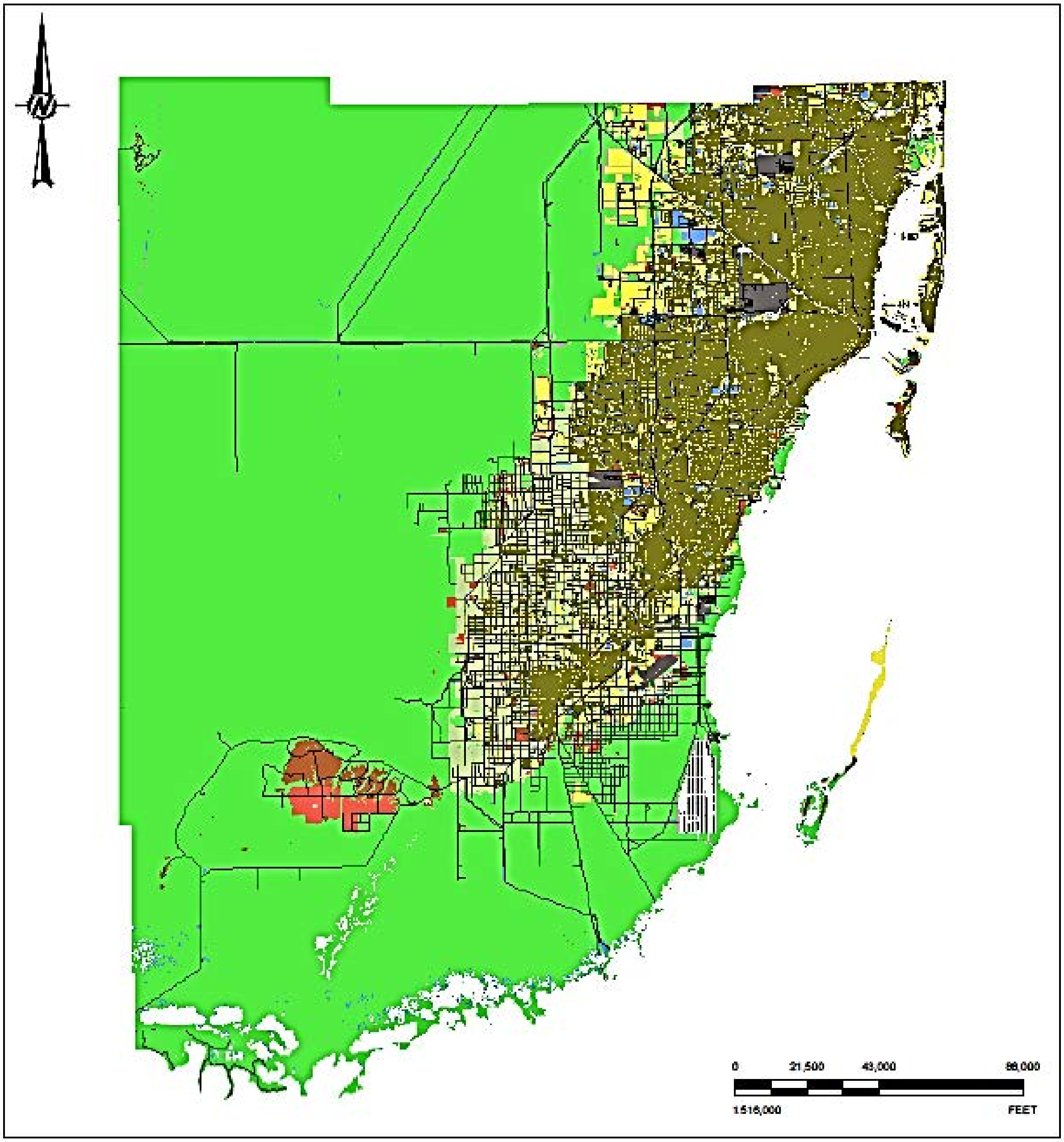

80°50'0"W
80°40'0"W
80°30'0"W
80°20'0"W
80°10'0"W
26°0'0"N
25°50'0"N
25°40'0"N
25°30'0"N
25°20'0"N
25°10'0"N
N
Copyright: © 2010 National Geographic Society
LEGEND
Miami-Dade County
DADE
0
21,500
43,000
86,000
1:518,000
Feet
REFERENCE(S)
1. MIAMI-DADE COUNTY, FPL, 2016.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
MIAMI-DADE COUNTY
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2017-01-09
DESIGNED NRL
PREPARED GFD
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL G042
REV. 0
FIGURE 1



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

YYYY-MM-DD	2017-01-09
DESIGNED	NRL
PREPARED	GFD
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
10387722	G043	0	2

Environmental and Land Use Information:
Supplemental Information

Potential Site #8: Putnam County

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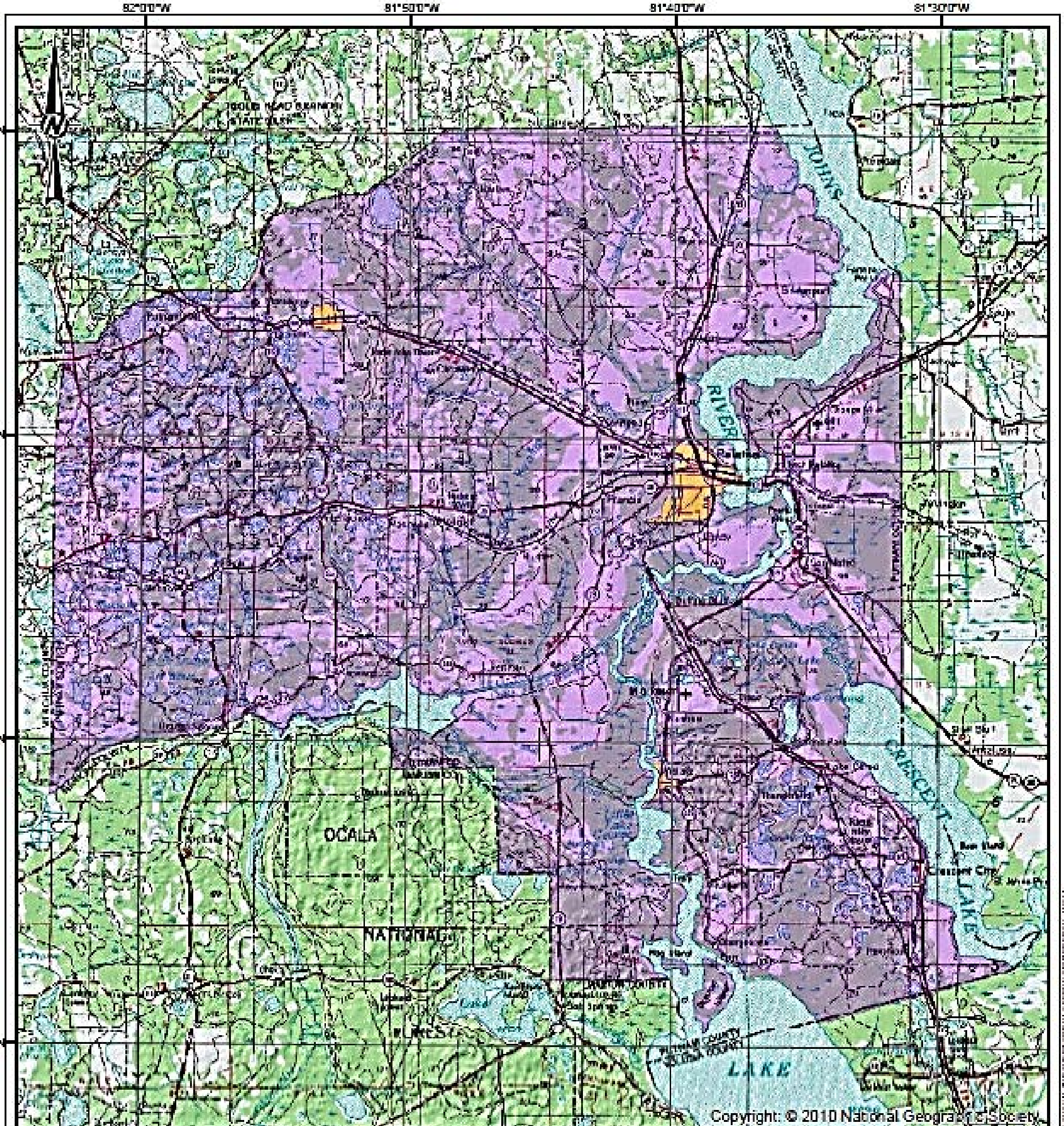
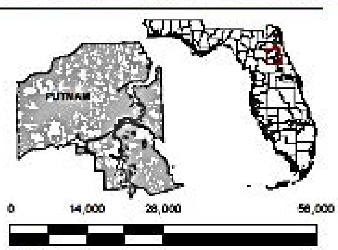


LEGEND

Putnam County



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

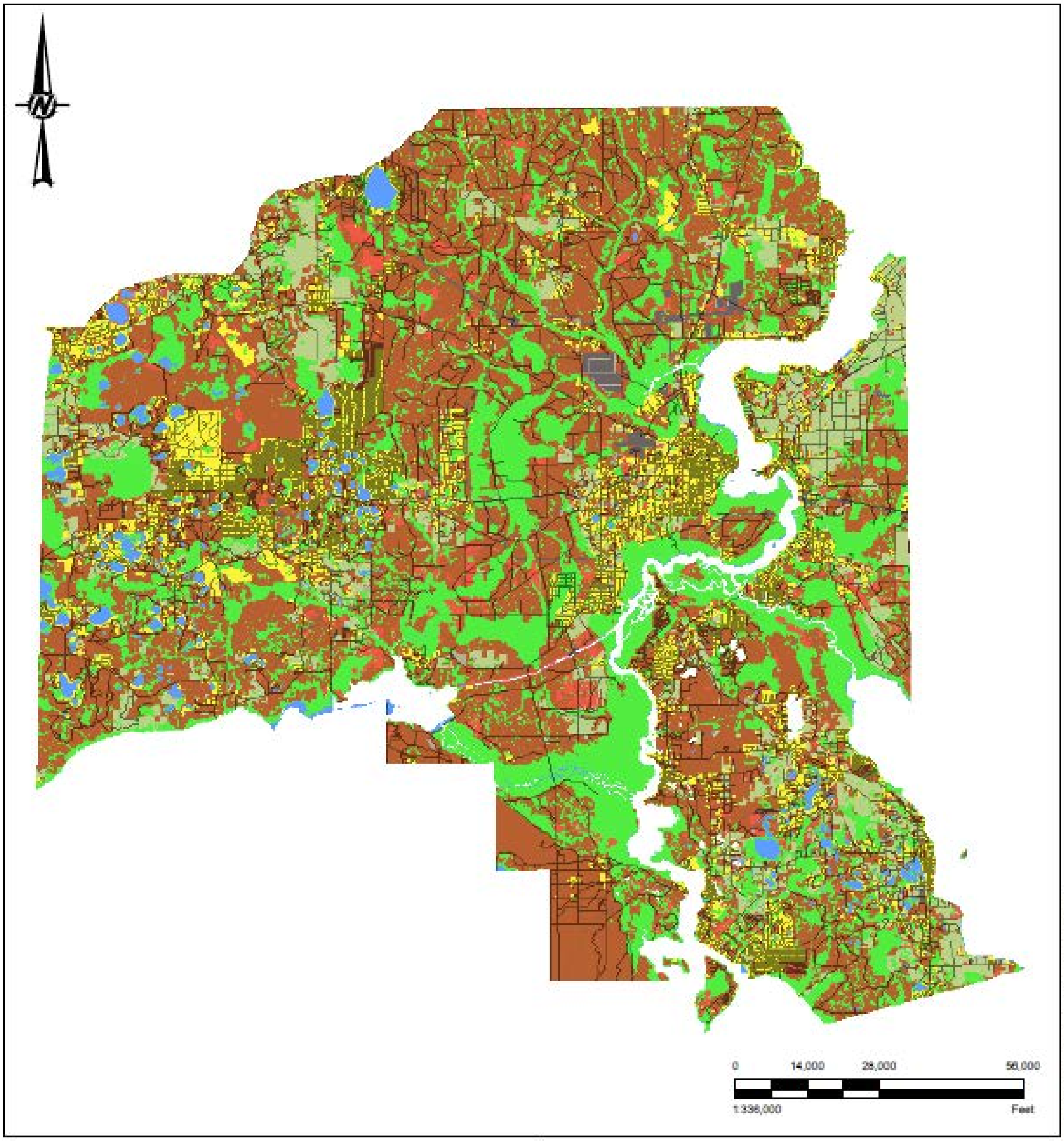
PROJECT
PUTNAM COUNTY

TITLE
USGS LOCATION MAP

CONSULTANT

YYYY-MM-DD	2017-01-09
DESIGNED	NRL
PREPARED	GFD
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
10387722	G038	0	1



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

YYYY-MM-DD	2017-01-09
DESIGNED	NRL
PREPARED	GFD
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
10387722	G039	0	2

Environmental and Land Use Information:
Supplemental Information

Potential Site #9: St. Lucie County

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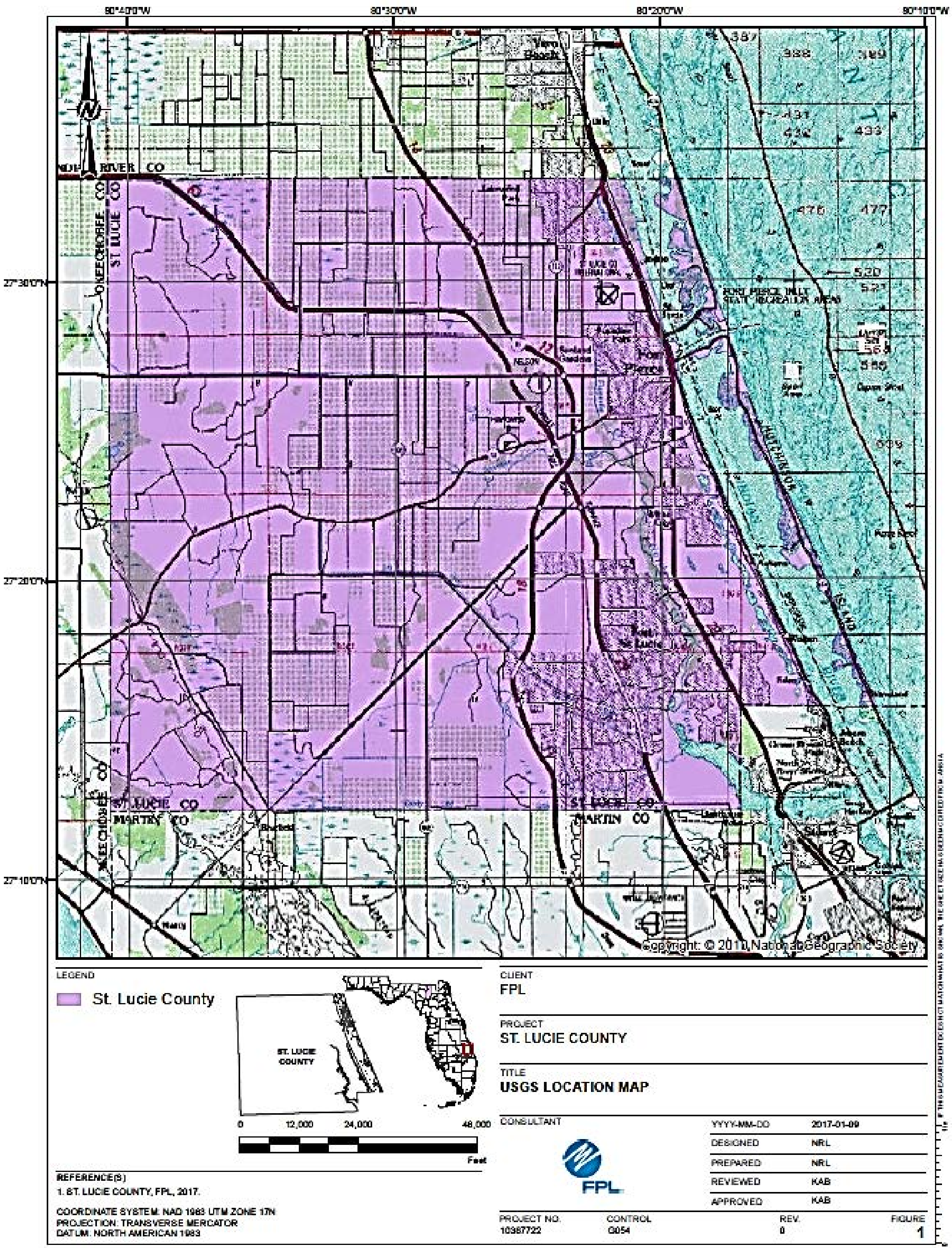
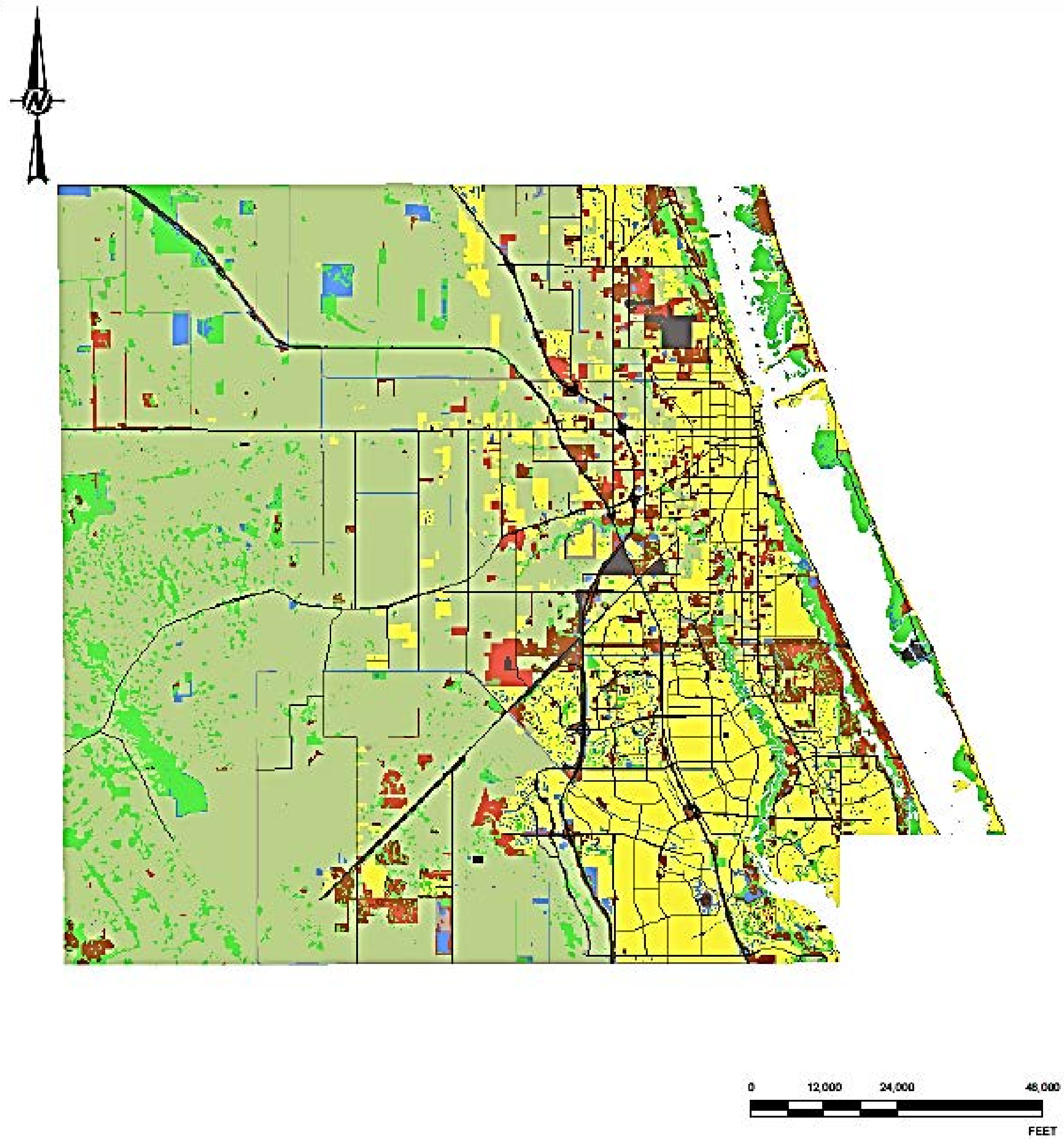


80°40'0"W
80°30'0"W
80°20'0"W
80°10'0"W
27°30'0"N
27°20'0"N
27°10'0"N
N
ST LUCIE CO
MARTIN CO
Copyright: © 2010 National Geographic Society
LEGEND
St. Lucie County
ST. LUCIE COUNTY
0
12,000
24,000
48,000
Feet
REFERENCE(S)
1. ST. LUCIE COUNTY, FPL, 2017.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
ST. LUCIE COUNTY
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2017-01-09
DESIGNED NRL
PREPARED NRL
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL G054
REV. 0
FIGURE 1



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. ST. LUCIE 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. LUCIE COUNTY

TITLE
LAND USE / LAND COVER

CONSULTANT

FPL

YYYY-MM-DD	2017-01-09
DESIGNED	NRL
PREPARED	GFD
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
10387722	G055	0	2

***Environmental and Land Use Information*:**

Supplemental Information

Potential Site #10: Suwanee County

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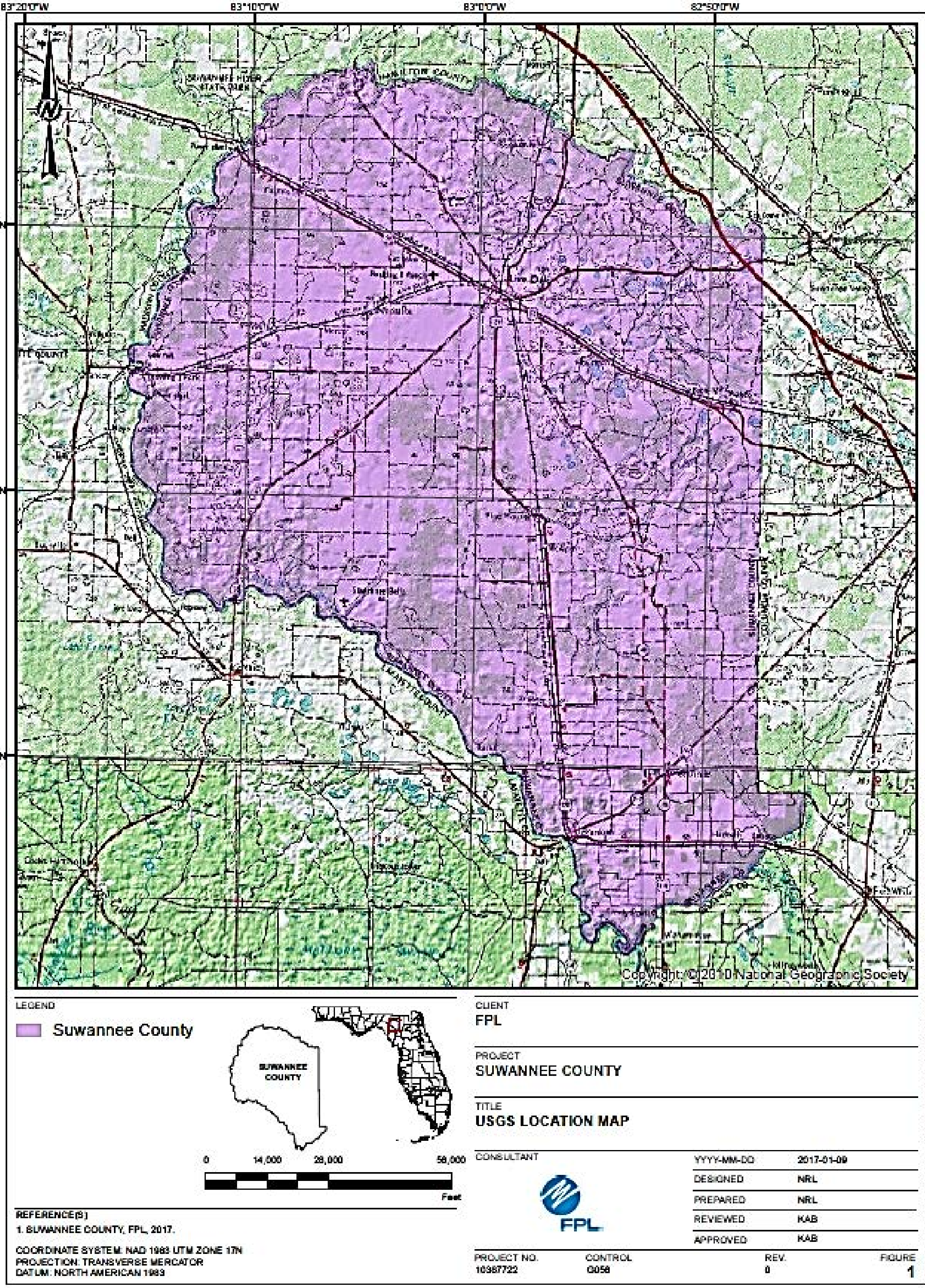
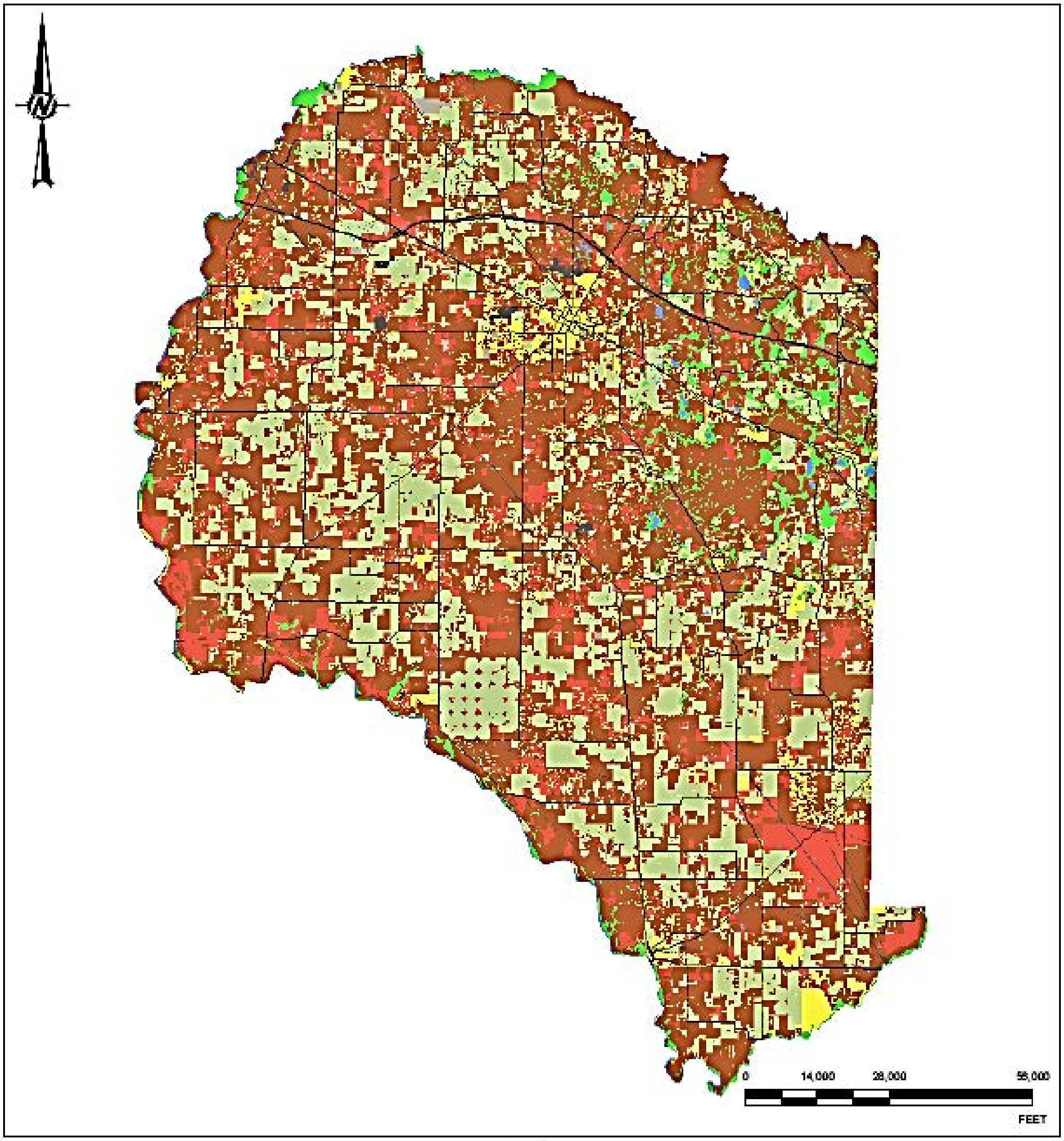

83°20'0"W
83°10'0"W
83°0'0"W
82°50'0"W
30°20'0"N
30°10'0"N
30°0'0"N
Copyright: © 2010 National Geographic Society
LEGEND
Suwannee County
SUWANNEE COUNTY
0
14,000
28,000
56,000
Feet
REFERENCE(S)
1. SUWANNEE COUNTY, FPL, 2017.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983
CLIENT
FPL
PROJECT
SUWANNEE COUNTY
TITLE
USGS LOCATION MAP
CONSULTANT
FPL
YYYY-MM-DD 2017-01-09
DESIGNED NRL
PREPARED NRL
REVIEWED KAB
APPROVED KAB
PROJECT NO. 10387722
CONTROL G058
REV. 0
FIGURE 1



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	2017-01-09
DESIGNED	NRL
PREPARED	GFD
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
10387722	G057	0	2

Environmental and Land Use Information:
Supplemental Information

Potential Site #11: Union County

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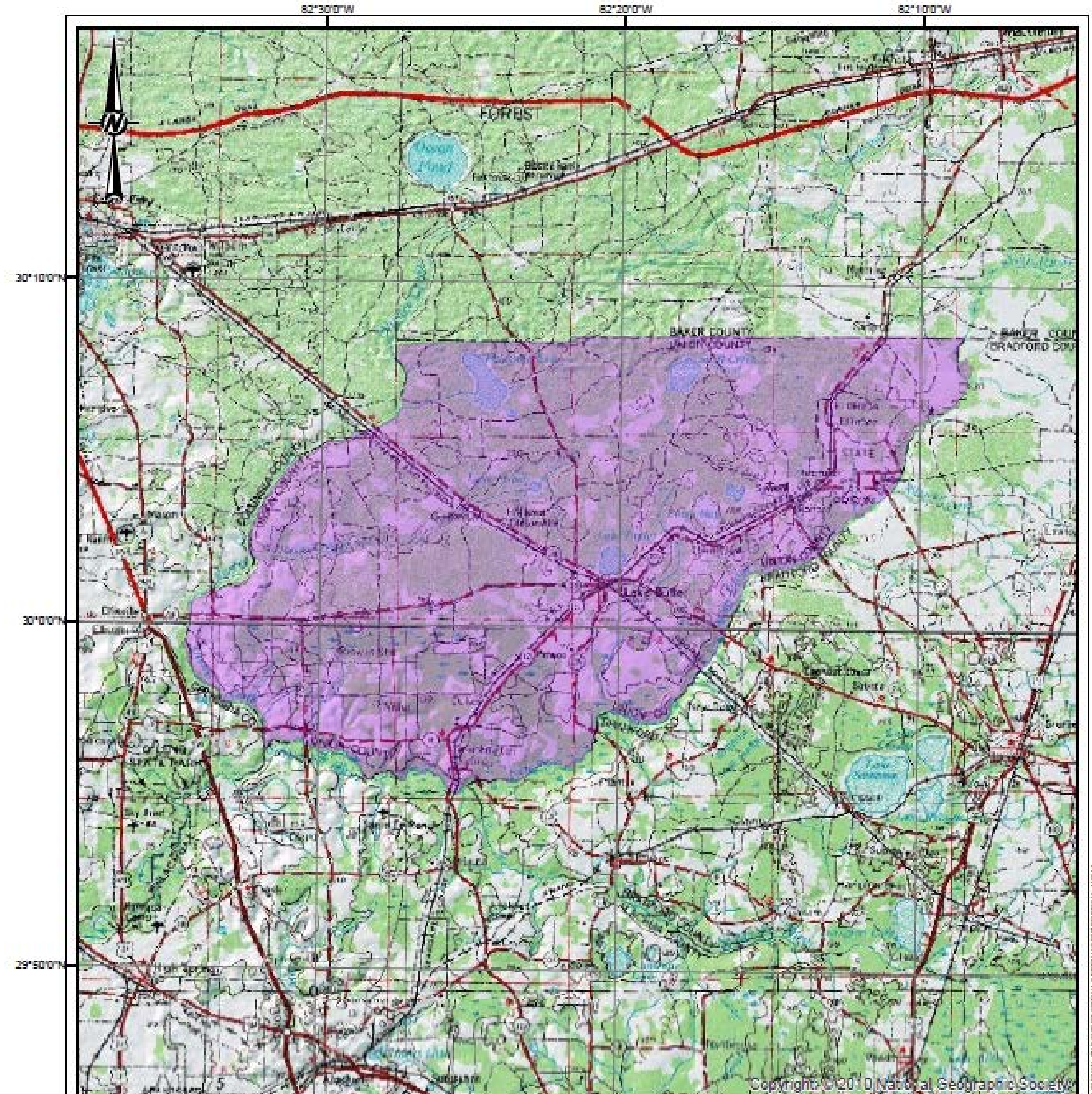
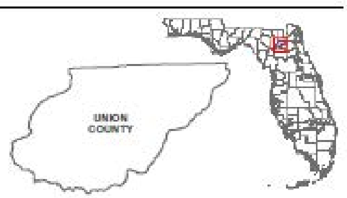


LEGEND

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

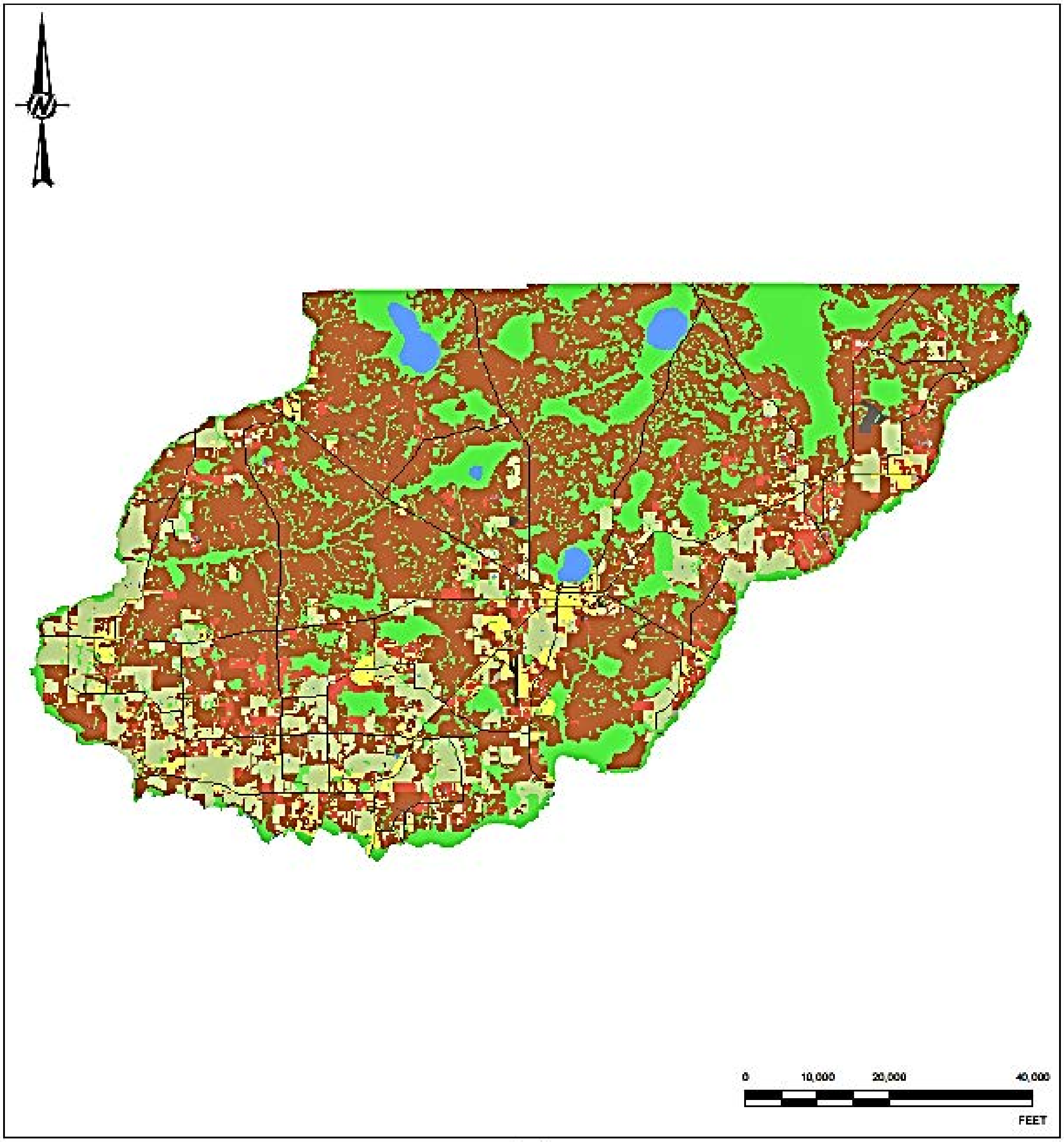
TITLE
USGS LOCATION MAP

CONSULTANT

FPL

YYYY-MM-DD	2017-01-09
DESIGNED	NRL
PREPARED	NRL
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
10387722	G058	0	1



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	2017-01-09
DESIGNED	NRL
PREPARED	GFD
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
10387722	G059	0	2

Environmental and Land Use Information:
Supplemental Information

Potential Site #12: Volusia County

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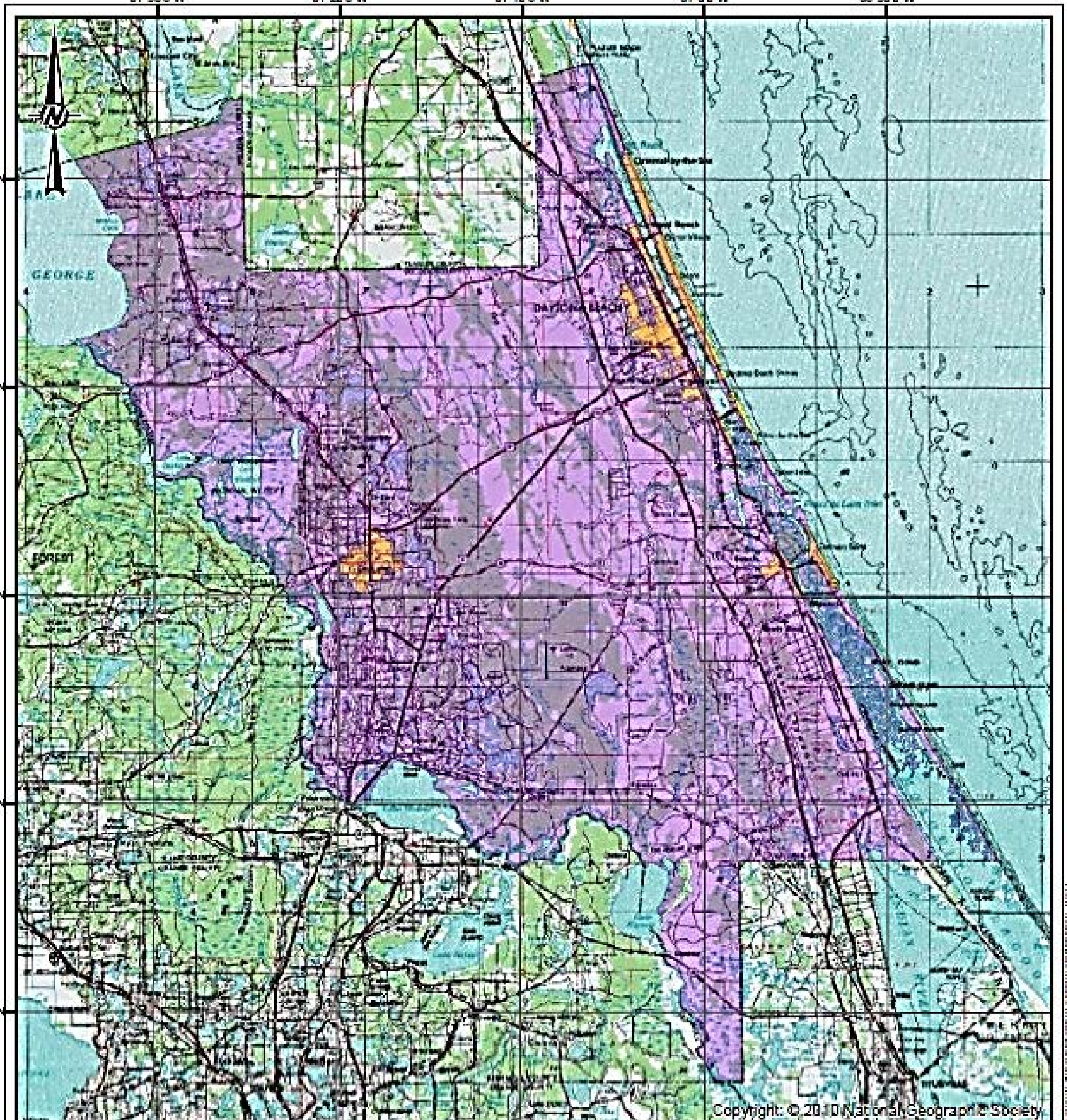
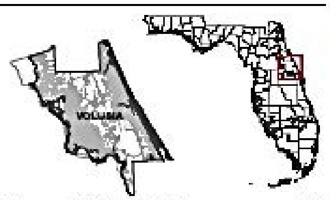


LEGEND

Volusia County



0 20,500 41,000 82,000

1:492,000 Feet

REFERENCE(S)

1. VOLUSIA COUNTY, FPL, 2016.

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

CLIENT
FPL

PROJECT
VOLUSIA COUNTY

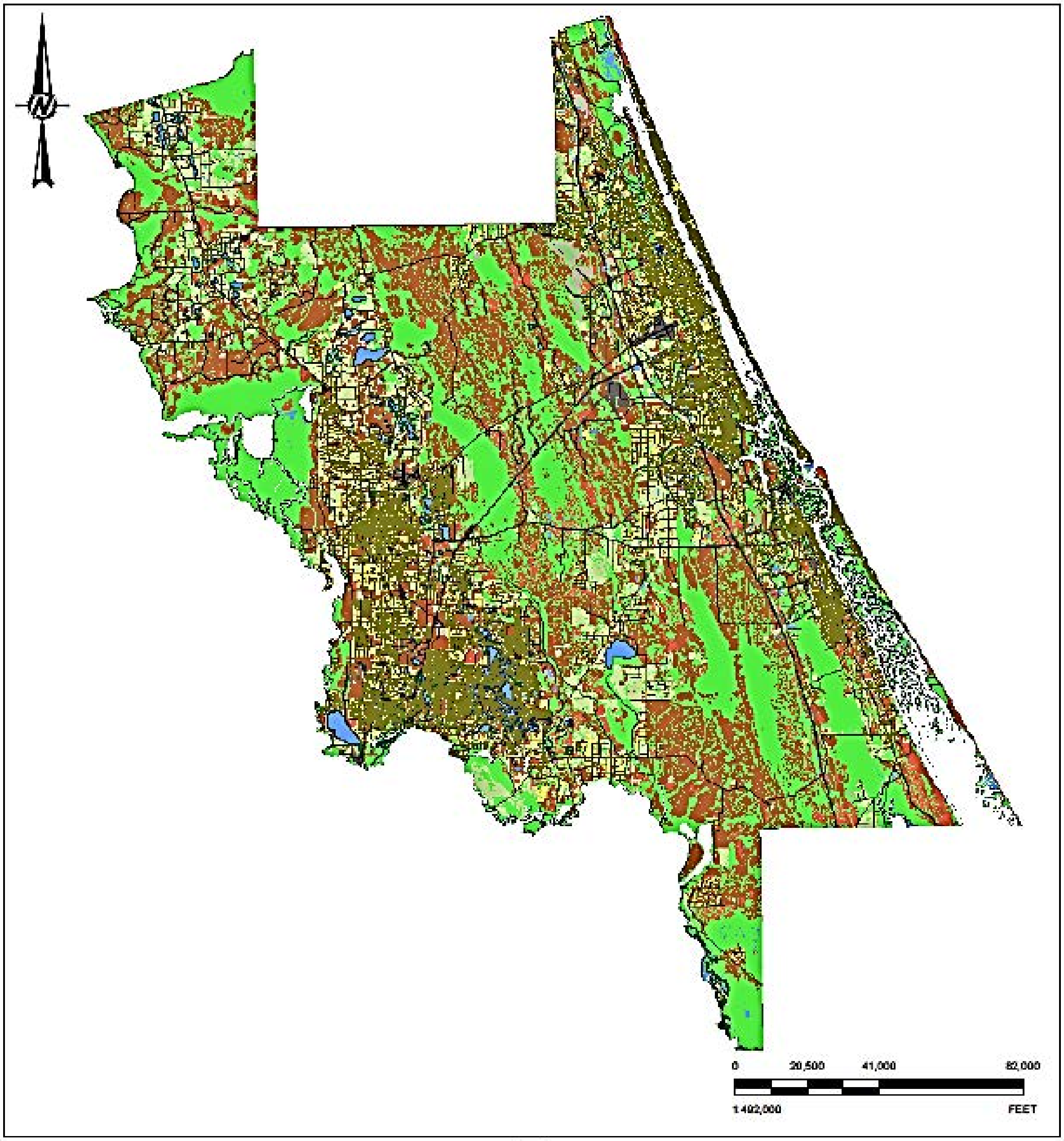
TITLE
USGS LOCATION MAP

CONSULTANT

FPL

YYYY-MM-DD	2017-01-09
DESIGNED	NRL
PREPARED	GFD
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
10387722	0040	0	1



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. VOLUSIA 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
VOLUSIA COUNTY

TITLE
LAND USE / LAND COVER

CONSULTANT

FPL

YYYY-MM-DD	2017-01-09
DESIGNED	NRL
PREPARED	GFD
REVIEWED	KAB
APPROVED	KAB

PROJECT NO.	CONTROL	REV.	FIGURE
10387722	0041	0	2

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 deal with FPL's ties to its neighboring systems. Internal limitations deal with 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 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, 3) and/or evaluating the costs of transmission additions that may be needed to address regional concerns regarding an imbalance between load and generation in a given region. Both of these site- and system-related transmission costs are developed for each different unit/unit location option or groups of options.

When analyzing DSM portfolios, such as in a DSM Goals docket, FPL also examines the potential for utility DSM energy efficiency programs to avoid/defer regional transmission expenditures that would otherwise be needed to import power into the Southeastern Florida region by lowering electrical load in that area. 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 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 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 as an economic criterion FPL's levelized system average electric rates (*i.e.*, a Rate Impact Measure or RIM approach). In addition, for analyses in which DSM levels are not changed and only supply options are being analyzed, FPL uses the equivalent criterion of the cumulative present value of revenue requirements (CPVRR) for its system.[11]

FPL developed the load forecast that is presented in this 2017 Site Plan in late 2016. The only load forecast sensitivities analyzed during 2016/early 2017 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 FPL used in deriving 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. Given the current environment of low fuel prices which highlights the asymmetry that exists between upside and downside price risk, FPL is currently considering another approach for determining the High and Low band sensitivities around the Medium fuel cost forecast.

The resource plan presented in this Site Plan is based on an updated fuel cost forecast that was developed in November of 2016.

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 2016 and early 2017 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 (as shown on Schedules 5, 6.1, and 6.2 in Chapter III). In addition, the projected price of natural gas no longer shows the significant difference compared to the projected price of coal that was common in fuel cost forecasts a number of years ago.

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 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.

At the start of 2016, FPL used the following financial assumptions: (i) an incremental capital structure of 40.38% debt and 59.62% equity; (ii) a 5.05% cost of debt; (iii) a 10.5% return on equity; and (iv) an after-tax discount rate of 7.51%. In late 2016, the cost of debt changed to 5.17%, the cost of capital changed to 10.55% and the after-tax discount rate changed to 7.57%. These updated financial assumptions remain valid at the time the 2017 Site Plan is being prepared. No sensitivities of these financial assumptions were used in FPL's late 2016/early 2017 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, the equivalent, but simpler-to-calculate CPVRR perspective was utilized.

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 addresses various resource options including: utility generation, purchase power, and DSM options. One criterion is a minimum 20% Summer and Winter 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) criterion. These three reliability criteria are discussed in Chapter III of this document.

In regard to transmission reliability analysis work, FPL has adopted transmission planning criteria that are consistent with the planning criteria 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 internet site (http://www.nerc.com/).

In addition, FPL has developed a *Facility Interconnection Requirements* (FIR) document that is available on the internet under the "Interconnection Request Information" directory at the following internet address: https://www.oatioasis.com/FPL/index.html.

Generally, FPL limits its transmission facilities to operate at no more than 100% of the applicable thermal rating. The normal and contingency voltage criteria for FPL stations are provided below:

	Normal/Contingency	
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

There may be isolated cases for which FPL may have determined that it is acceptable to deviate from the general criteria stated above. 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, and transmission system performance.

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 that the equipment is functioning correctly. These tests, plus actual, non-test load management events, also allow FPL to gauge the MW reduction capabilities of its load management programs on an on-going basis. Based on testing during 2015, FPL temporarily reduced its estimated residential load management MW reduction capabilities due to customer-premise equipment communications issues that FPL projects will be resolved by the end of 2017.

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.

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 2017 Site Plan, FPL's resource plan currently reflects the following major supply-side or generation resource additions: on-going 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 Okeechobee site, and additional new CC capacity through the modernization of FPL's existing Lauderdale plant site.

CT upgrades are currently taking place at various CC units throughout the FPL system. FPL was approached by the original equipment manufacturer (OEM) of the CTs 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 made the decision to proceed with the CT upgrades and supporting balance of plant modifications. FPL completed the first series of upgrades in 2015. Additional upgrades are in progress and are projected to be completed by 2020.

For new PV facilities, the selection of equipment and installation contractors has been, and will continue to be, done via competitive bidding. FPL seeks bids from multiple suppliers for major components such as PV panels, inverters, and transformers. Where possible, FPL aggregates and executes component purchases as a portfolio to achieve cost synergies. However, this must be balanced against rapid technology change and potential future cost declines. 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 are typically bid out, along with engineering and construction services, to several suppliers to determine the best value. Based on its experience in building universal scale solar facilities, if FPL believes it can self-manage the engineering, procurement, and construction (EPC) of the solar project execution at a lower cost than the bids received, it may elect to self-perform this work from time to time. These decisions are all coordinated to realize the lowest installed costs possible for the sites identified.

FPL selected the Okeechobee CC, which will 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. At the time this Site Plan is being prepared, FPL is evaluating whether the planned modernization of the Lauderdale plant site also will require an RFP under the Bid Rule or if, due to the special characteristics of the project (*e.g.*, the planned use of existing plant land, water, gas pipeline, and transmission infrastructure), it may potentially qualify for an exemption from the Bid Rule based on lower cost supply of electricity, increased system reliability, and public welfare benefits. Whether an RFP is required or not, 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 will be constructed in two phases. Phase 1 was completed in May 2009 and consisted of a new line connecting Pringle to a new Pellicer Substation. Phase 2 will connect St. Johns to Pellicer, and it is scheduled to be completed by December 2018. The construction of this line is necessary to serve existing and future customers in the Flagler and St. Johns areas in a reliable and effective manner.

The second 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, which is currently scheduled to be in service by June 2019, will utilize the remaining portion of the corridor from Corbett to Levee. The line is needed to increase transmission import capability into the Southeastern Florida region.

The third is another 230 kV line which will connect FPL's Duval Substation to a new Raven 230/115 KV Substation. A determination of need for the line was granted by the Florida Public Service Commission on March 4, 2016, and a Final order certifying the corridor for the project was issued on June 29, 2016. The project is scheduled to be completed by December 2018. The construction of this line and substation is necessary to serve existing and future FPL customers in the north Florida areas in and around Columbia County in a reliable and effective manner.