Environmental and Land Use Information:
Supplemental Information

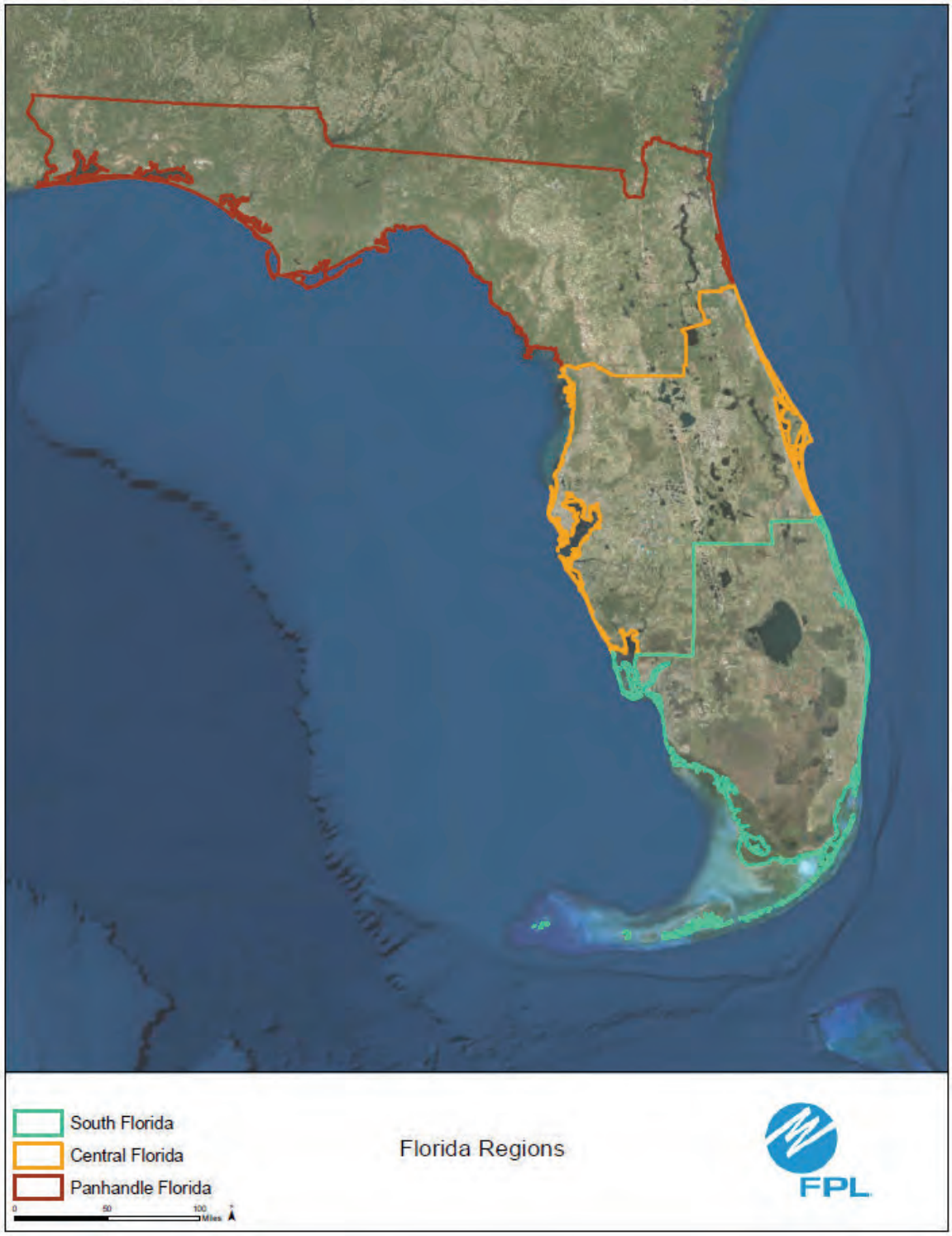
Relationship of Regional Hydrogeologic Units to Major Stratigraphic Units and Florida Regions

Relationship of Regional Hydrogeologic Units to Major Stratigraphic Units

		Panhandle Florida		North Florida		South Florida	
System	Series	Stratigraphic Unit	Hydrogeologic Unit	Stratigraphic Unit	Hydrogeologic Unit	Stratigraphic Unit	Hydrogeologic Unit
Quaternary	Holocene	Undifferentiated terrace marine and fluvial deposits	Surficial aquifer system (Sand and Gravel aquifer)	Undifferentiated terrace marine and fluvial deposits	Surficial aquifer system	Terrace Deposits Miami Limestone Key Largo Limestone Anastasia Formation Fort Thompson Formation Caloosahatchee Marl	Surficial aquifer system (Biscayne aquifer)
	Pleistocene						
Tertiary	Pilocene	Citronelle Formation Undifferentiated coarse sand and gravel		Miccosukee Formation Alachua Formation		Tamiami Formation	
	Miocene	Alum Bluff Group Pensacola Clay Intracoastal Formation Hawthorn Group Chipola Formation Bruce Creek Limestone St. Marks Formation Chattahoochee Formation	Intermediate confining unit	Hawthorn Group St. Marks Formation	Intermediate aquifer system or intermediate confining unit	Hawthorn Group	Intermediate aquifer system or intermediate confining unit
	Oligocene	Chickasawhay Limestone Suwannee Limestone Marianna Limestone Bucatunna Clay	Floridan aquifer system	Suwannee Limestone	Floridan aquifer system	Suwannee Limestone	Floridan aquifer system
	Eocene	Ocala Limestone Lisbon Formation Tallahatta Formation Undifferentiated older Rocks		Ocala Limestone Avon Park Formation Oldsmar Formation		Ocala Limestone Avon Park Formation Oldsmar Formation	
	Paleocene	Undifferentiated	Sub-Floridan confining unit	Cedar Keys Formation		Cedar Keys Formation	Sub-Floridan confining unit
Cretaceous and older		Undifferentiated		Undifferentiated	Sub-Floridan confining unit		

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

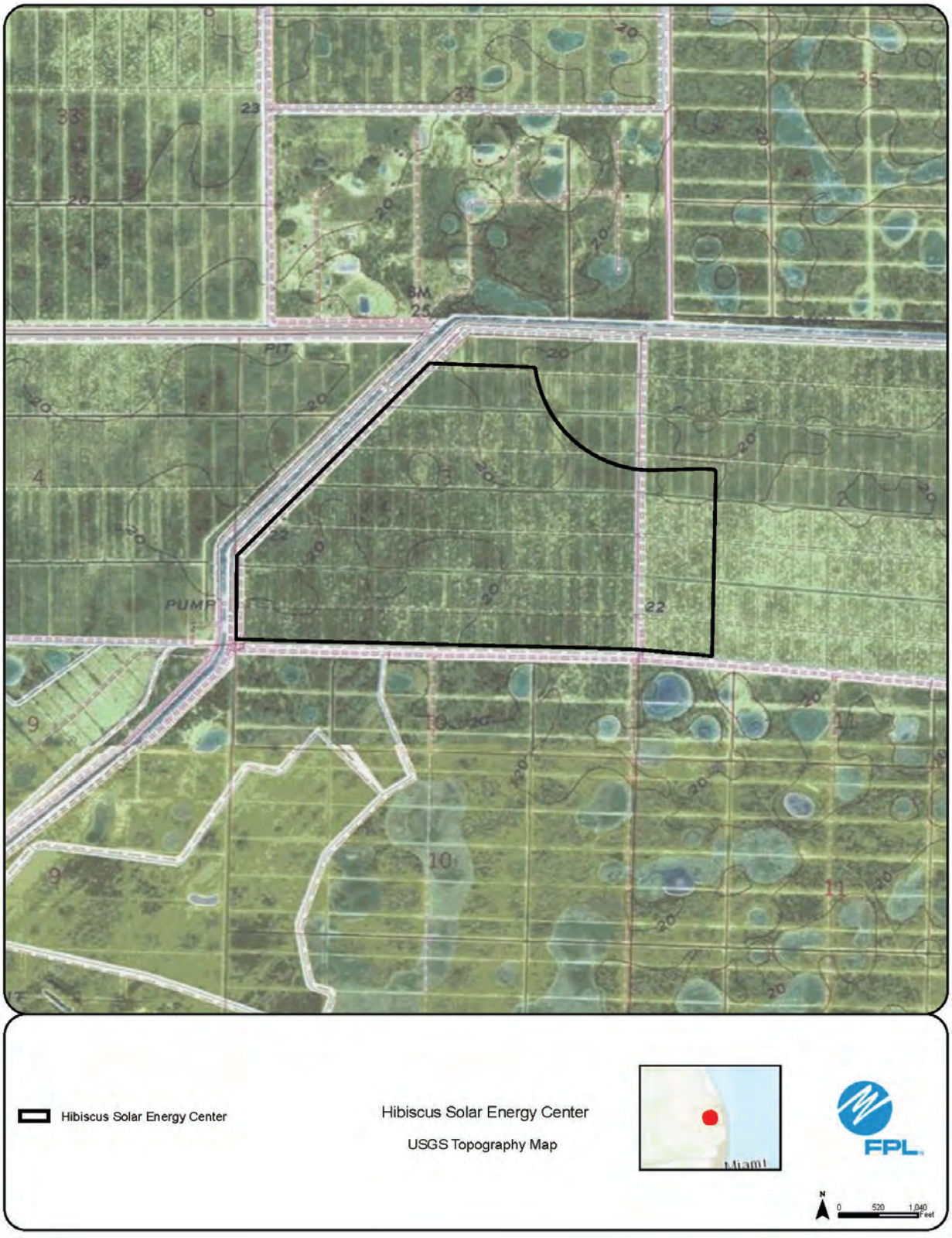
Florida Regions Map

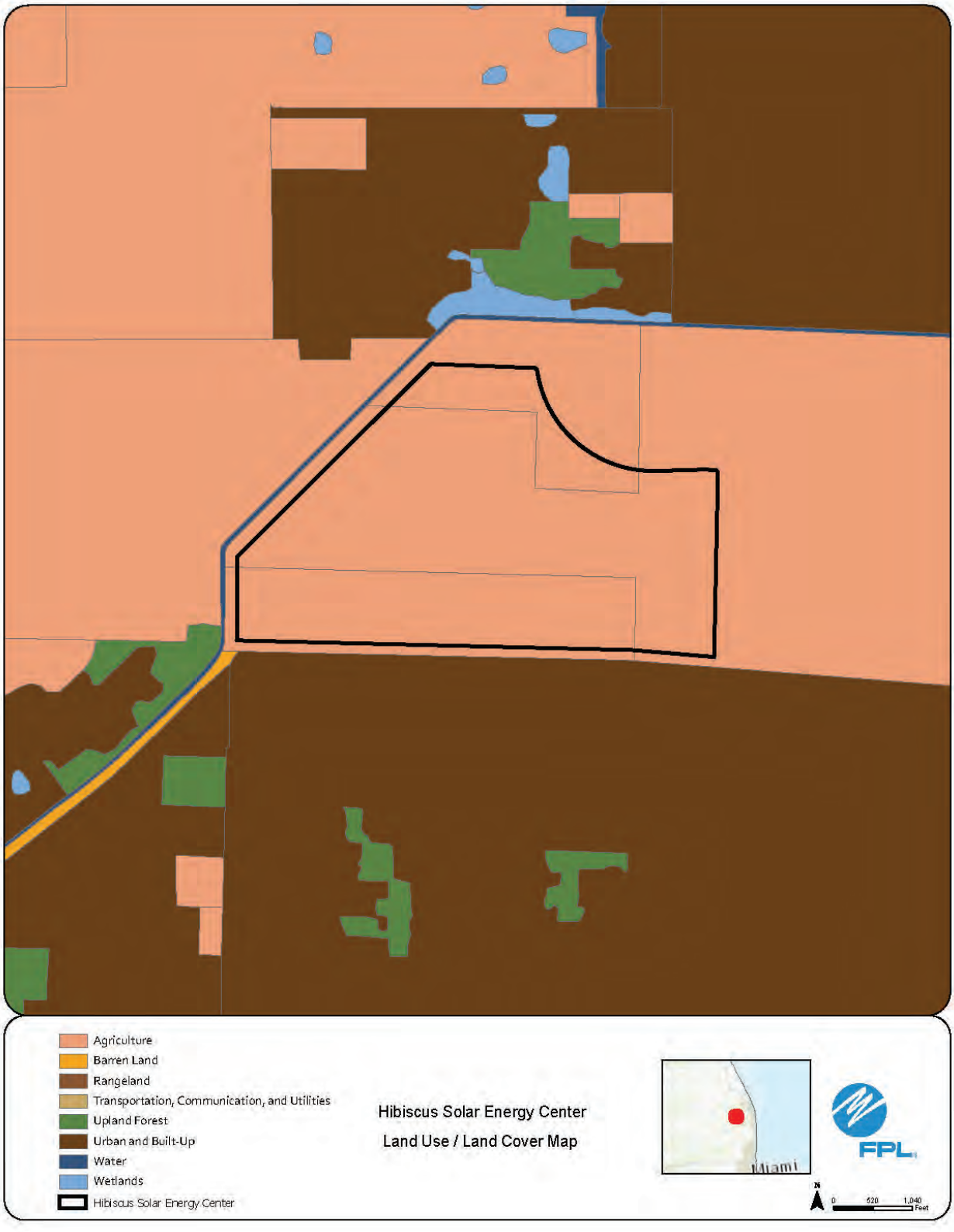


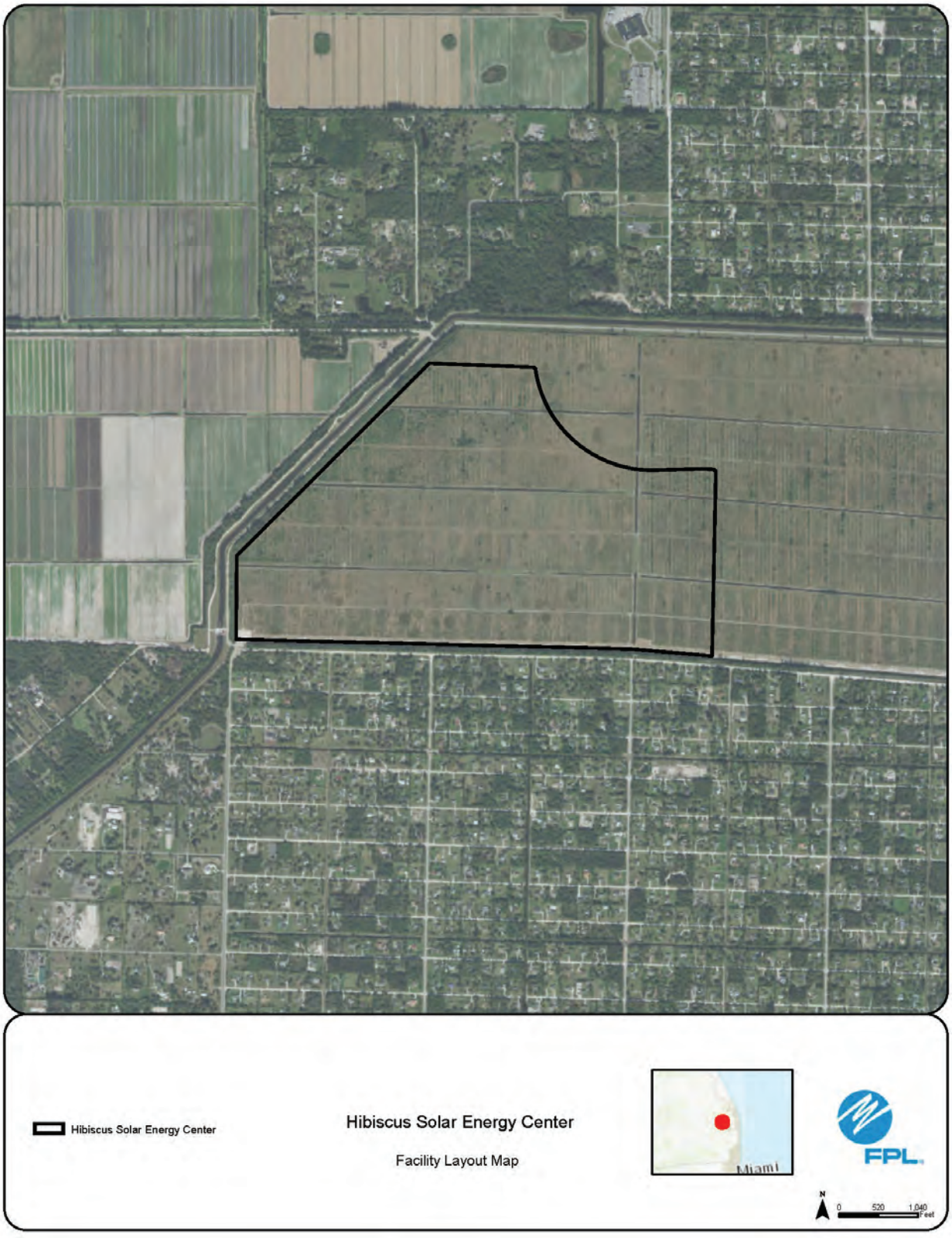
Note: This information is referred to in subsection k, Geological Features of Site and Adjacent Areas, for each of the Preferred Sites.

Environmental and Land Use Information: Supplemental Information

Preferred Site # 1: Hibiscus Solar Energy Center, Palm Beach County

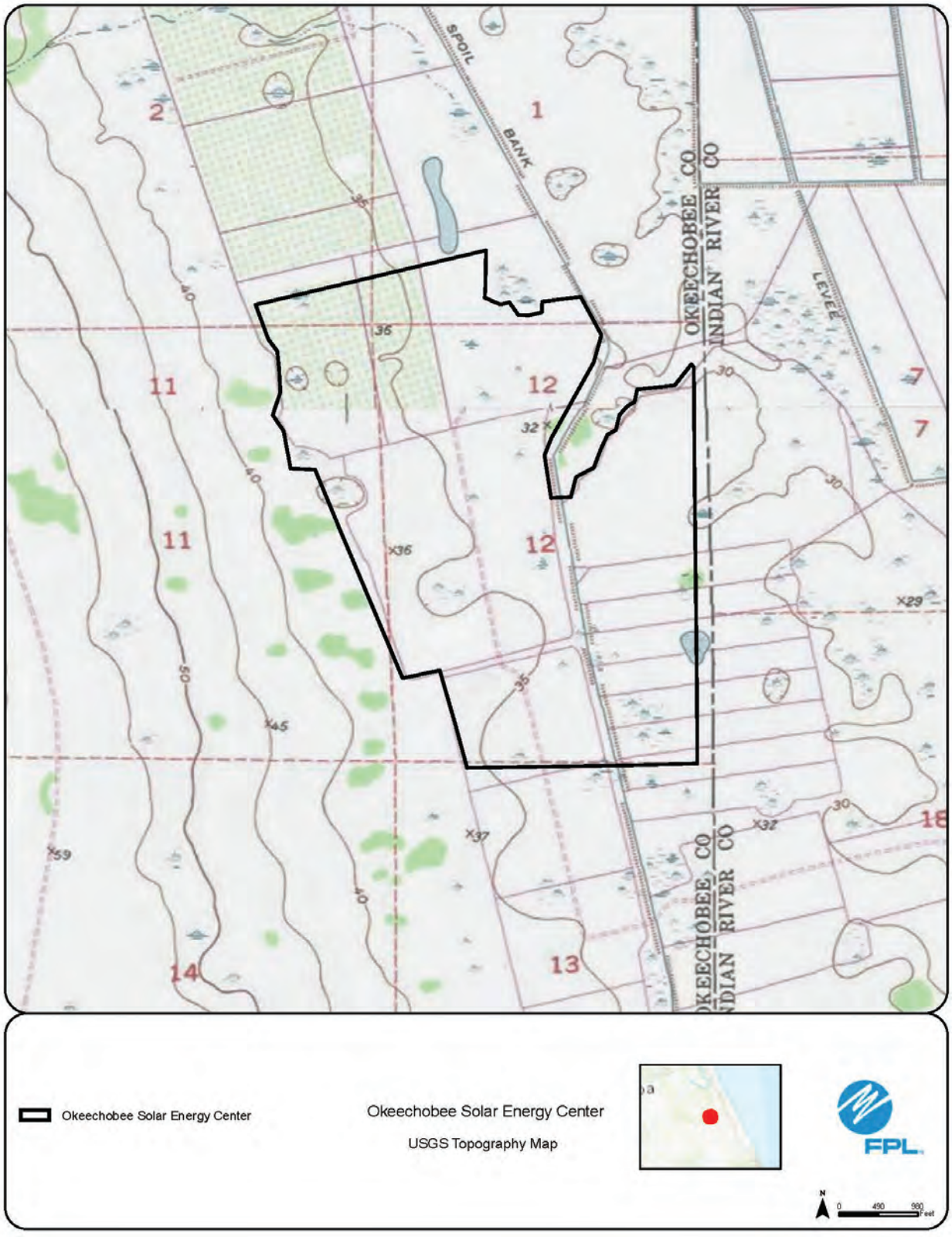

Hibiscus Solar Energy Center
Hibiscus Solar Energy Center
USGS Topography Map
Miami
FPL
N
0
520
1,040
Feet

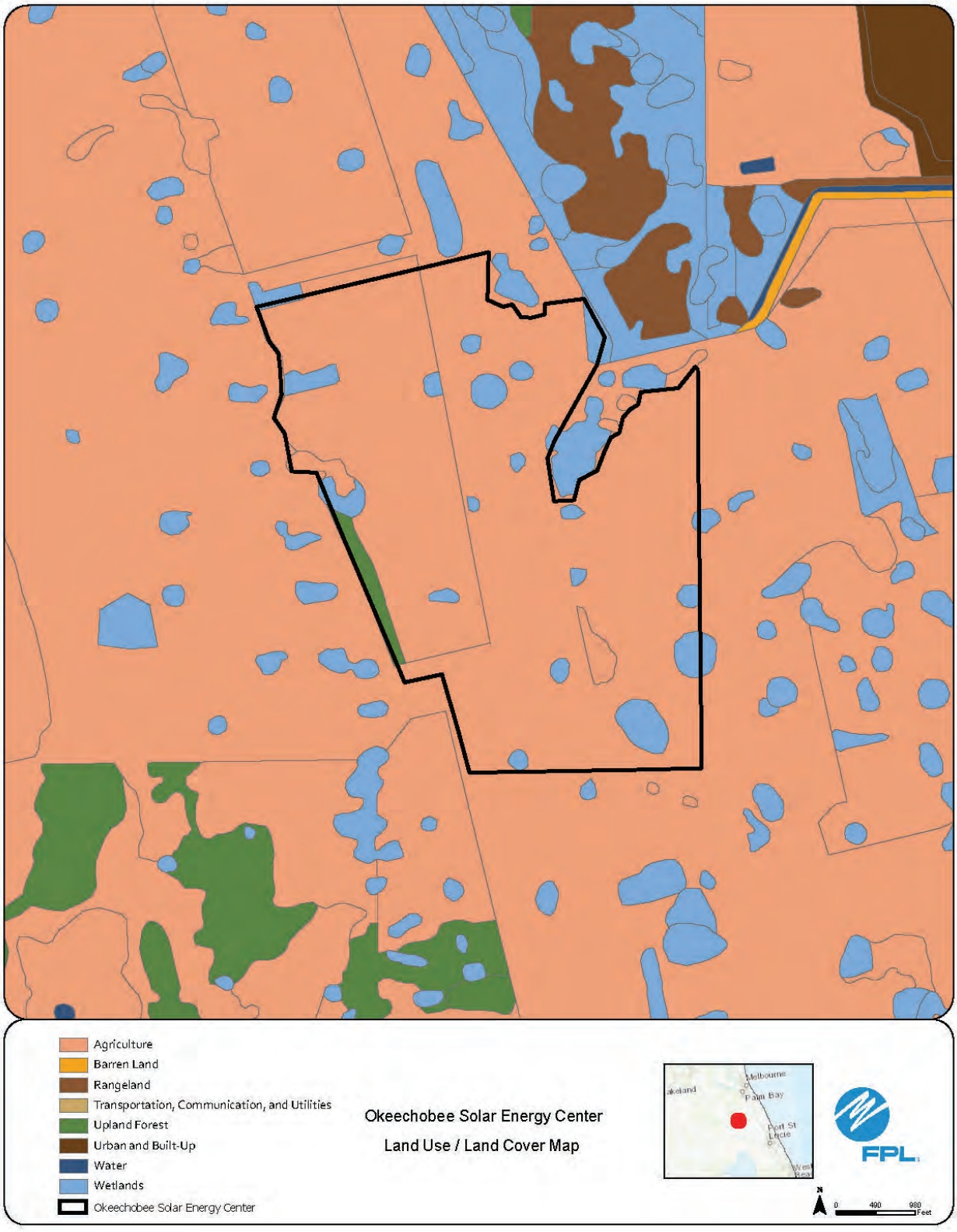

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Hibiscus Solar Energy Center
Hibiscus Solar Energy Center
Land Use / Land Cover Map
Miami
FPL
N
0
520
1,040
Feet

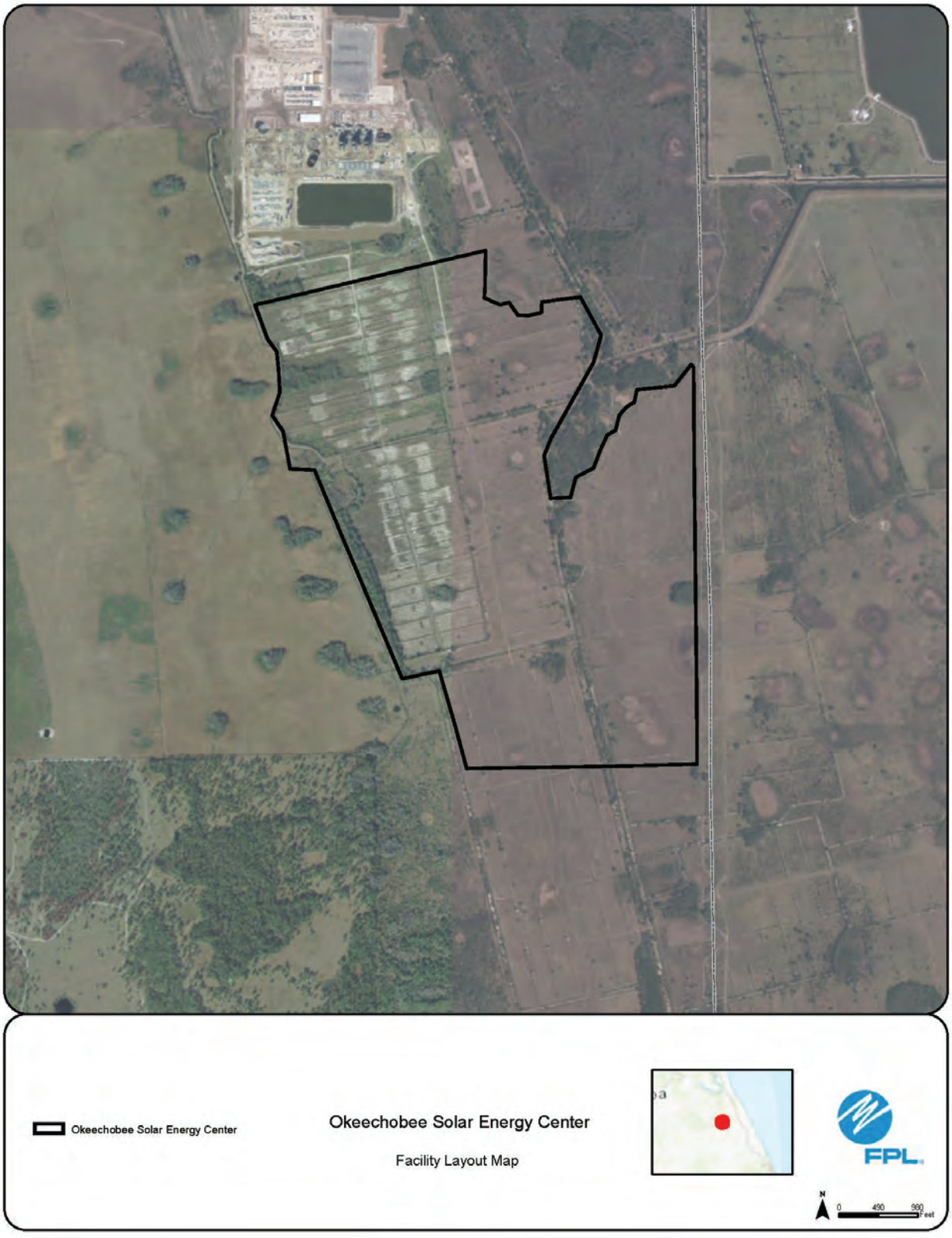

Hibiscus Solar Energy Center
Hibiscus Solar Energy Center
Facility Layout Map
Miami
FPL
N
0
520
1,040
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 2: Okeechobee Solar Energy Center, Okeechobee County

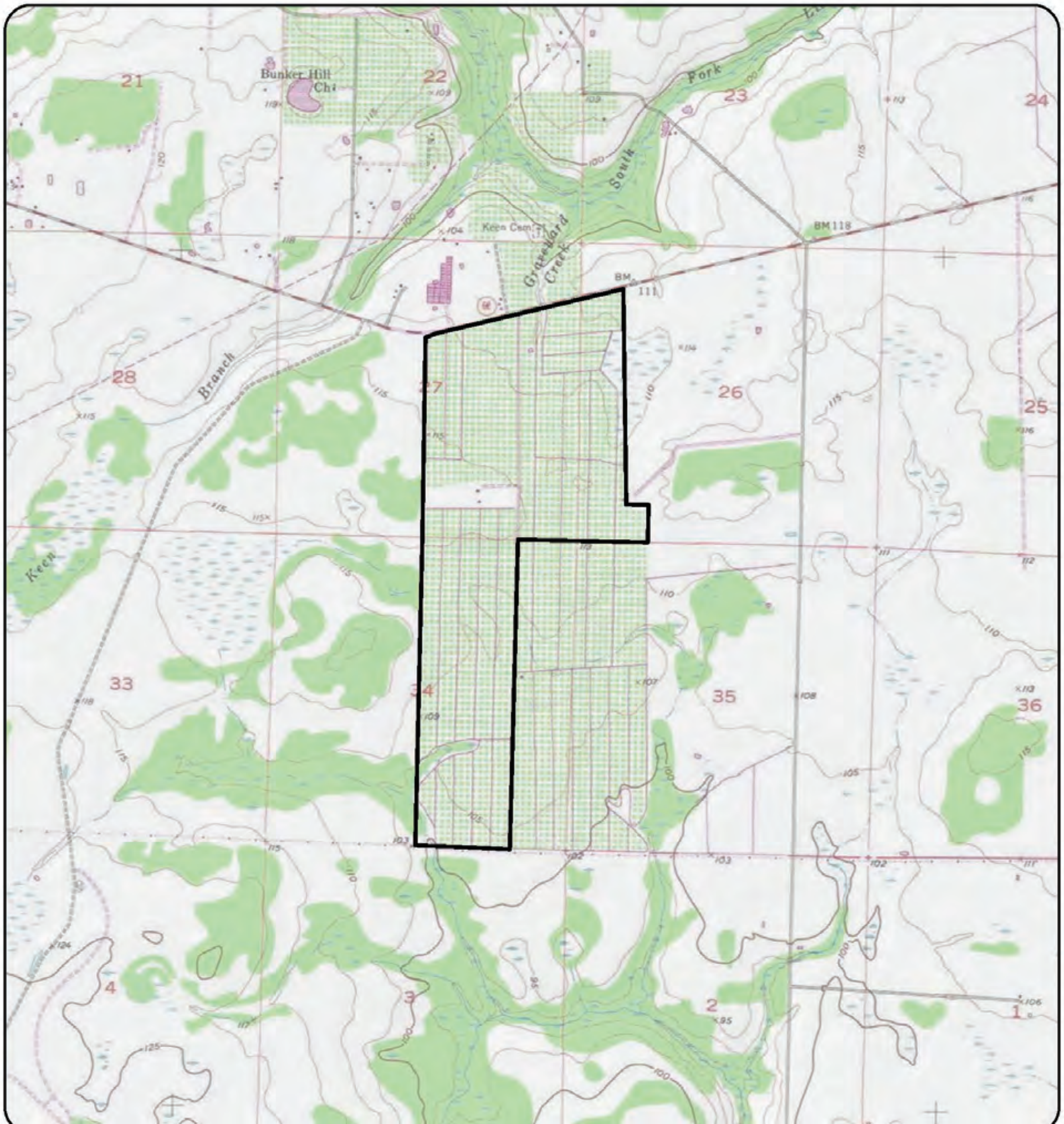

SPOIL BANK
OKEECHOBEE CO
INDIAN RIVER CO
LEVEE
11
12
13
14
Okeechobee Solar Energy Center
Okeechobee Solar Energy Center
USGS Topography Map
FPL
N
0
490
980
Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Okeechobee Solar Energy Center
Okeechobee Solar Energy Center
Land Use / Land Cover Map
Melbourne
Palm Bay
Port St Lucie
FPL
N
0
400
980
Feet


Okeechobee Solar Energy Center
Okeechobee Solar Energy Center
Facility Layout Map
FPL
N
0
490
980
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 3: Southfork Solar Energy Center, Manatee County



Southfork Solar Energy Center

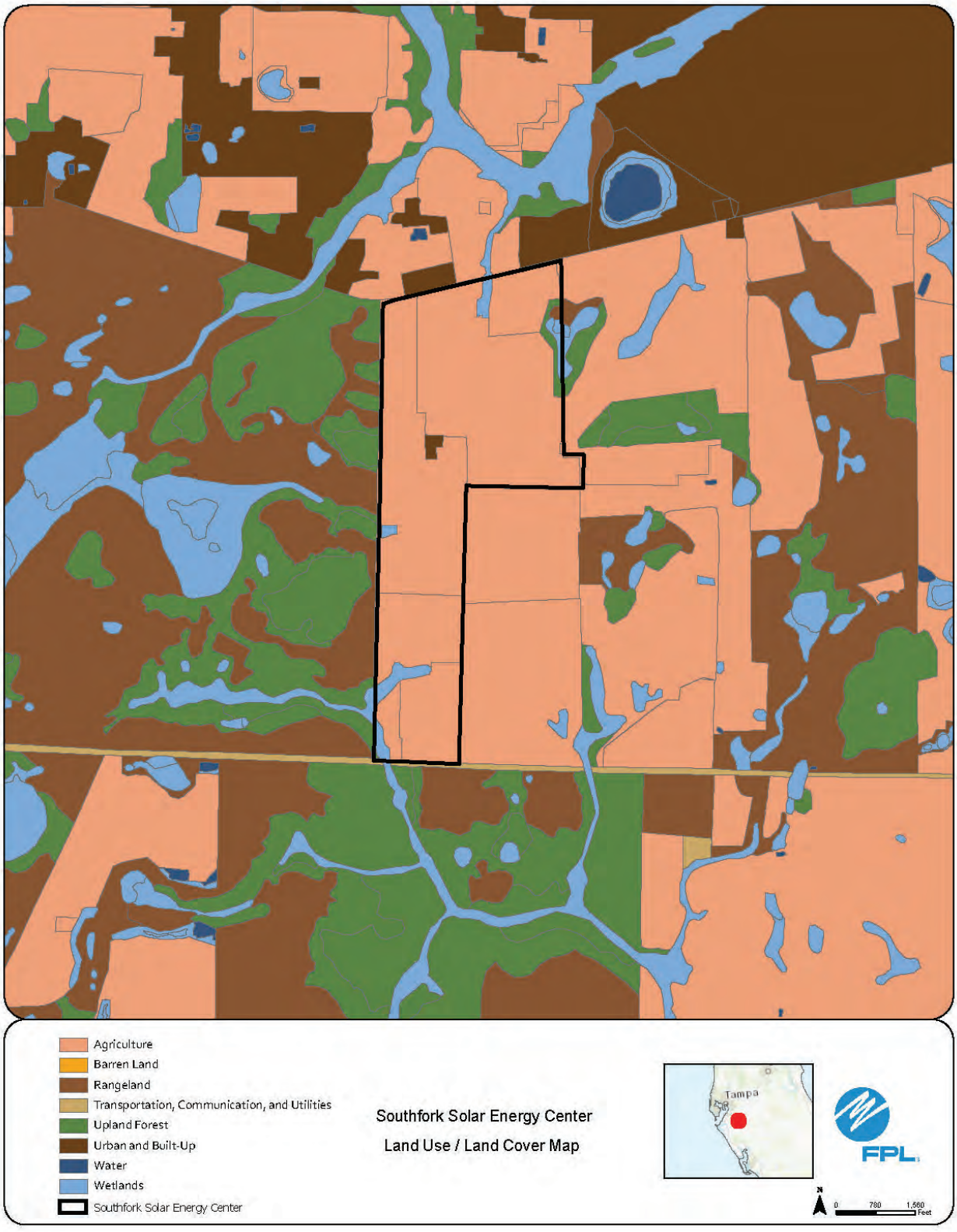
Southfork Solar Energy Center

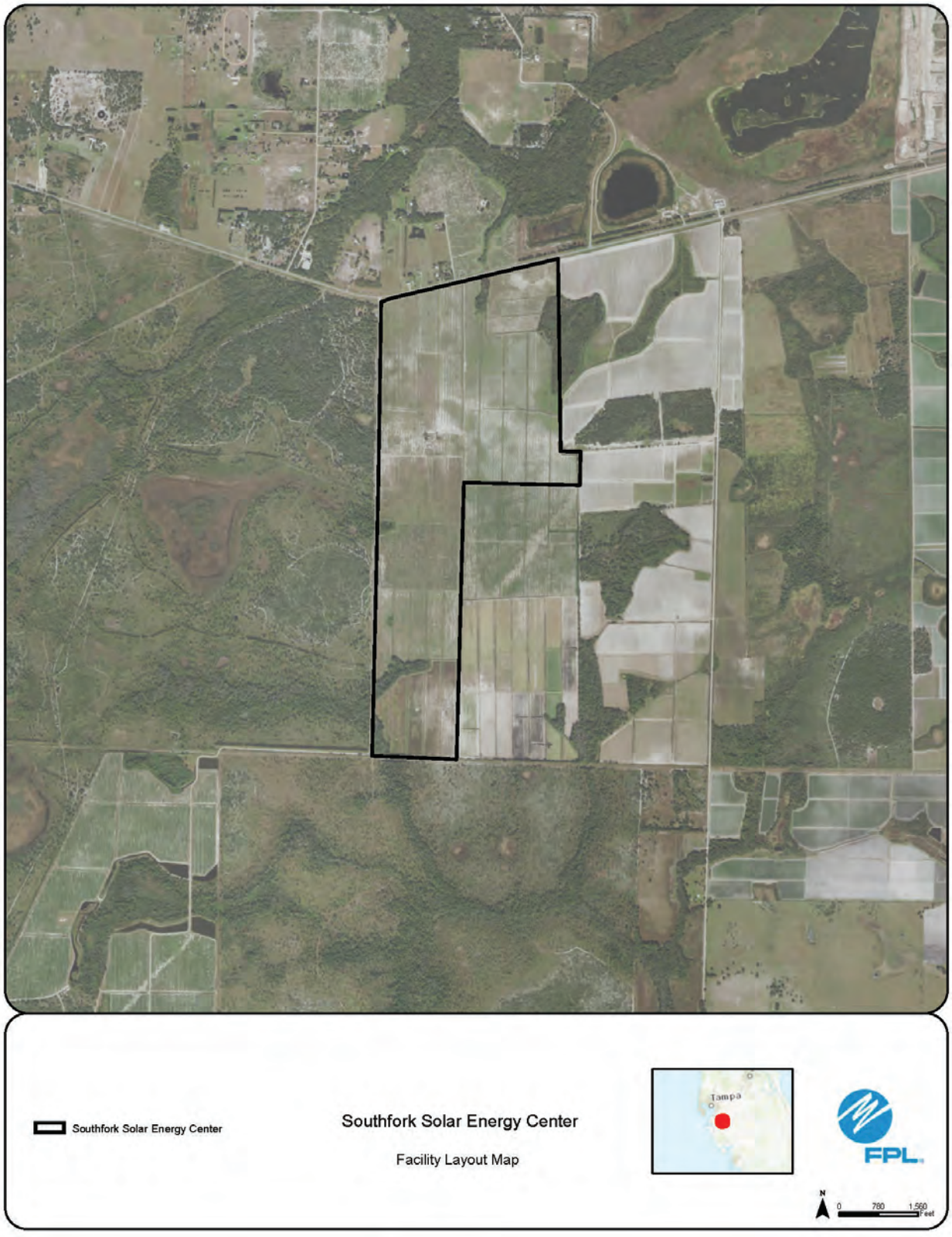
USGS Topography Map

FPL

N

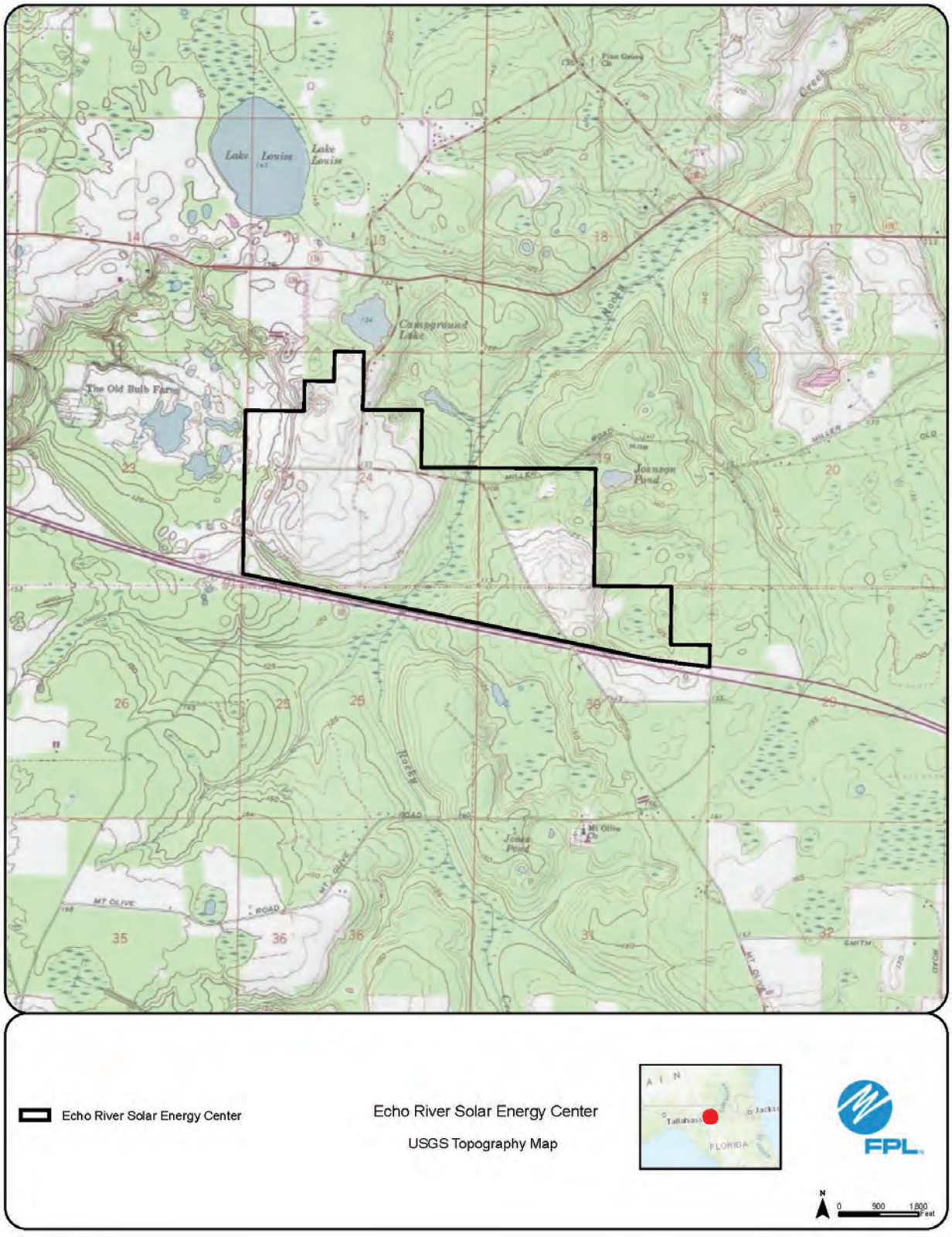
0 780 1,560 Feet

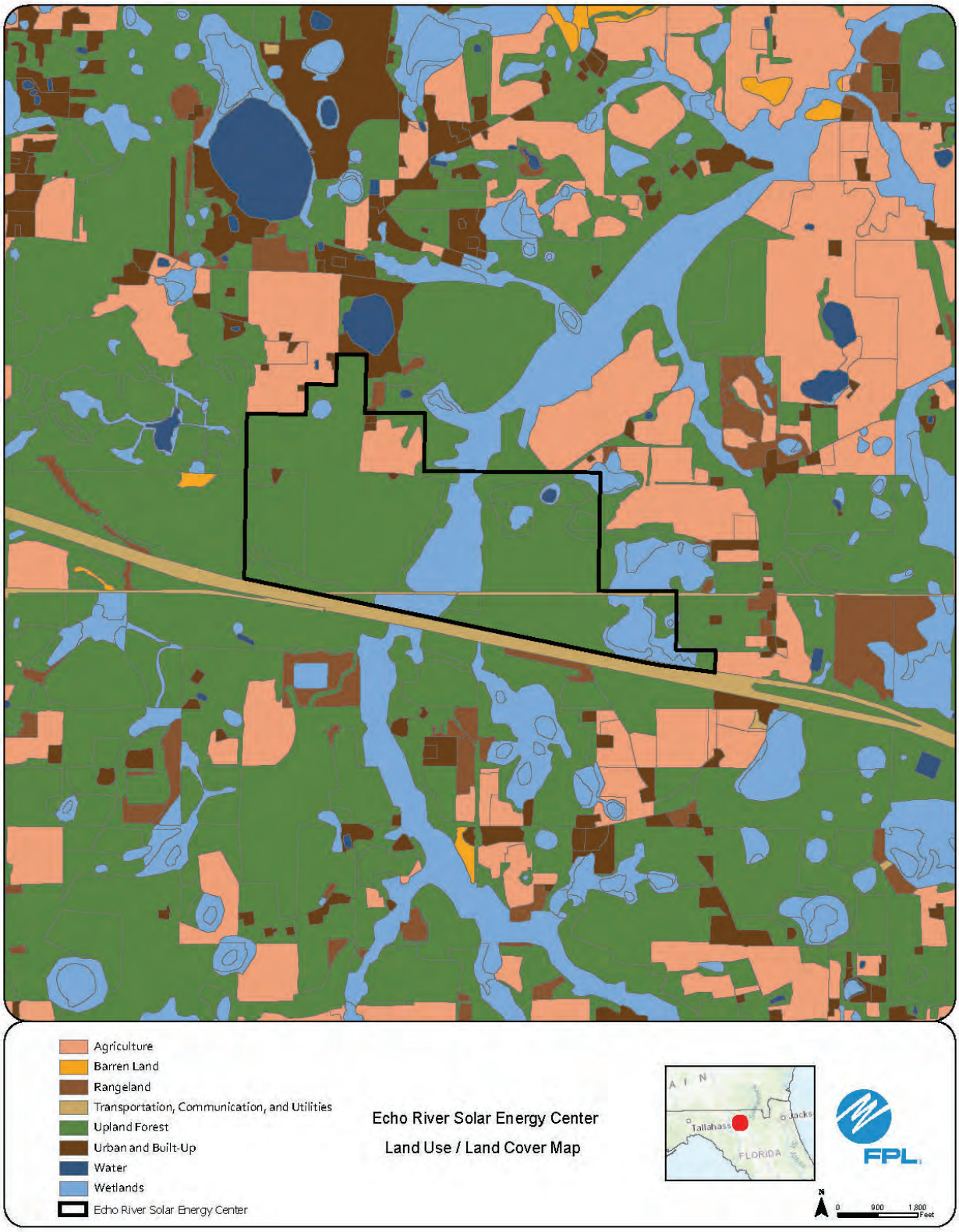

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Southfork Solar Energy Center
Southfork Solar Energy Center
Land Use / Land Cover Map
Tampa
FPL
N
0
780
1,560
Feet

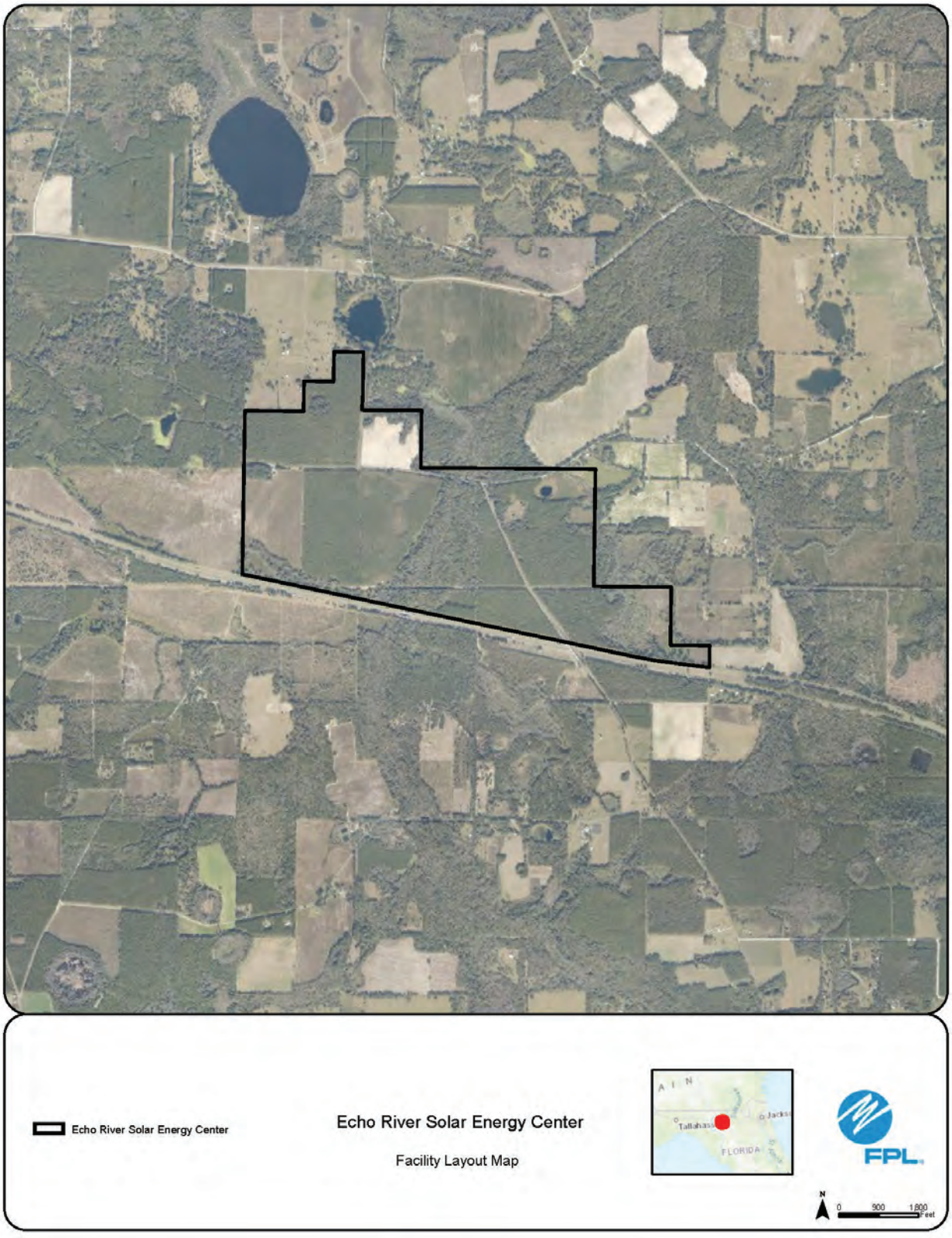

Southfork Solar Energy Center
Southfork Solar Energy Center
Facility Layout Map
Tampa
FPL
N
0
780
1,560
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 4: Echo River Solar Energy Center, Suwannee County

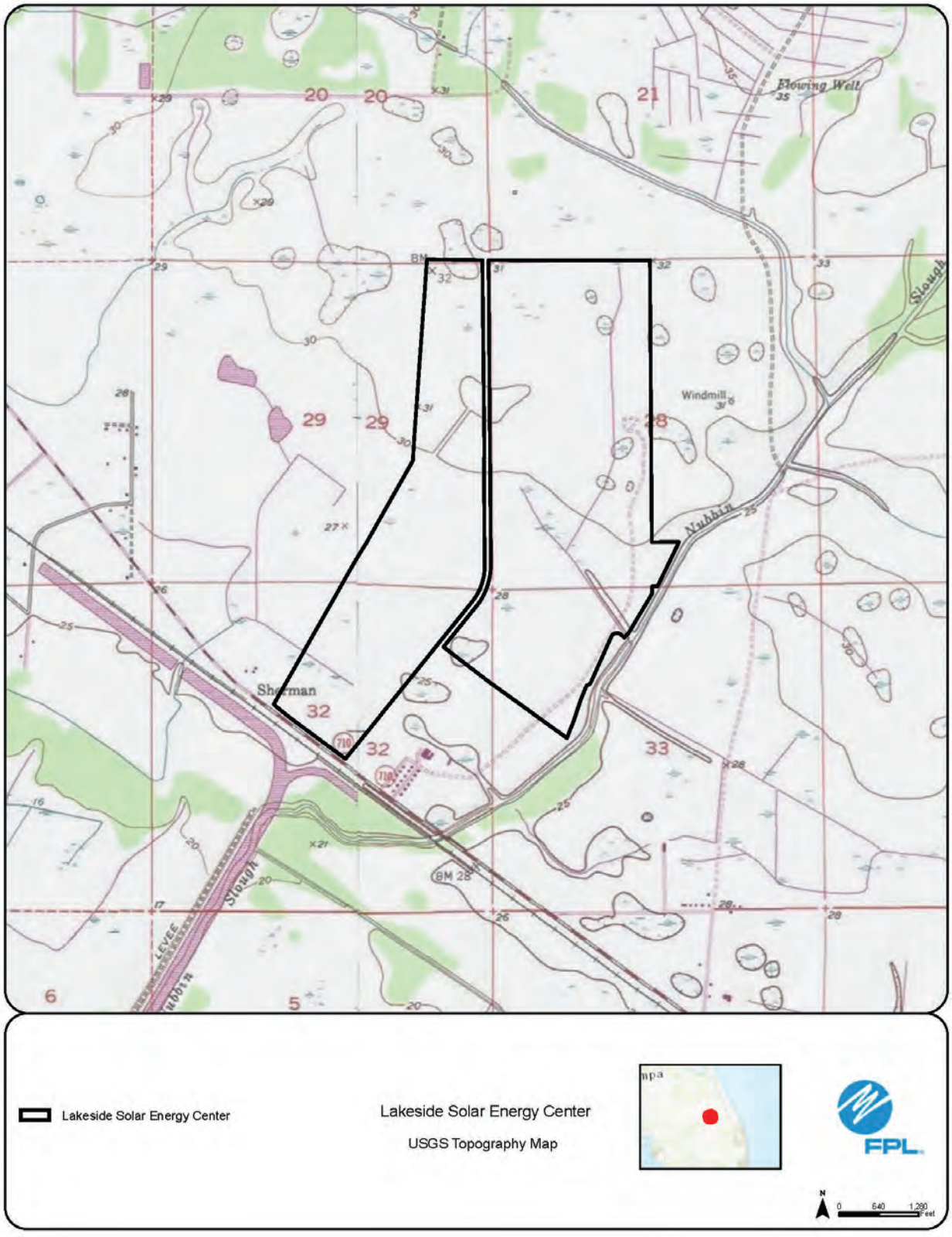

Lake Louise
Lake Louise
Campground Lake
The Old Bulb Farm
Johnson Pond
Jones Pond
Mt Olive
MT OLIVE ROAD
MILLER ROAD
Echo River Solar Energy Center
Echo River Solar Energy Center
USGS Topography Map
FLORIDA
FPL
N
0 900 1,800 Feet

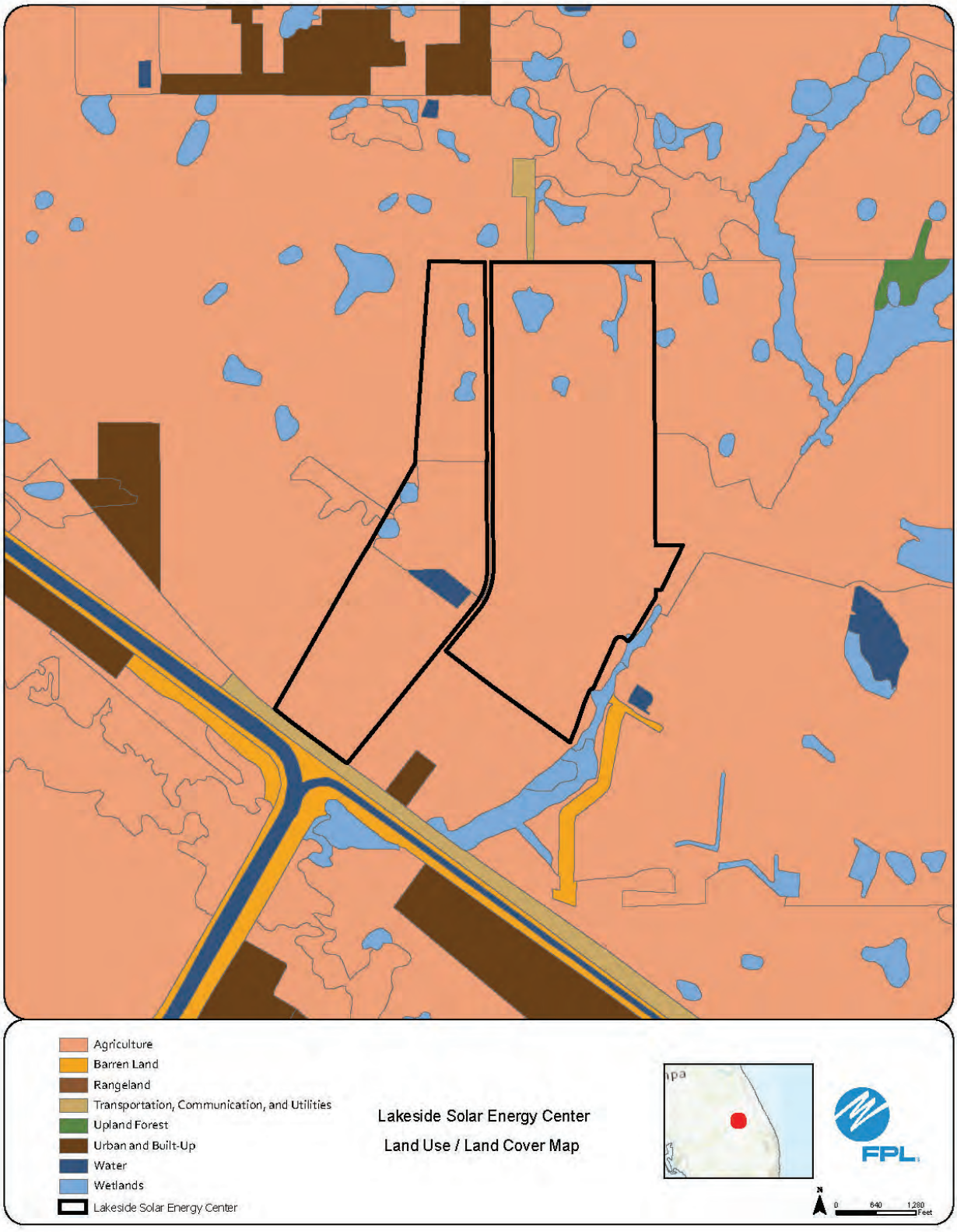

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Echo River Solar Energy Center
Echo River Solar Energy Center
Land Use / Land Cover Map
Tallahassee
Jacksonville
FLORIDA
FPL
N
0
900
1,800
Feet

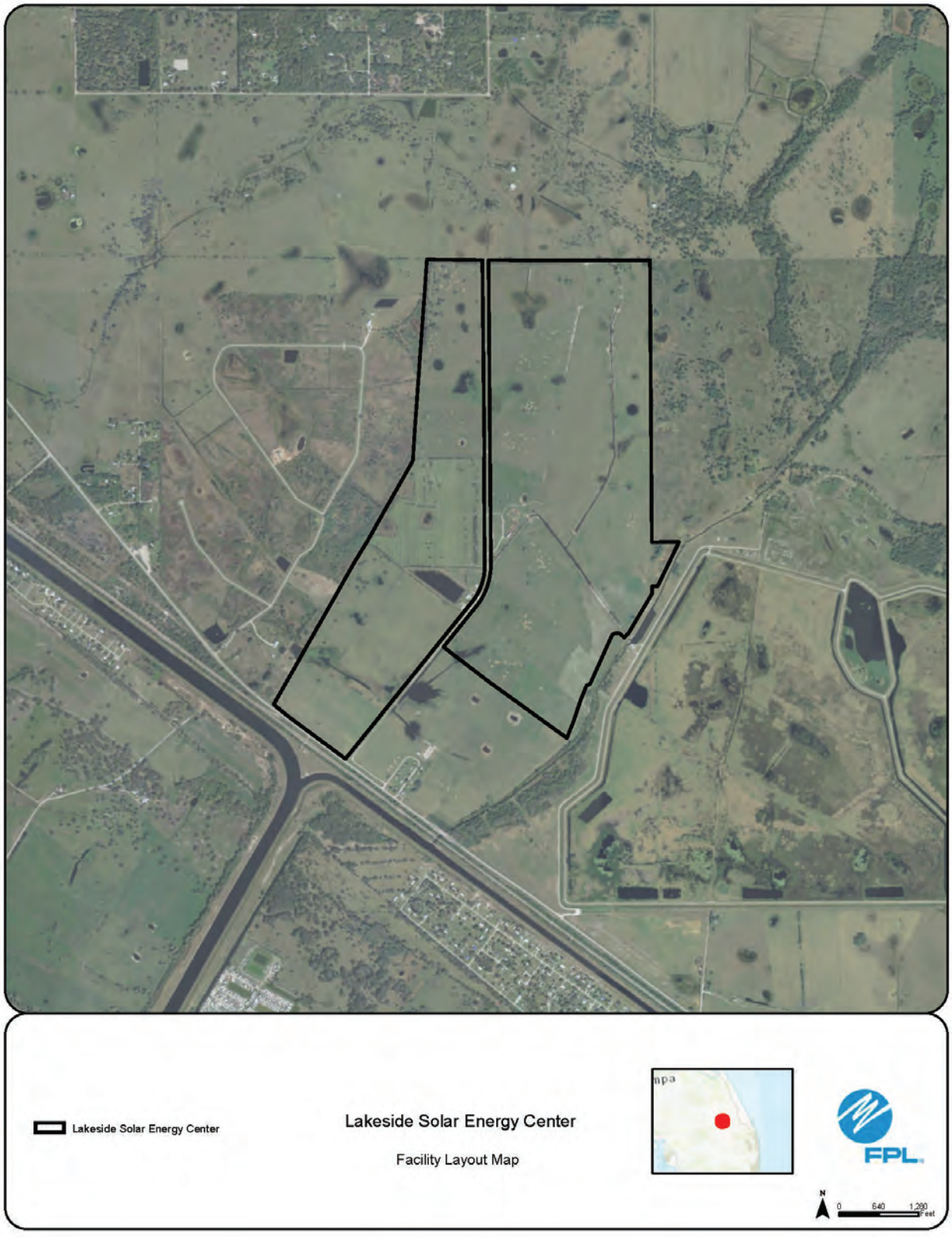

Echo River Solar Energy Center
Echo River Solar Energy Center
Facility Layout Map
Tallahassee
Jacksonville
FLORIDA
FPL
N
0
900
1,800
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 5: Lakeside Solar Energy Center, Okeechobee County

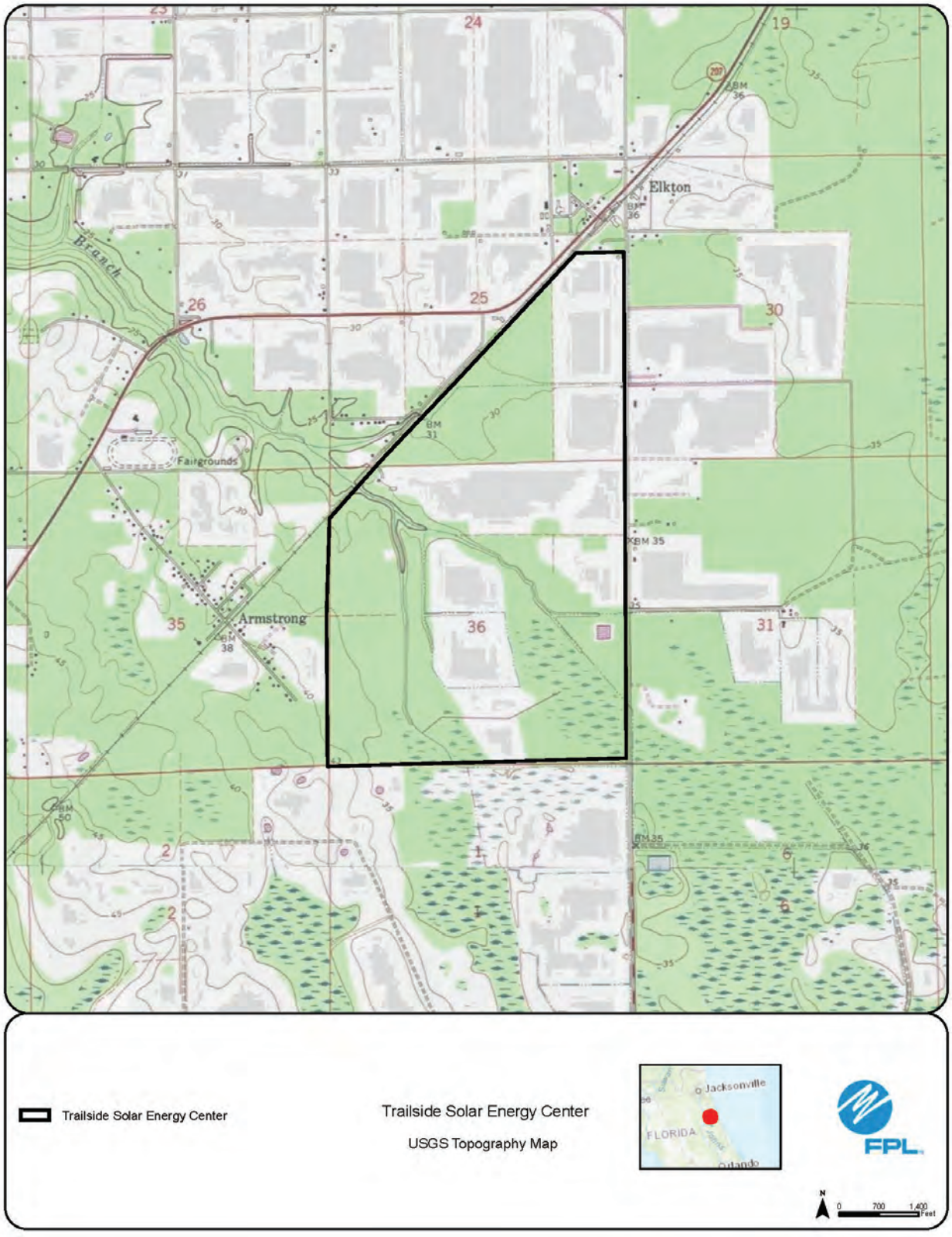

Lakeside Solar Energy Center
Lakeside Solar Energy Center
USGS Topography Map
FPL
Blowing Well
Windmill
Nubbin
Slough
Sherman
LEVEE
BM 28
0 640 1,280 Feet

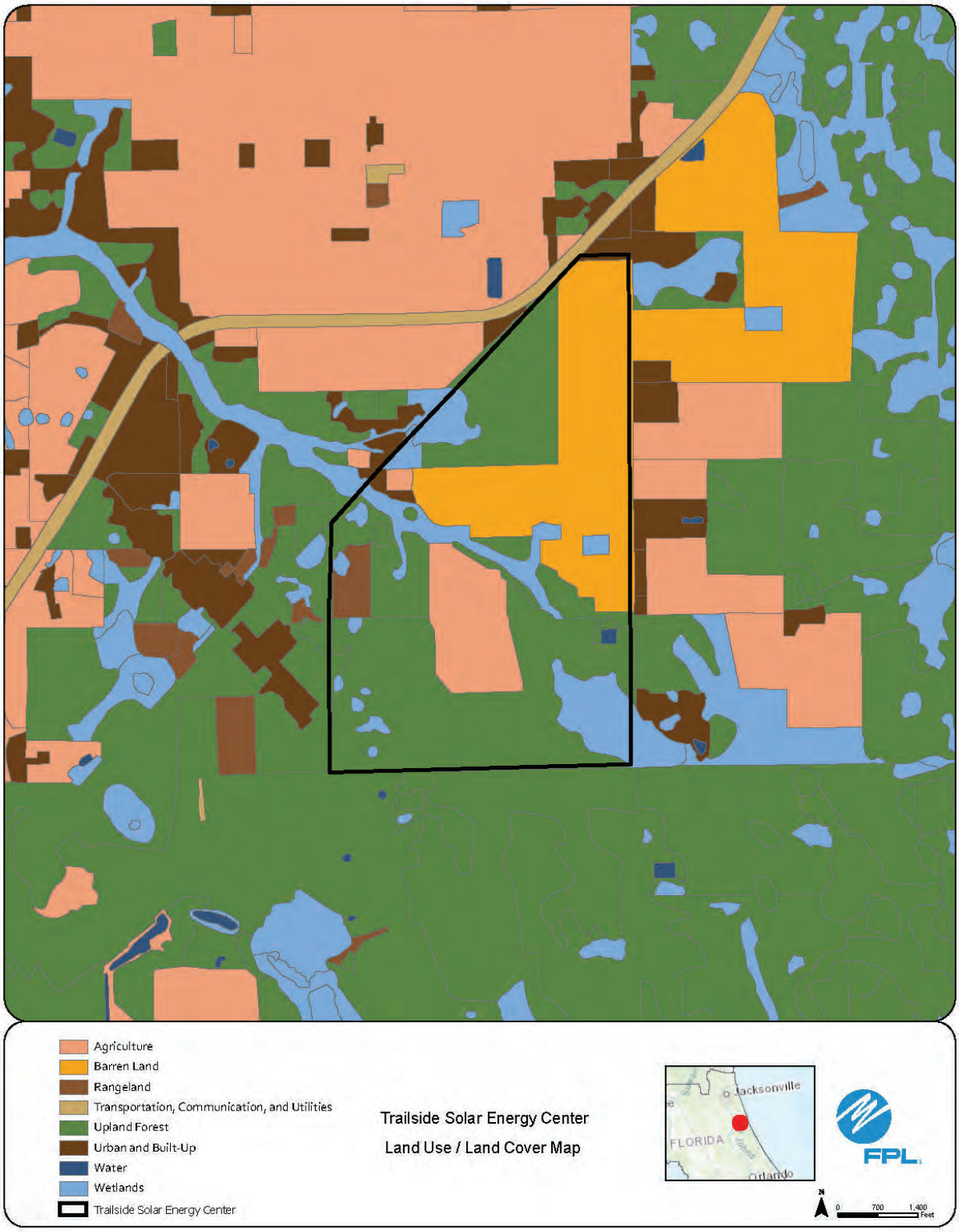

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Lakeside Solar Energy Center
Lakeside Solar Energy Center
Land Use / Land Cover Map
FPL
0
640
1,280
Feet

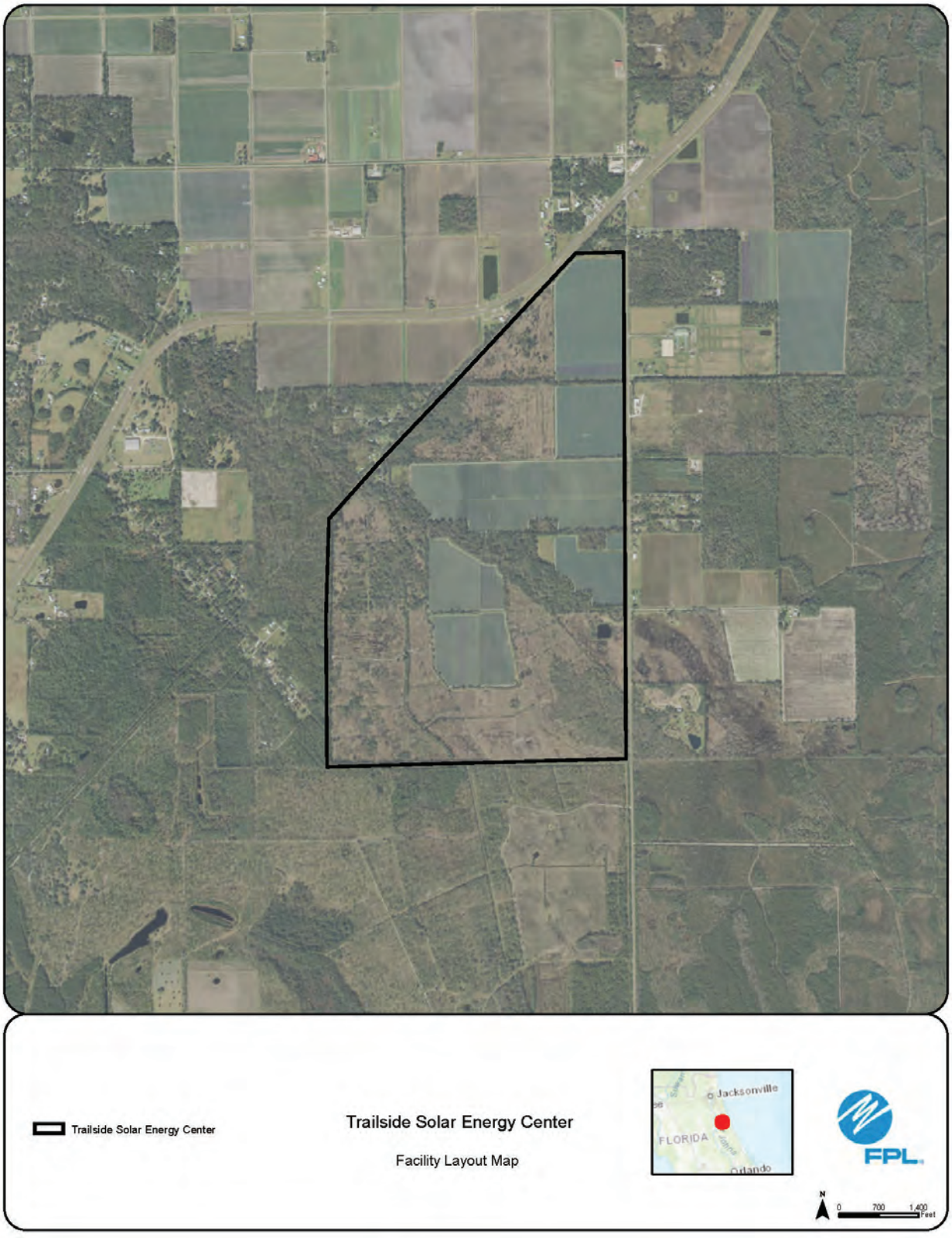

Lakeside Solar Energy Center
Lakeside Solar Energy Center
Facility Layout Map
mpa
FPL
N
0
640
1,280
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 6: Trailside Solar Energy Center, St. Johns County

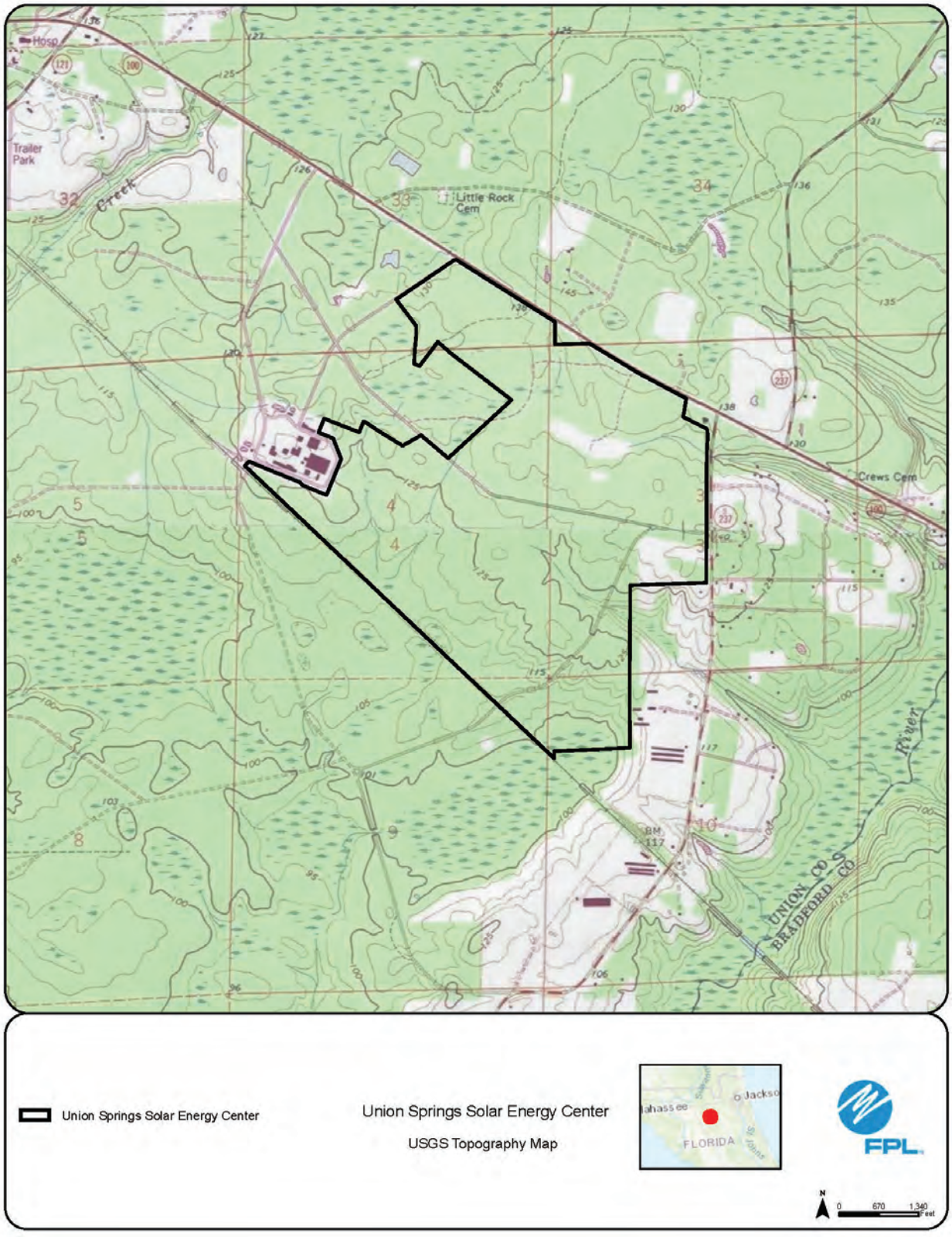

Trailside Solar Energy Center
Trailside Solar Energy Center
USGS Topography Map
Jacksonville
FLORIDA
Orlando
FPL
N
0
700
1,400
Feet
Elkton
Armstrong
Fairgrounds
Branch
19
23
24
25
26
30
31
35
36
2
6

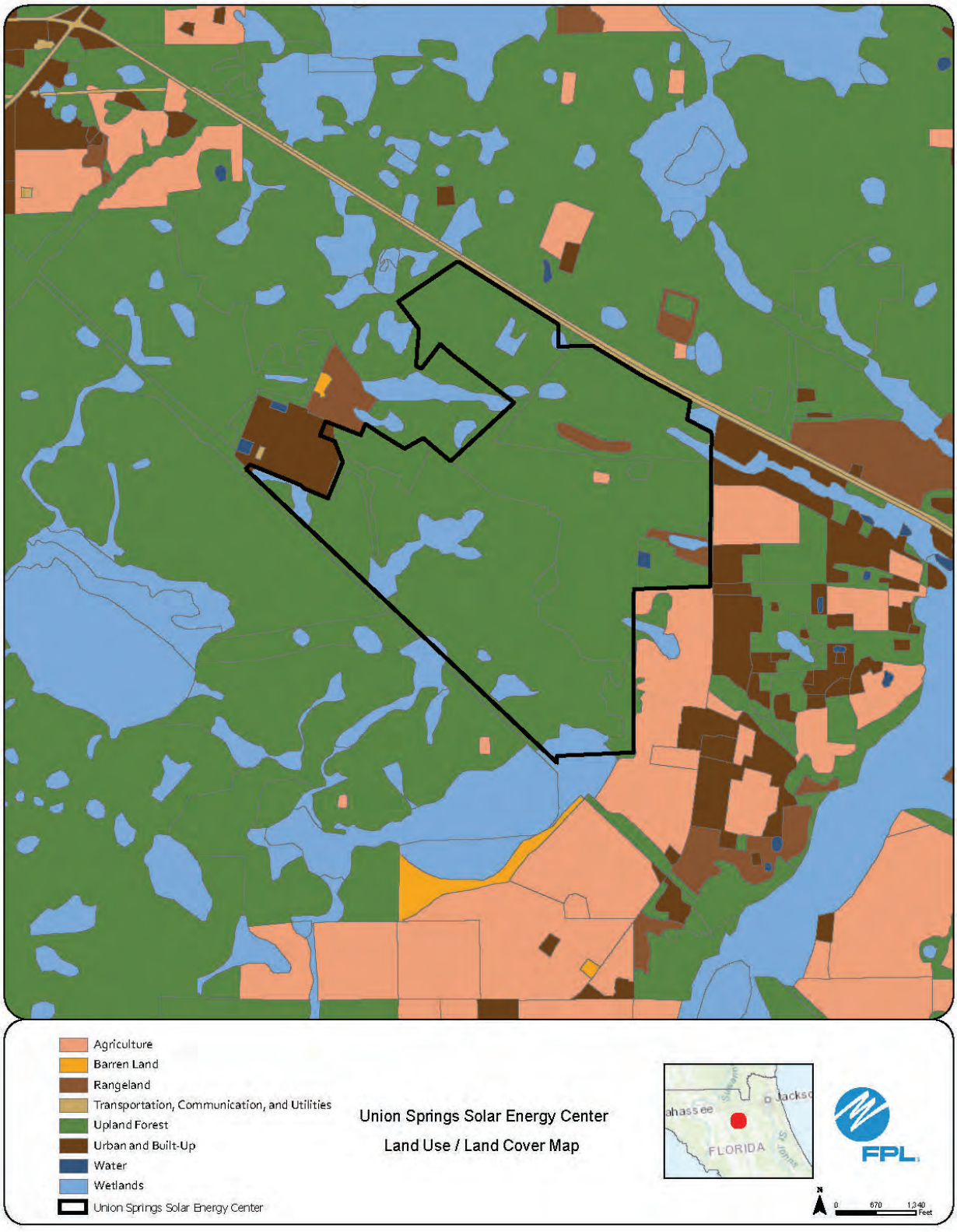

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Trailside Solar Energy Center
Trailside Solar Energy Center
Land Use / Land Cover Map
Jacksonville
FLORIDA
Orlando
FPL
N
0
700
1,400
Feet

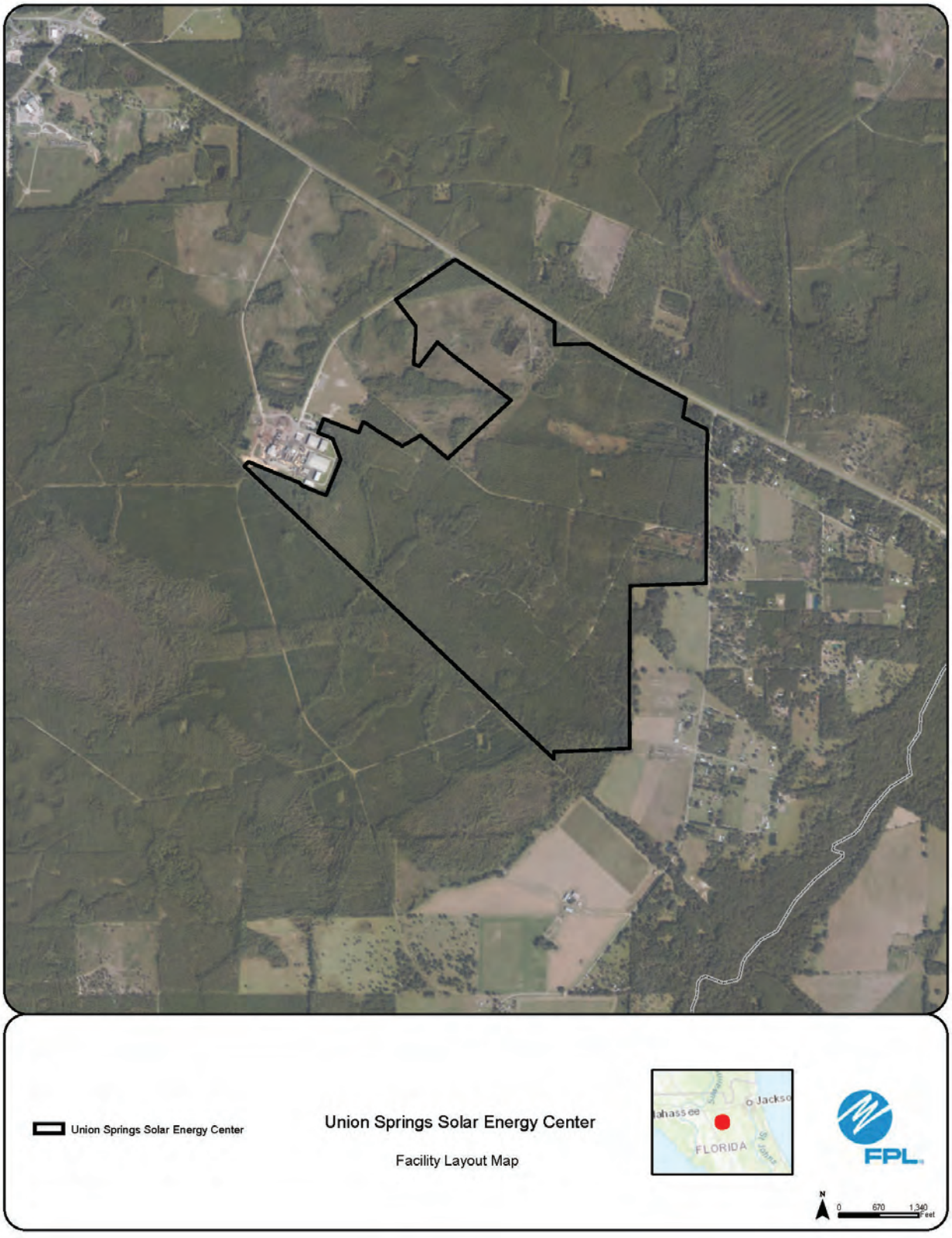

Trailside Solar Energy Center
Trailside Solar Energy Center
Facility Layout Map
Jacksonville
FLORIDA
Orlando
FPL
N
0
700
1,400
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 7: Union Springs Solar Energy Center, Union County

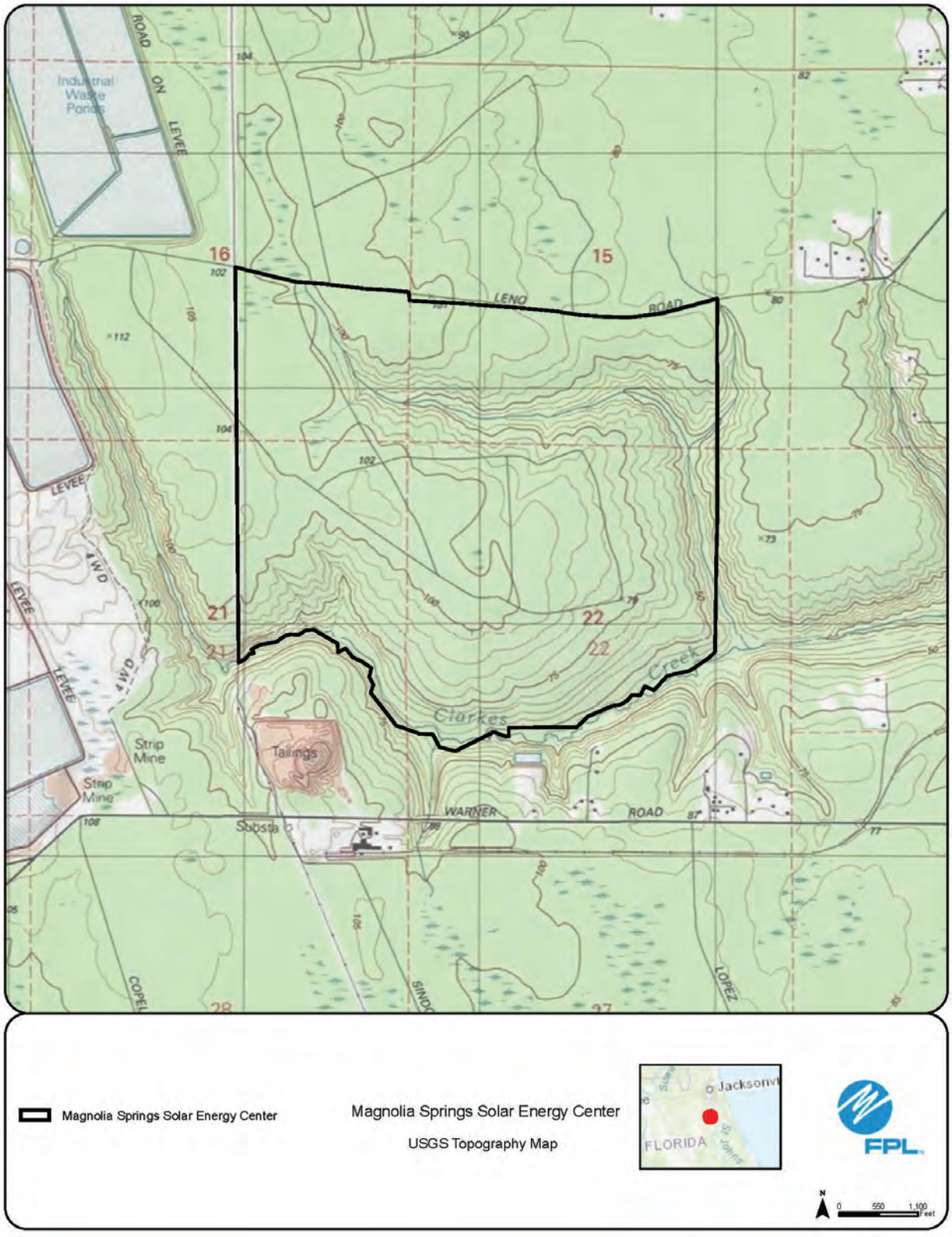

Hosp
Trailer Park
Little Rock Cem
Crews Cem
UNION CO.
BRADFORD CO.
River
Union Springs Solar Energy Center
Union Springs Solar Energy Center
USGS Topography Map
FLORIDA
FPL
N
0
670
1,340
Feet

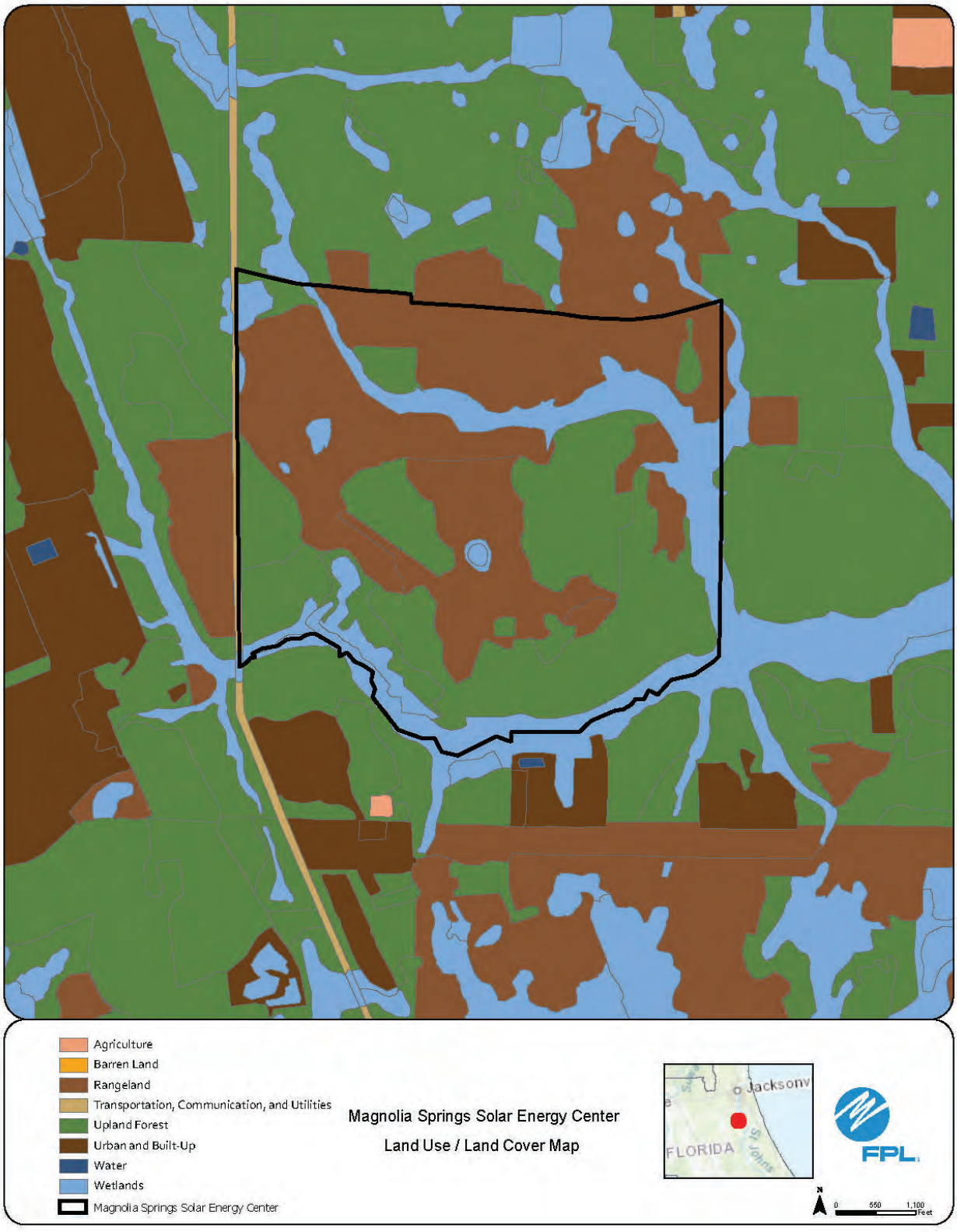

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Union Springs Solar Energy Center
Union Springs Solar Energy Center
Land Use / Land Cover Map
FLORIDA
FPL
N
0 670 1,340
Feet

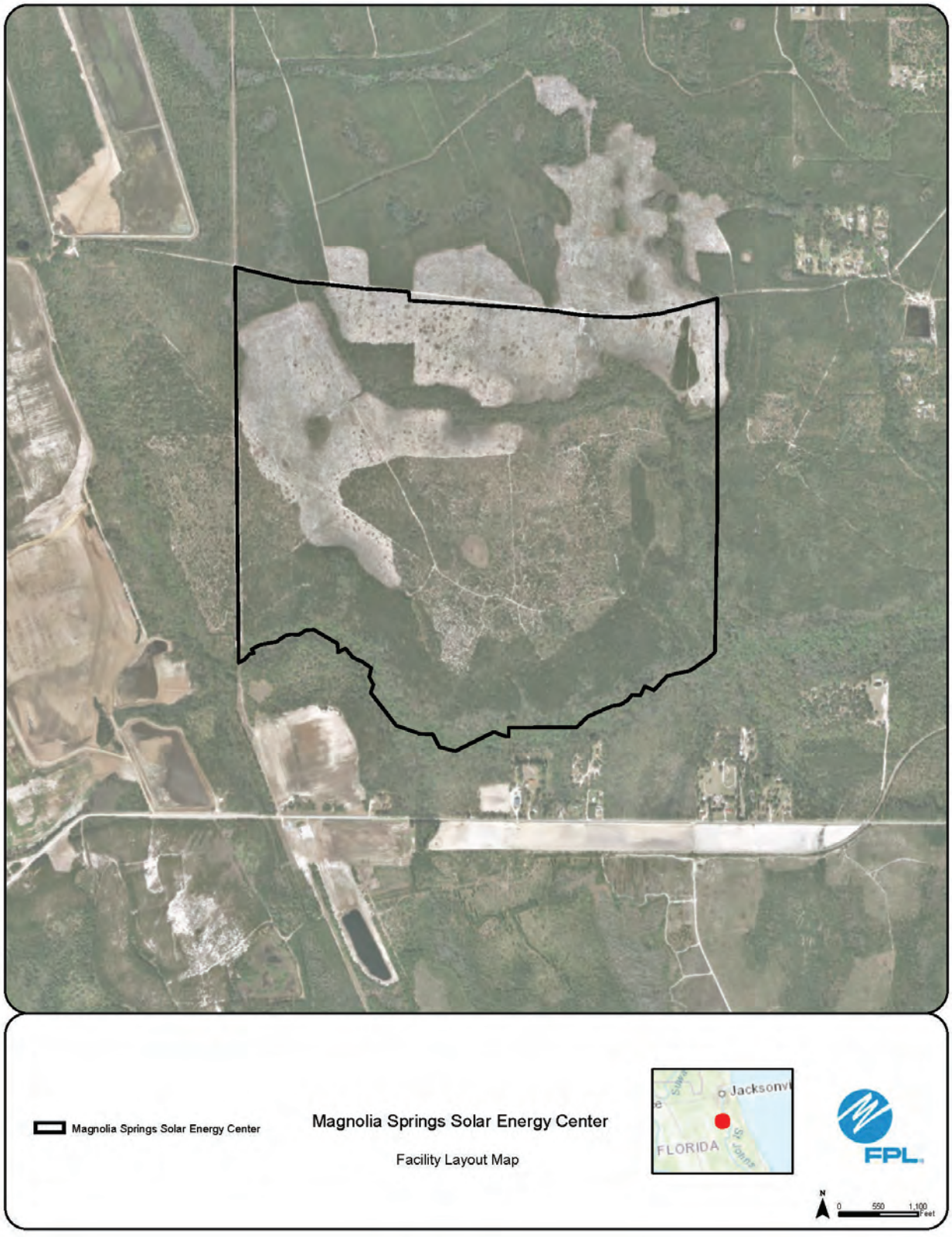

Union Springs Solar Energy Center
Union Springs Solar Energy Center
Facility Layout Map
FLORIDA
FPL
N
0
670
1,340
Feet

Environmental and Land Use Information:
Supplemental Information

Preferred Site # 8: Magnolia Springs Solar Energy Center, Clay County

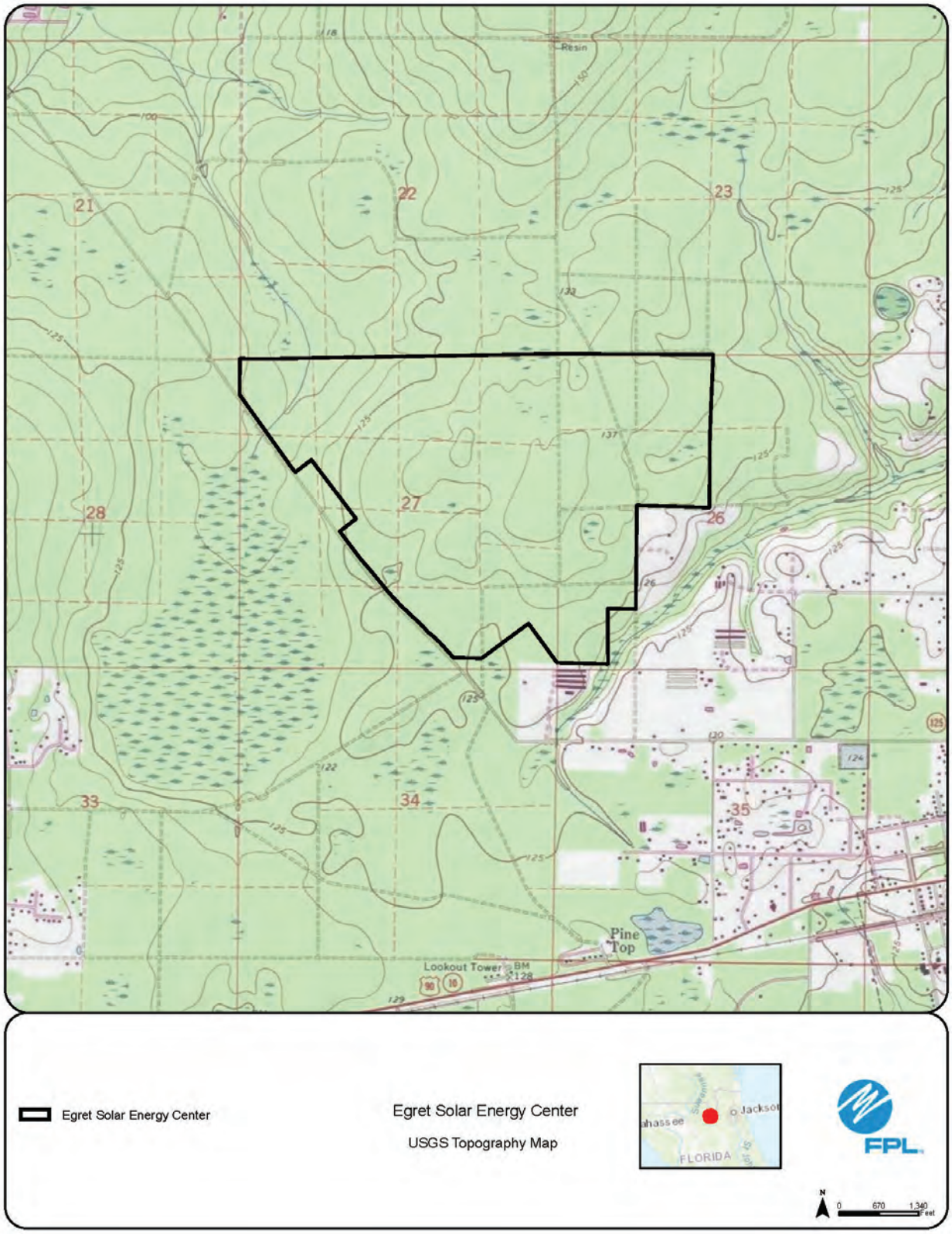

Industrial Waste Ponds
ROAD ON LEVEE
LENO ROAD
16
15
21
22
LEVEE
4WD
Clarkes Creek
Strip Mine
Tailings
Strip Mine
WARNER ROAD
Substa
COPEL
SINDS
LOPEZ
Magnolia Springs Solar Energy Center
Magnolia Springs Solar Energy Center
USGS Topography Map
Jacksonvi
FLORIDA
FPL
N
0
550
1,100
Feet

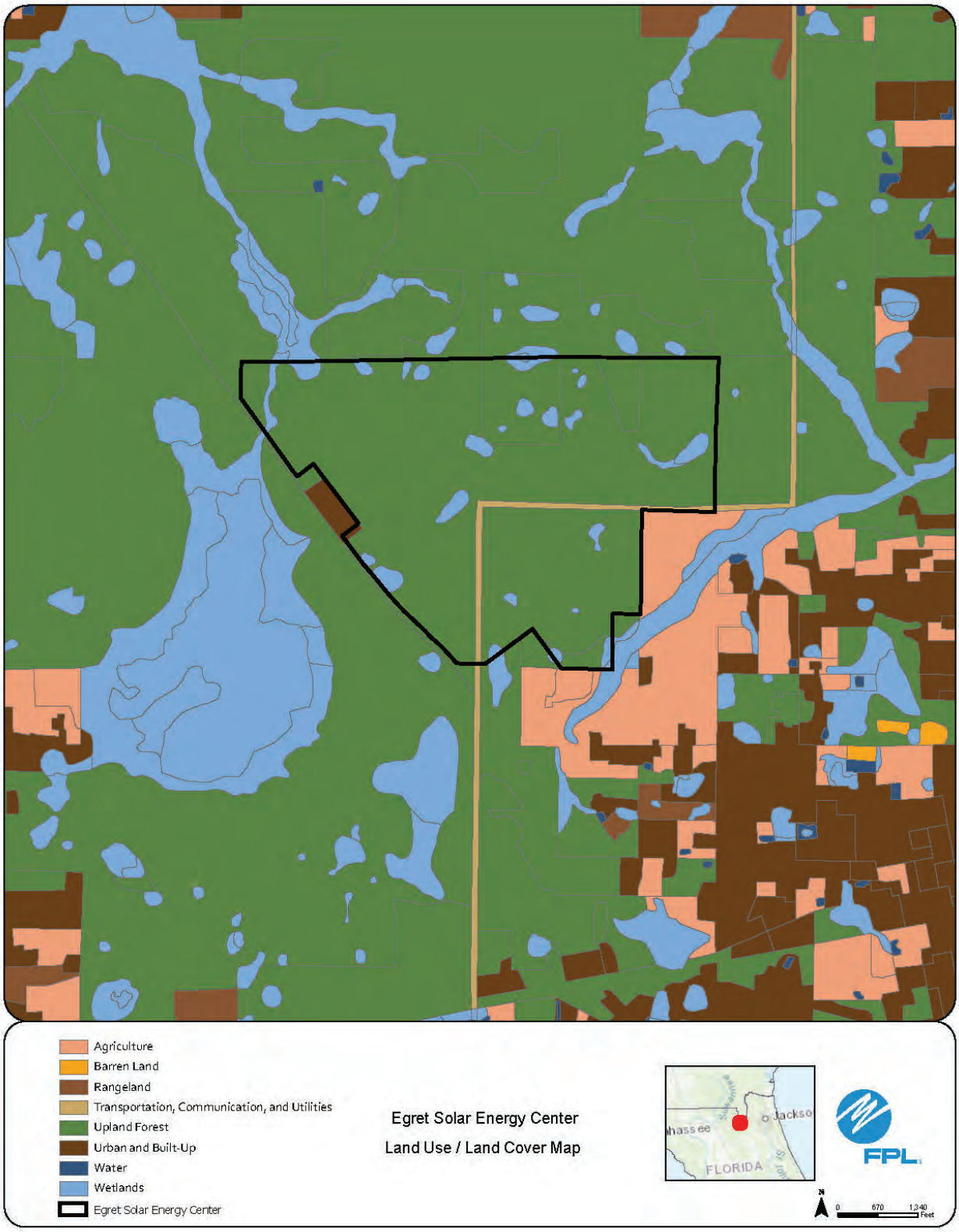

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Magnolia Springs Solar Energy Center
Magnolia Springs Solar Energy Center
Land Use / Land Cover Map
Jacksonv
FLORIDA
St Johns
FPL
N
0
550
1,100
Feet

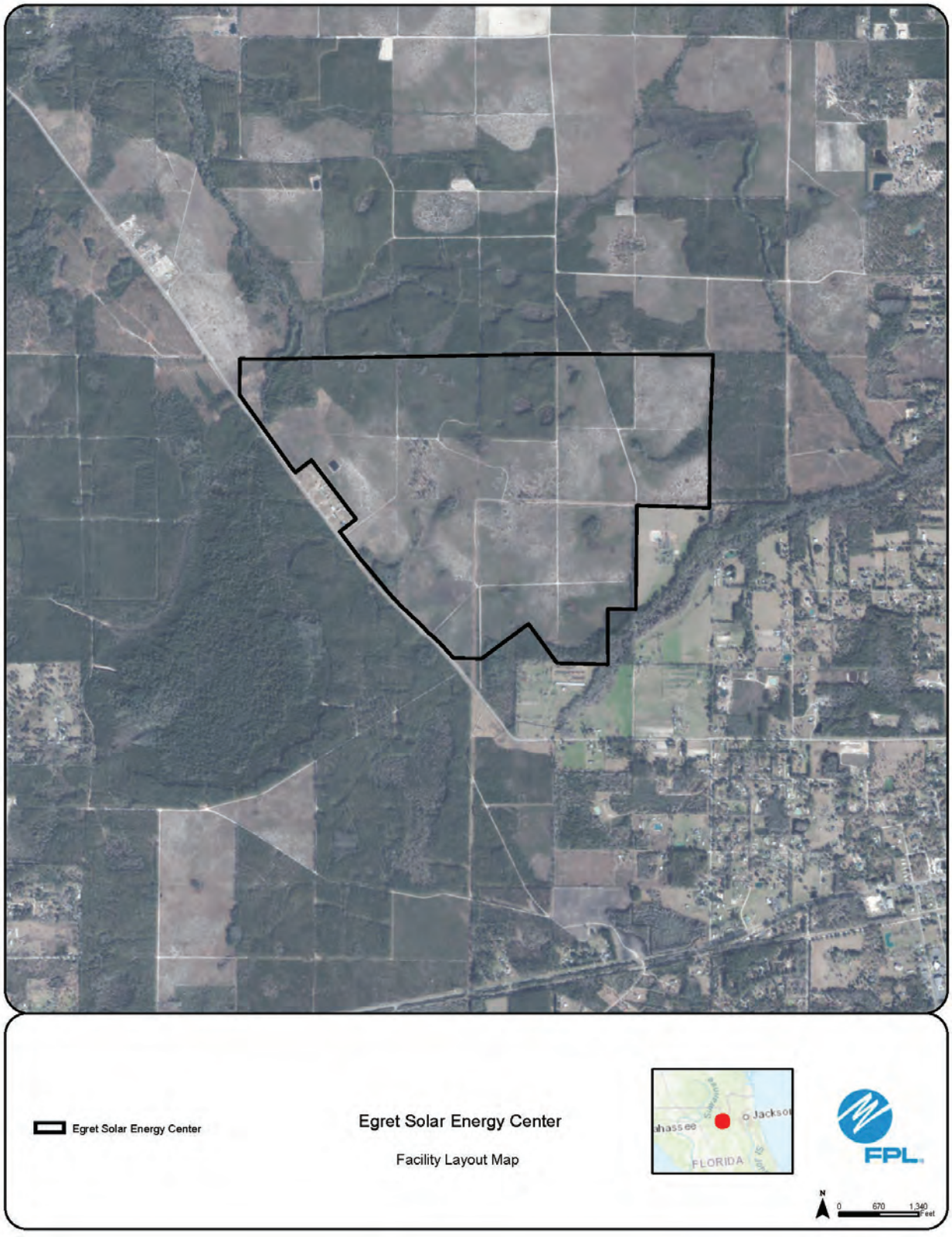

Magnolia Springs Solar Energy Center
Magnolia Springs Solar Energy Center
Facility Layout Map
Jacksonv
FLORIDA
St Johns
FPL
N
0
550
1,100
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 9: Egret Solar Energy Center, Baker County

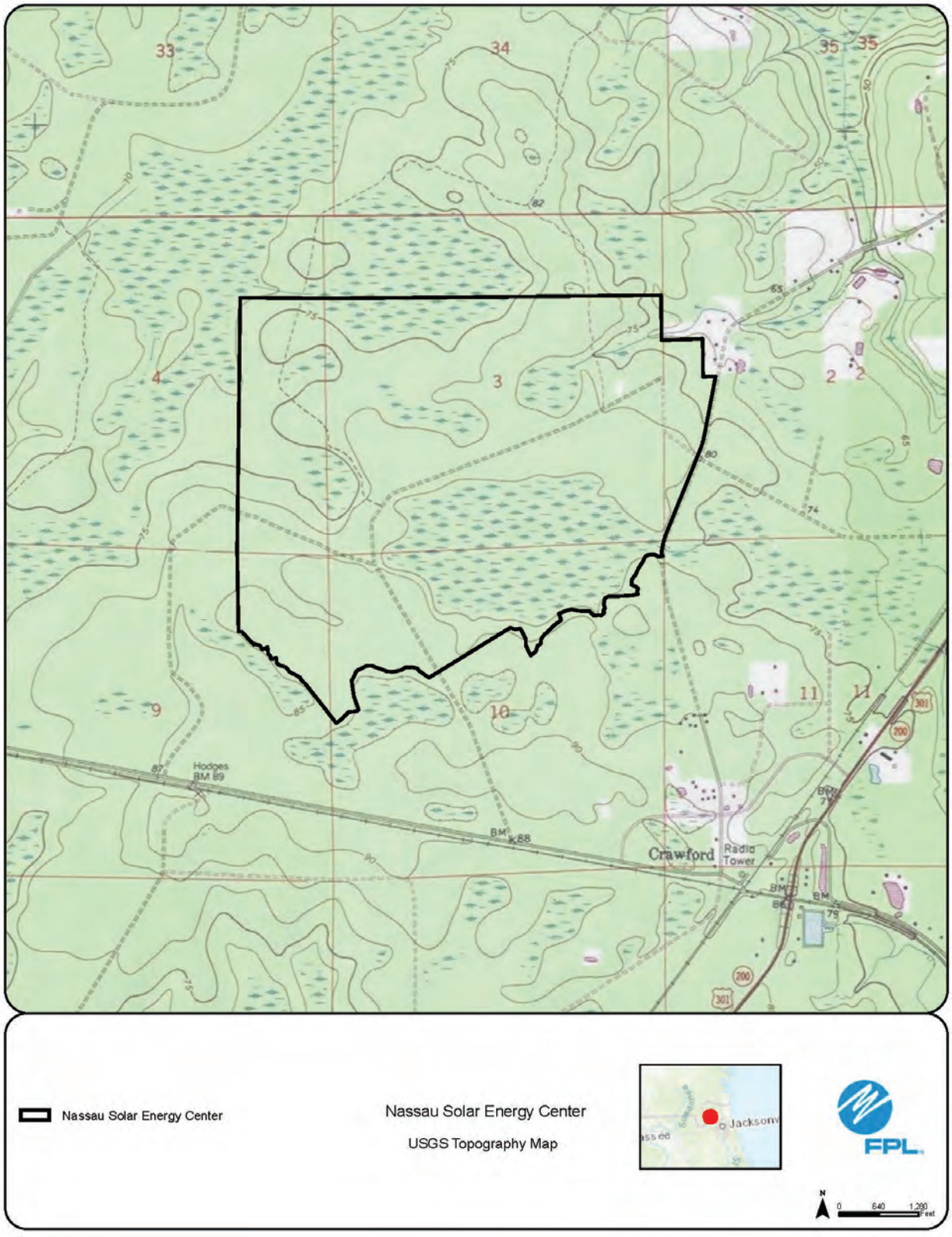

Resin
21
22
23
27
28
26
33
34
35
Pine Top
Lookout Tower
BM 128
Egret Solar Energy Center
Egret Solar Energy Center
USGS Topography Map
FLORIDA
Jackson
FPL
N
0
670
1,340
Feet

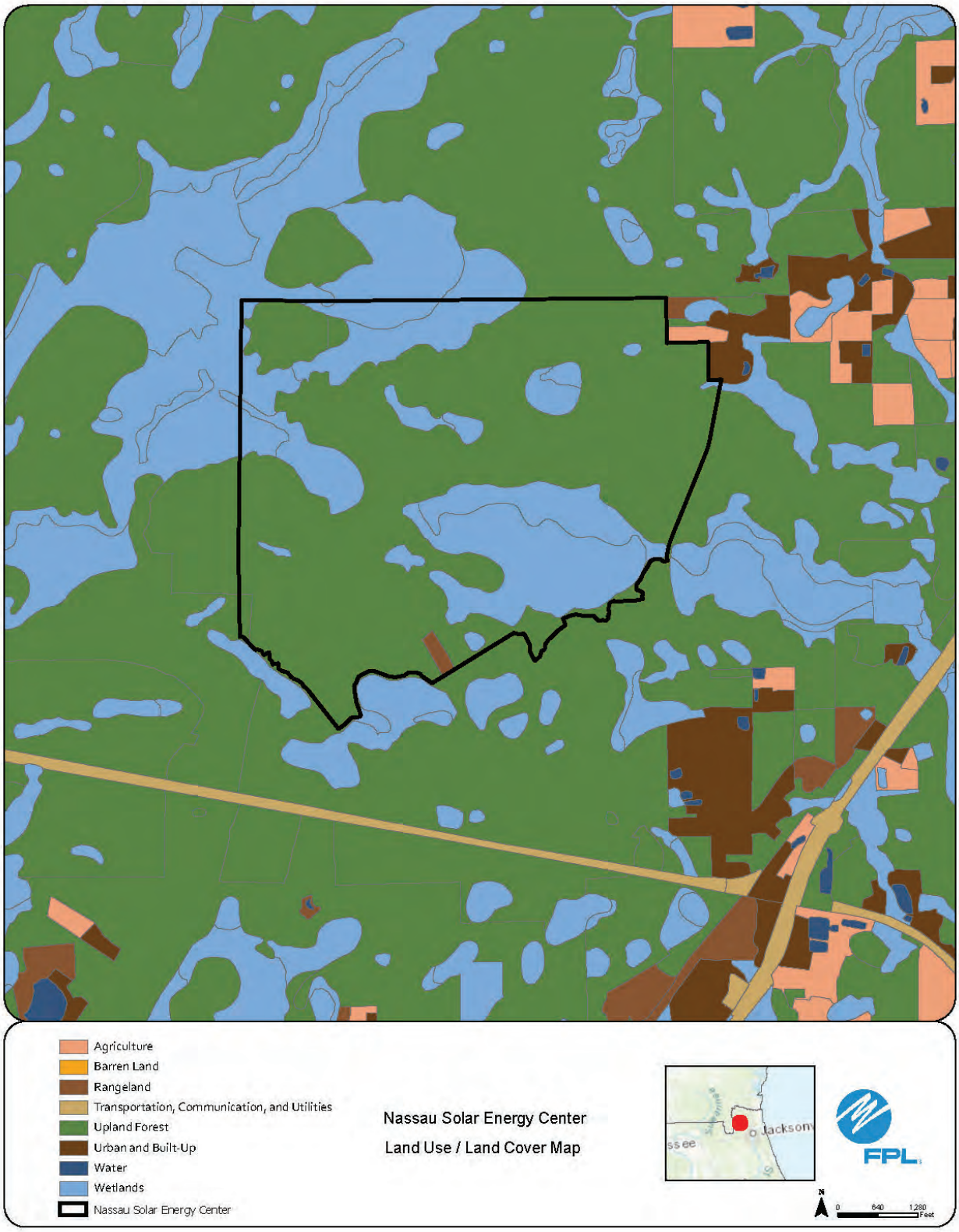

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Egret Solar Energy Center
Egret Solar Energy Center
Land Use / Land Cover Map
FLORIDA
FPL
N
0
670
1,340
Feet

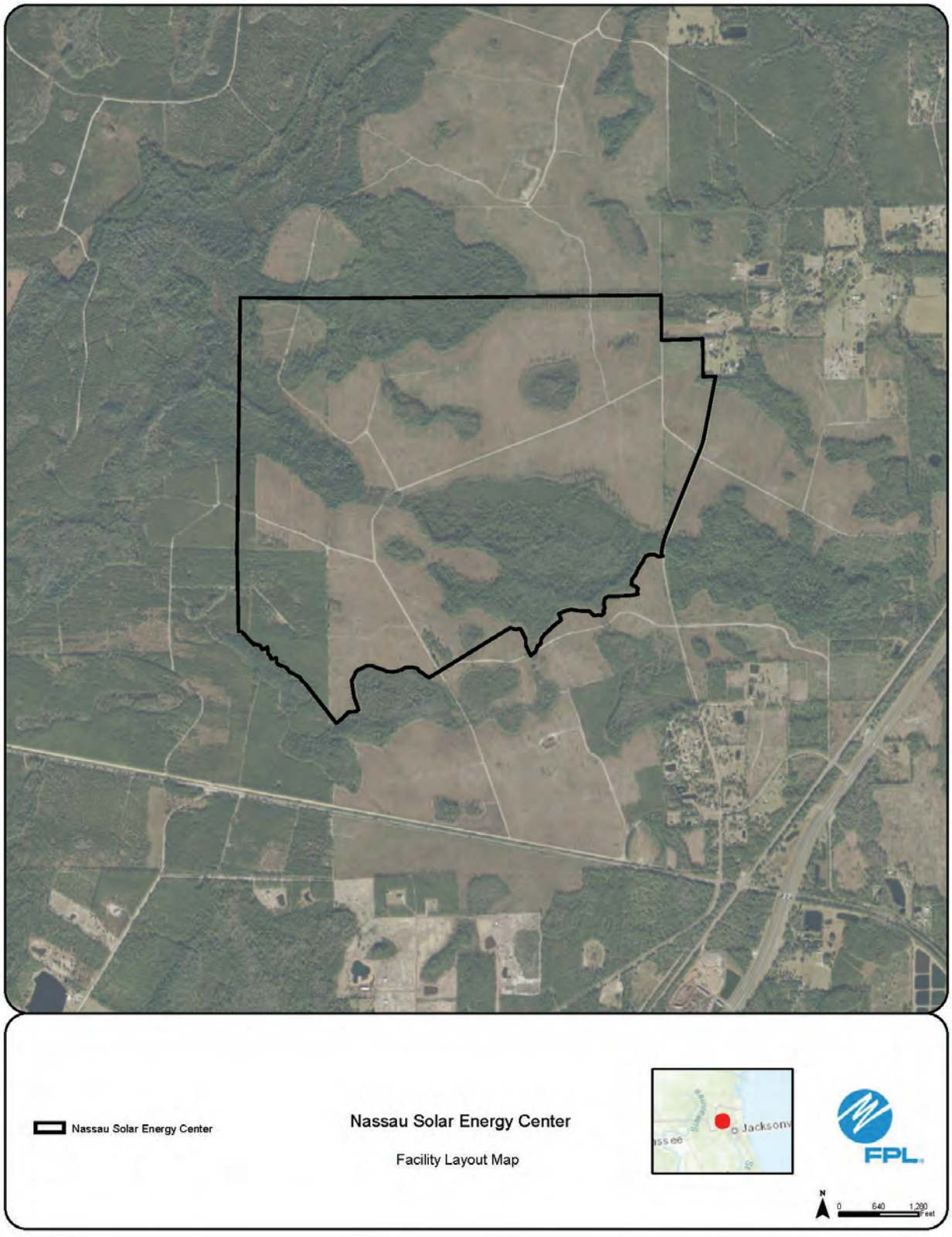

Egret Solar Energy Center
Egret Solar Energy Center
Facility Layout Map
FLORIDA
FPL
N
0
670
1,340
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 10: Nassau Solar Energy Center, Nassau County

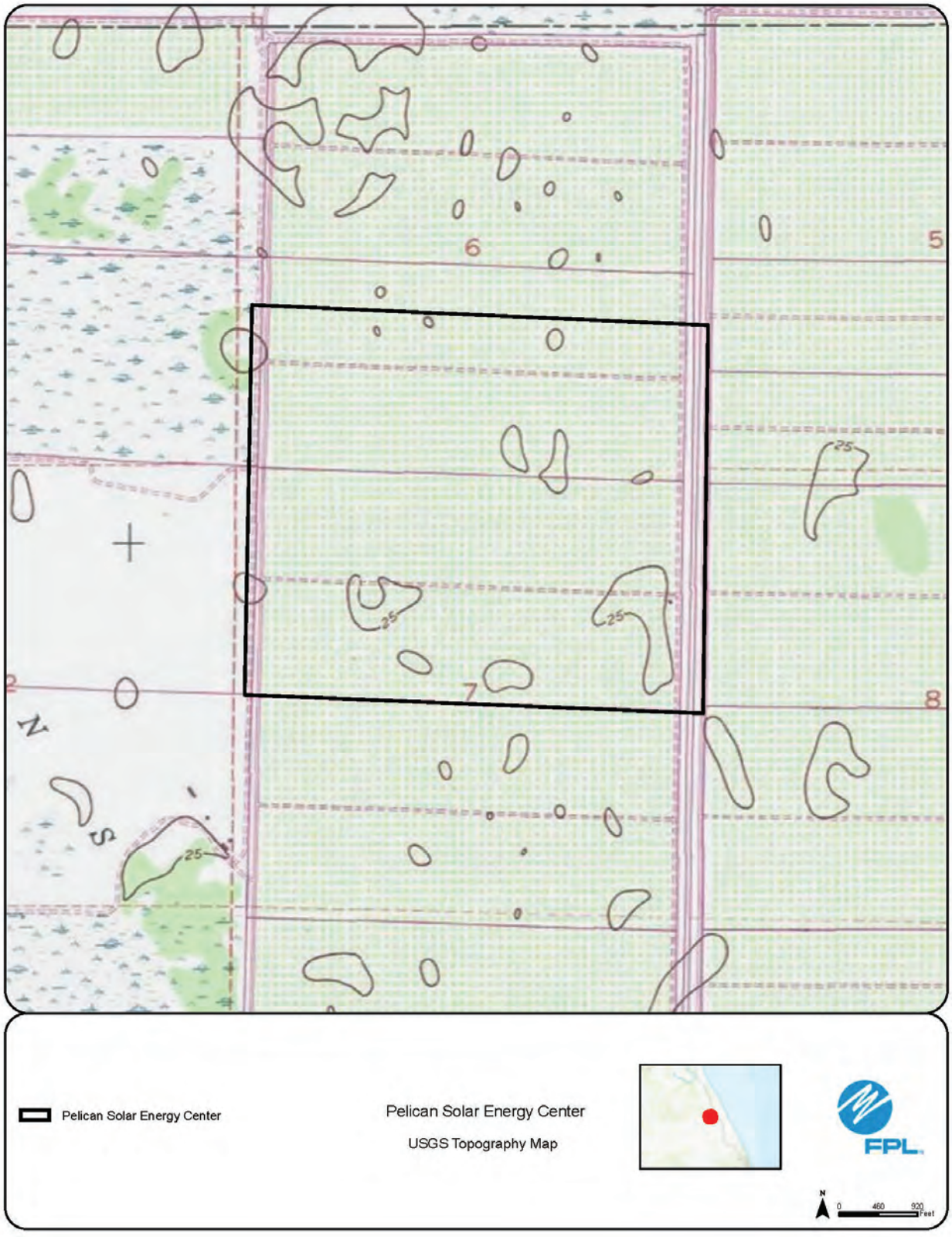

Nassau Solar Energy Center
Nassau Solar Energy Center
USGS Topography Map
Jacksonv
FPL
N
0
640
1,280
Feet
Crawford
Radio Tower
Hodges
BM 89
BM
K88
33
34
35
4
3
2
9
10
11
301
200

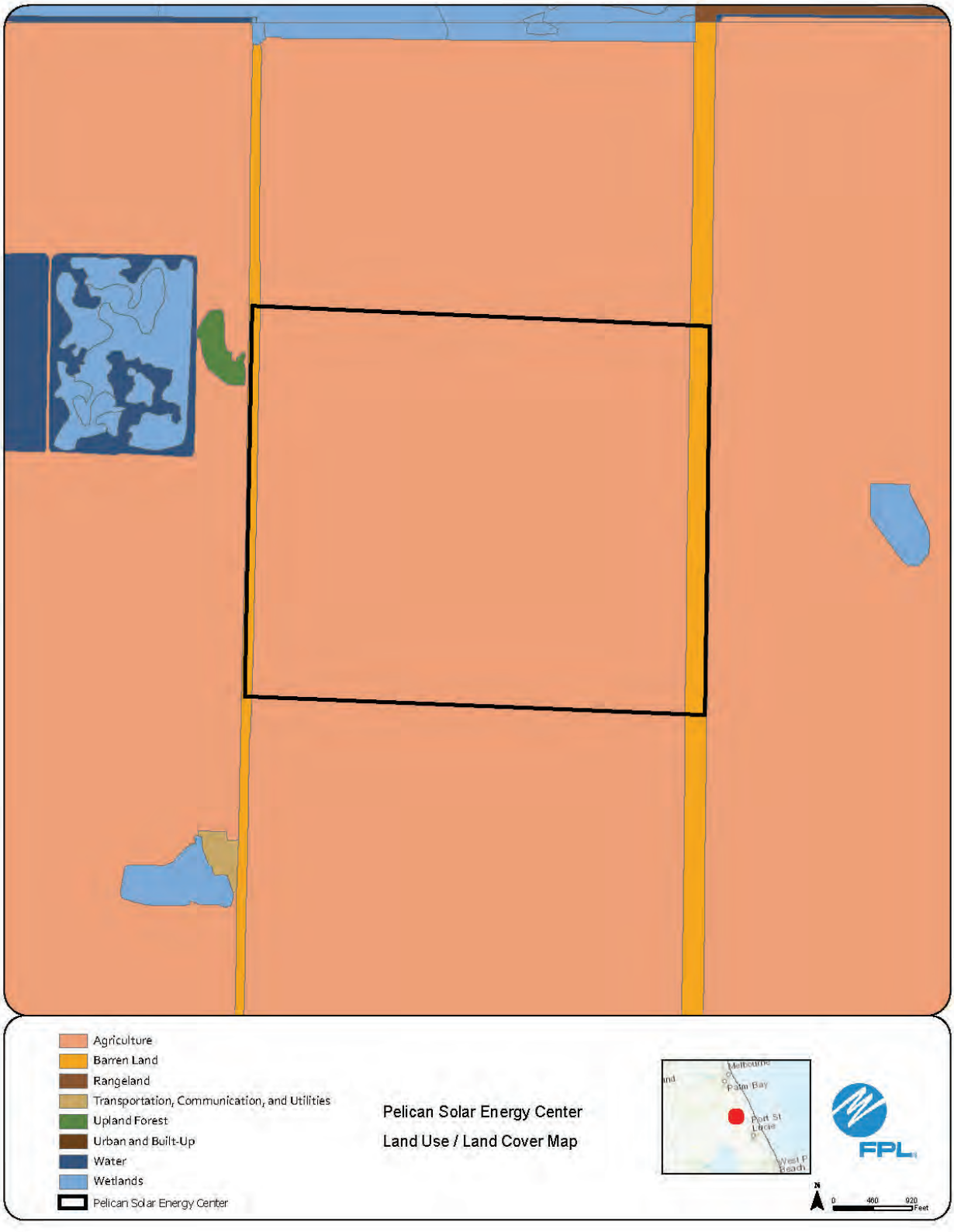

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Nassau Solar Energy Center
Nassau Solar Energy Center
Land Use / Land Cover Map
Jackson
FPL
N
0
640
1,280
Feet


Nassau Solar Energy Center
Nassau Solar Energy Center
Facility Layout Map
Jacksonv
FPL.
N
0
640
1,280
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 11: Pelican Solar Energy Center, St. Lucie County

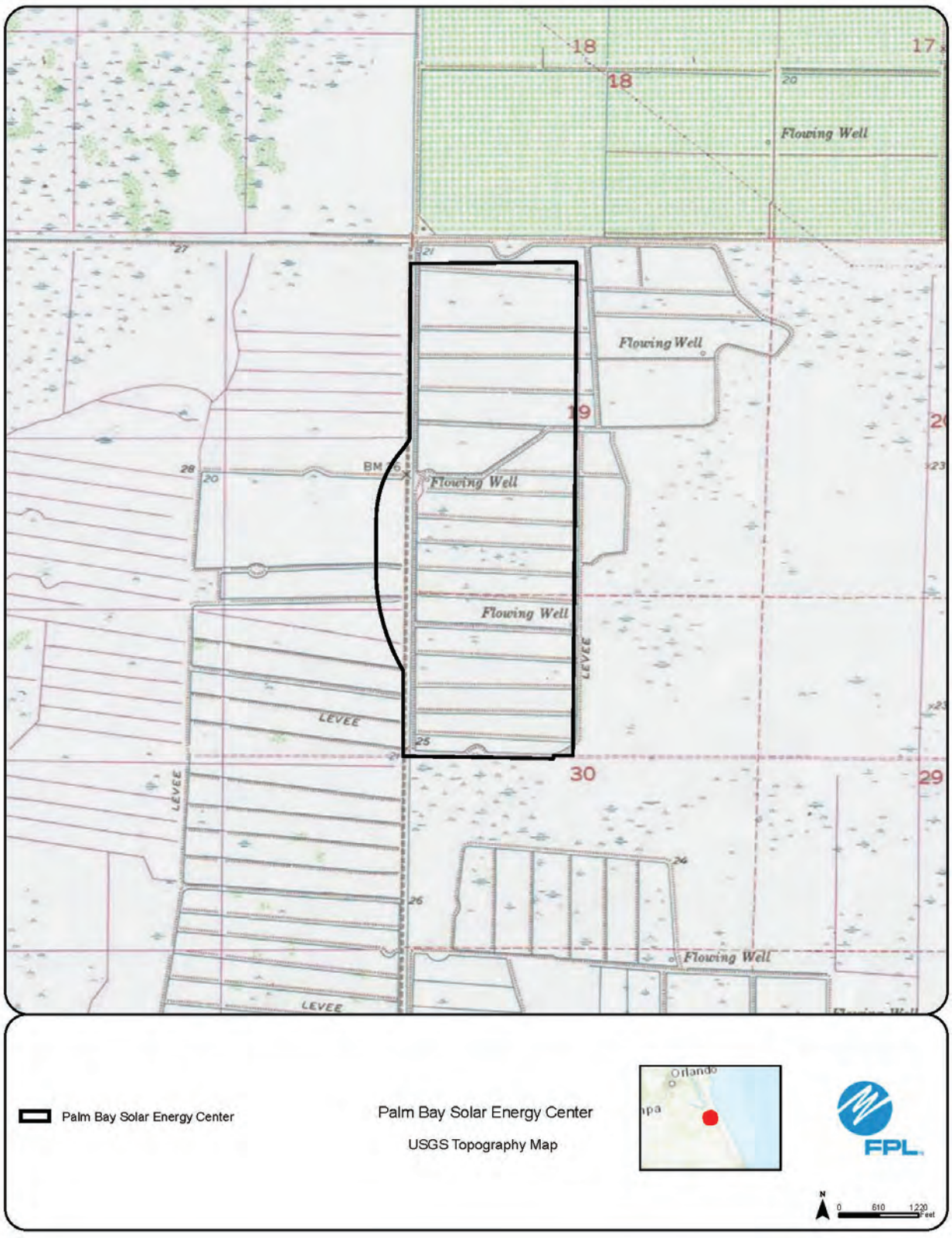

Pelican Solar Energy Center
Pelican Solar Energy Center
USGS Topography Map
FPL
N
0
460
920
Feet

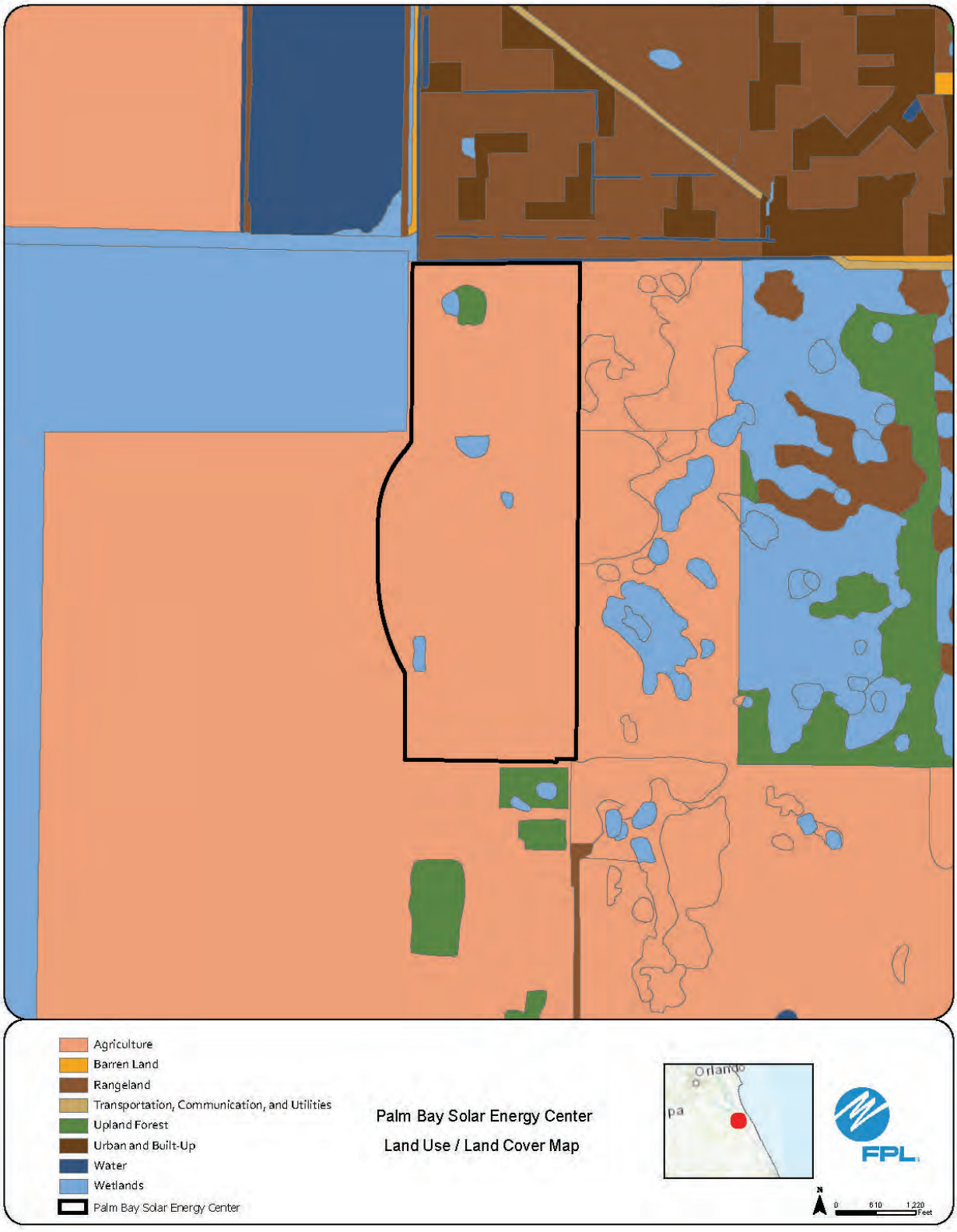

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Pelican Solar Energy Center
Pelican Solar Energy Center
Land Use / Land Cover Map
Melbourne
Palm Bay
Port St Lucie
West P Beach
FPL
N
0
460
920
Feet

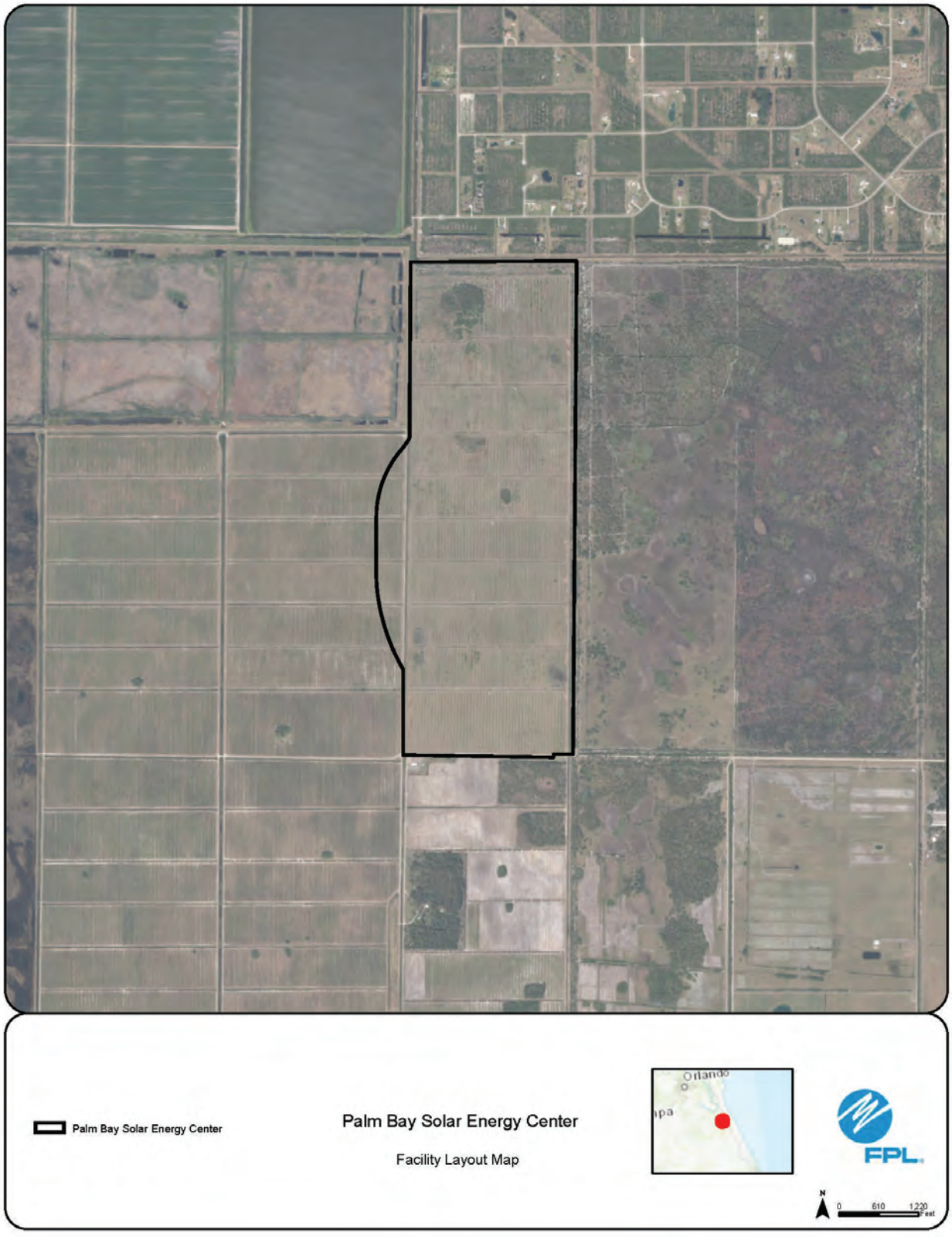

Pelican Solar Energy Center
Pelican Solar Energy Center
Facility Layout Map
FPL
N
0
460
920
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 12: Palm Bay Solar Energy Center, Brevard County

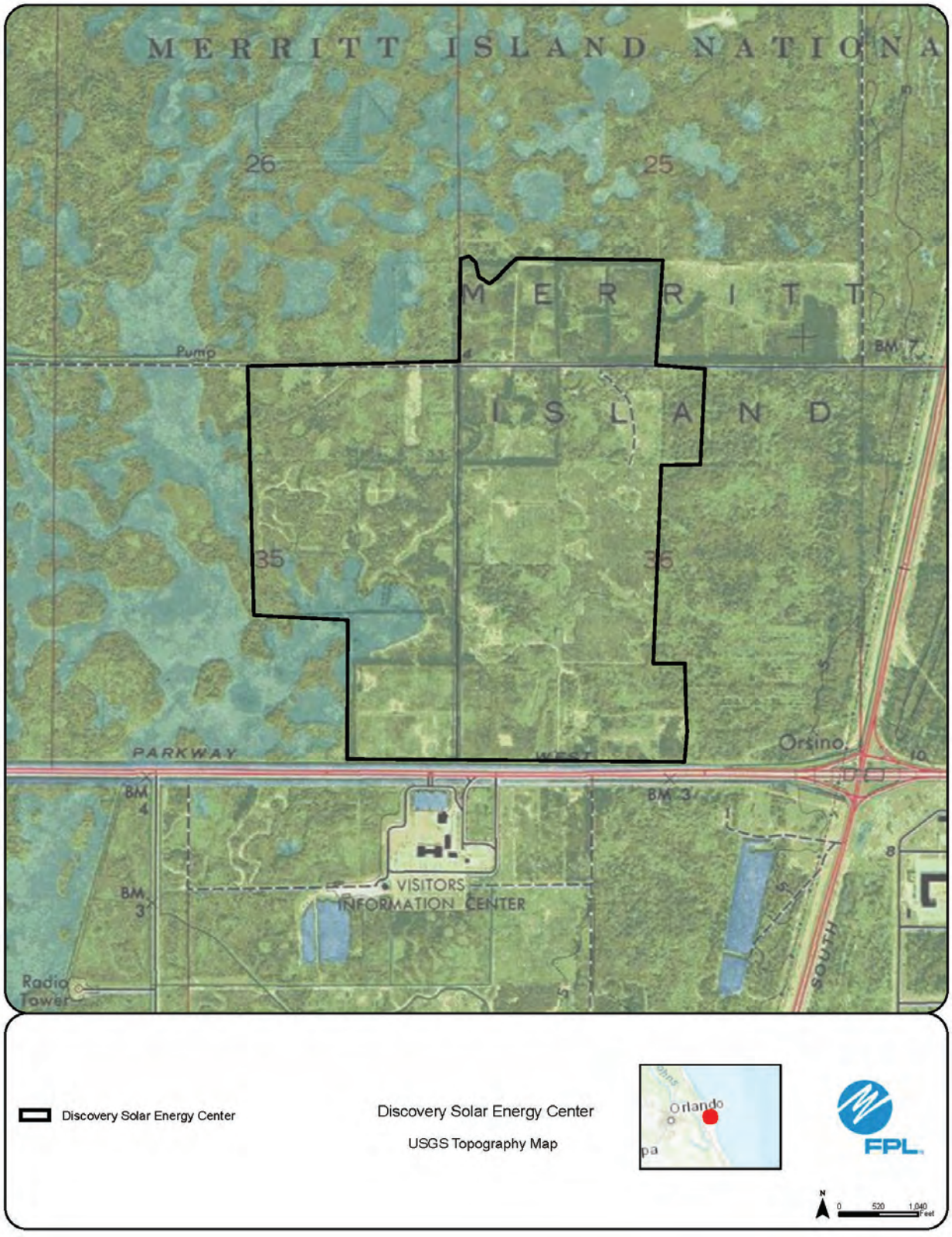

18
17
18
Flowing Well
27
21
Flowing Well
19
28
20
BM
Flowing Well
Flowing Well
LEVEE
LEVEE
25
30
29
LEVEE
26
Flowing Well
Palm Bay Solar Energy Center
Palm Bay Solar Energy Center
USGS Topography Map
Orlando
FPL
N
0
610
1220
Feet

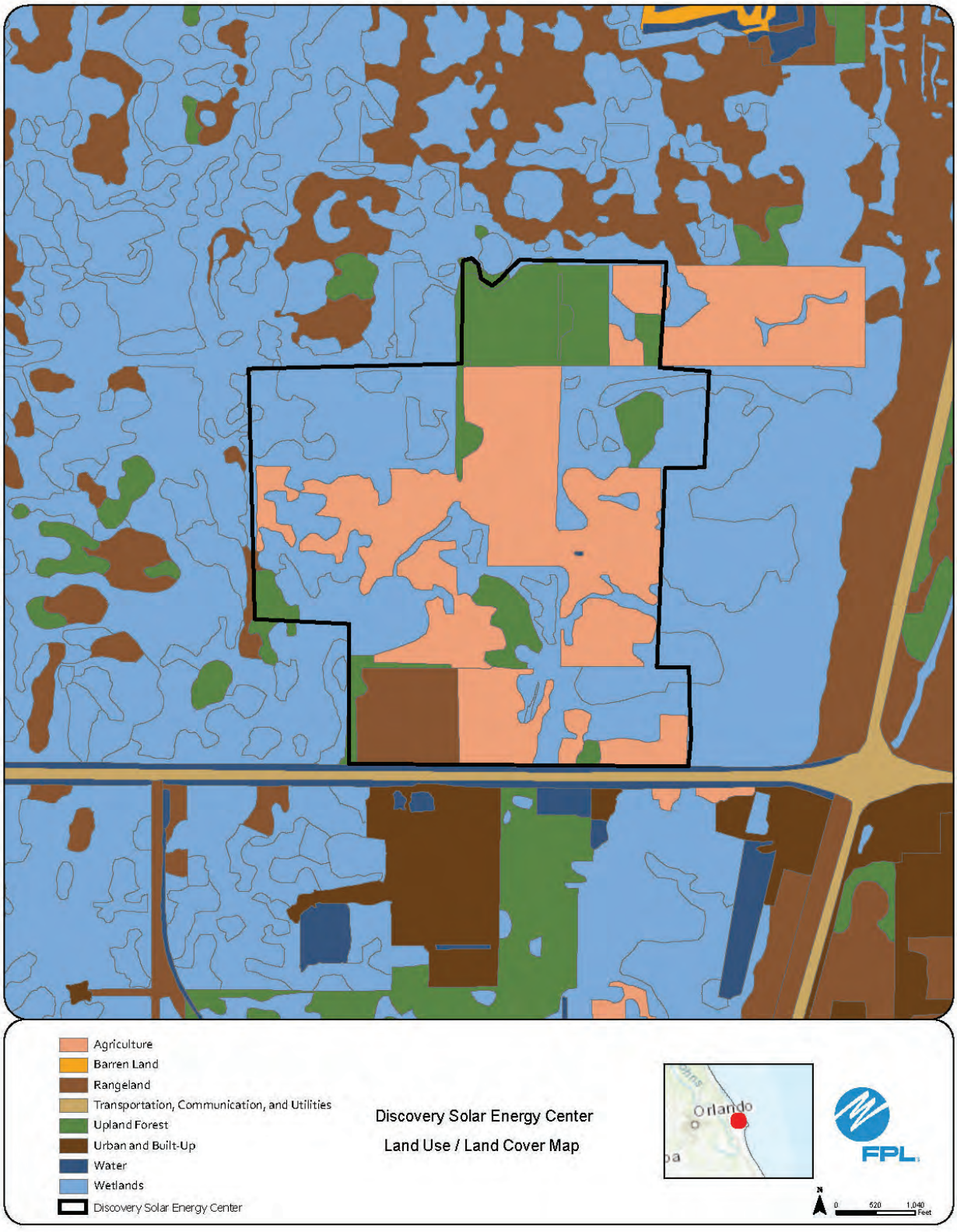

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Palm Bay Solar Energy Center
Palm Bay Solar Energy Center
Land Use / Land Cover Map
Orlando
pa
FPL
N
0
610
1,220
Feet

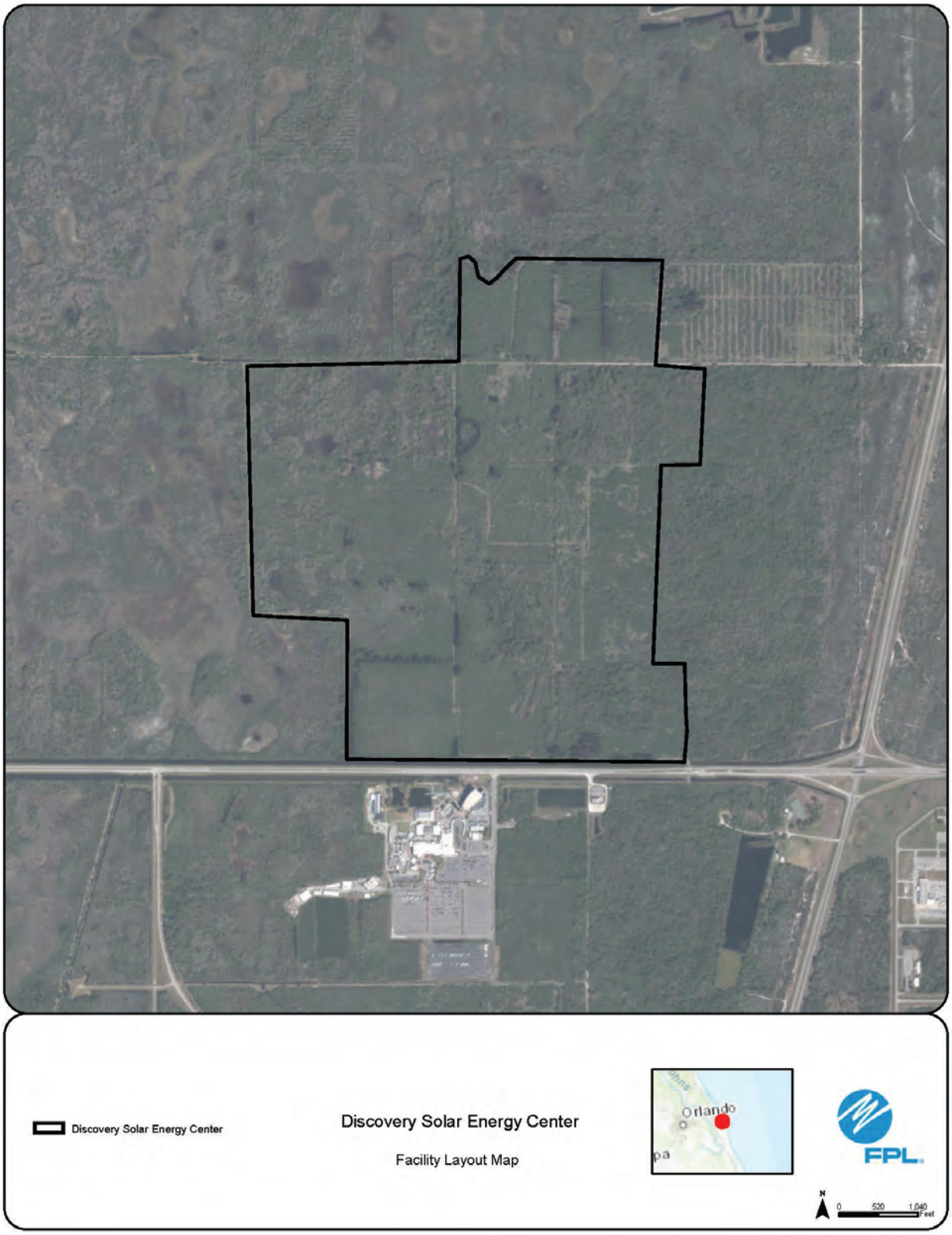

Palm Bay Solar Energy Center
Palm Bay Solar Energy Center
Facility Layout Map
Orlando
Tampa
FPL
N
0
610
1,220
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 13: Discovery Solar Energy Center, Brevard County

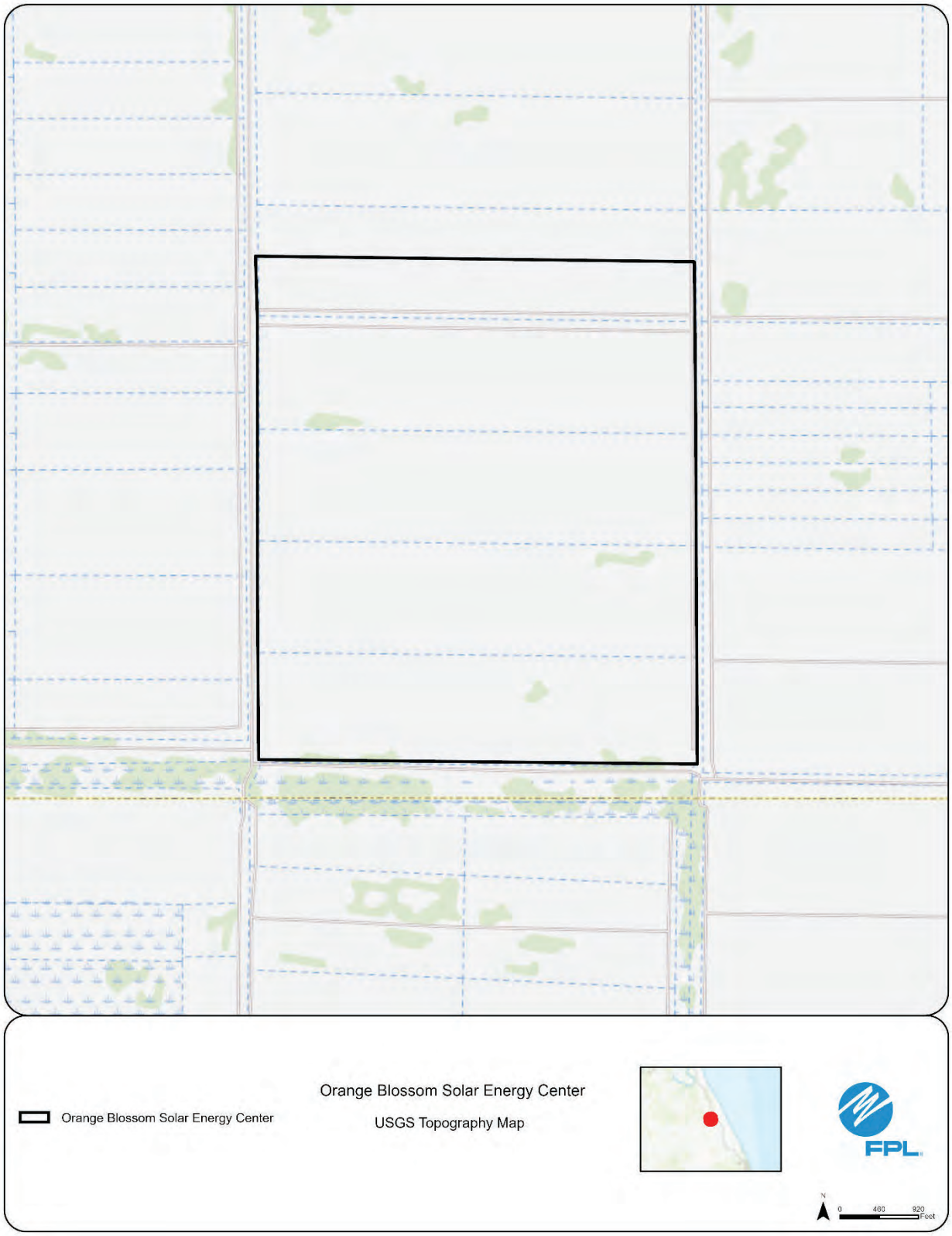

MERRITT ISLAND NATIONA
26
25
MERRITT
ISLAND
Pump
BM 7
35
36
PARKWAY
WEST
Orsino
BM 4
BM 3
VISITORS
INFORMATION CENTER
Radio
Tower
SOUTH
Discovery Solar Energy Center
Discovery Solar Energy Center
USGS Topography Map
Orlando
FPL
N
0
520
1,040
Feet

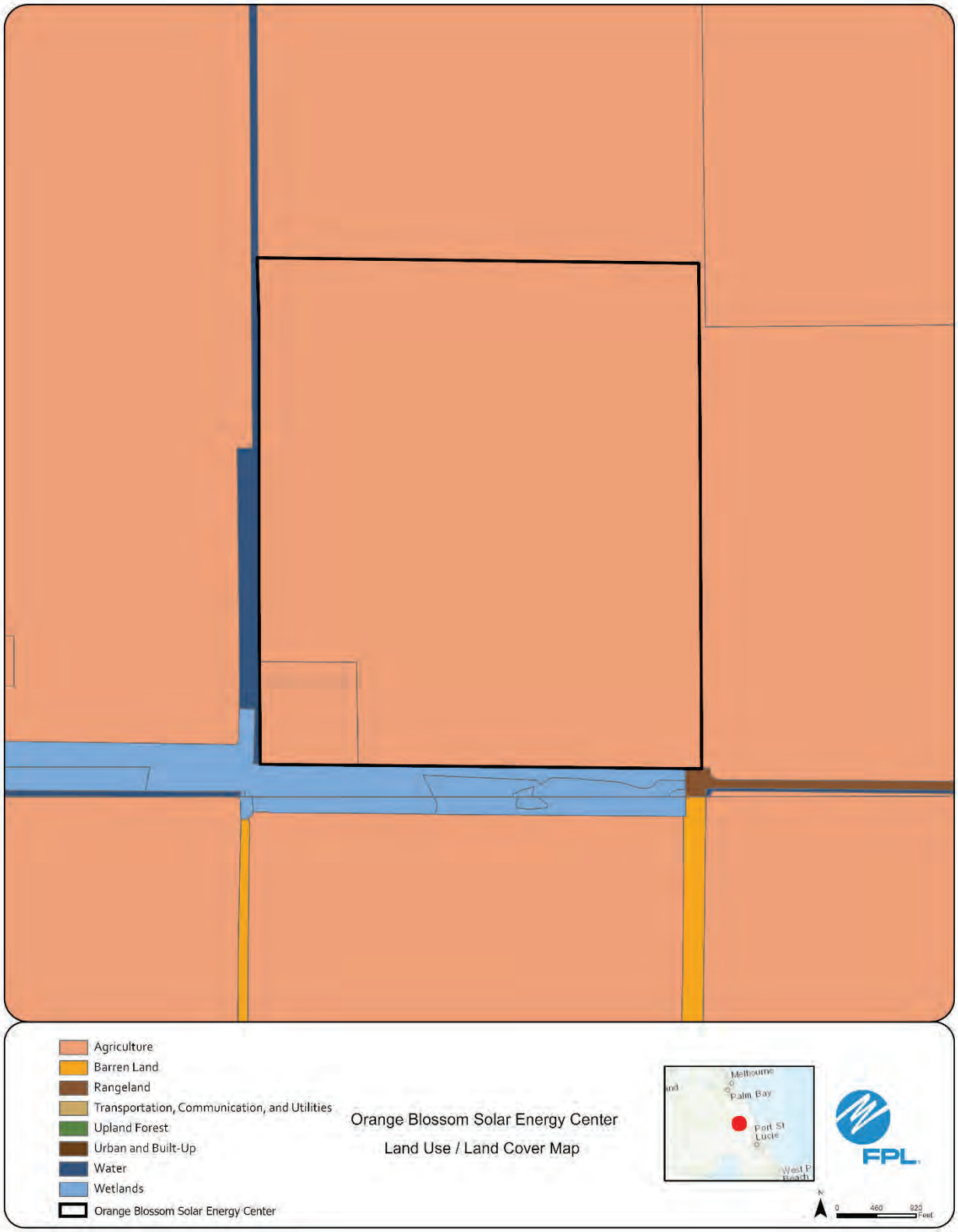

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Discovery Solar Energy Center
Discovery Solar Energy Center
Land Use / Land Cover Map
Orlando
FPL
N
0
520
1,040
Feet

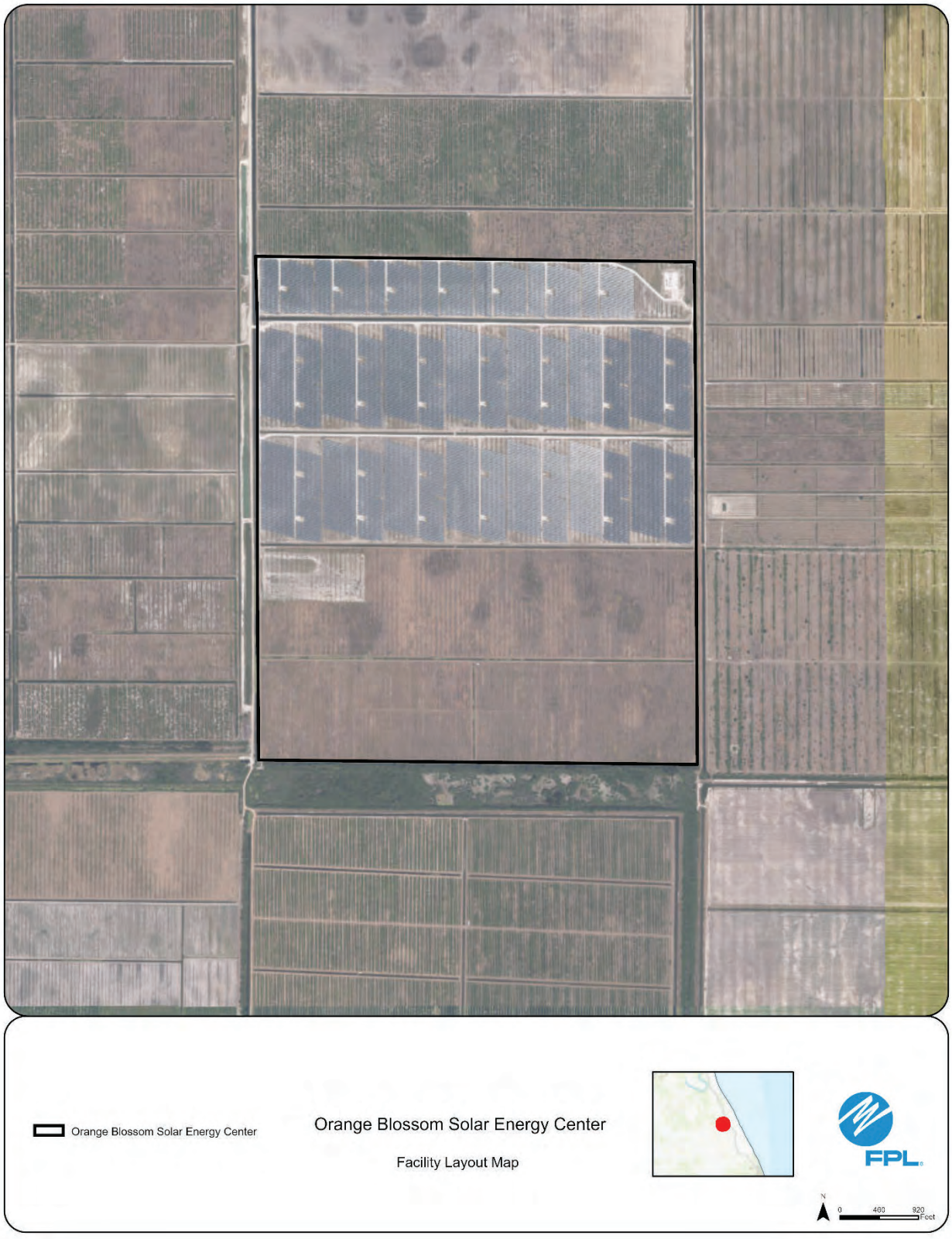

Discovery Solar Energy Center
Discovery Solar Energy Center
Facility Layout Map
Orlando
FPL
N
0
520
1,040
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 14: Orange Blossom Solar Energy Center, Indian River County

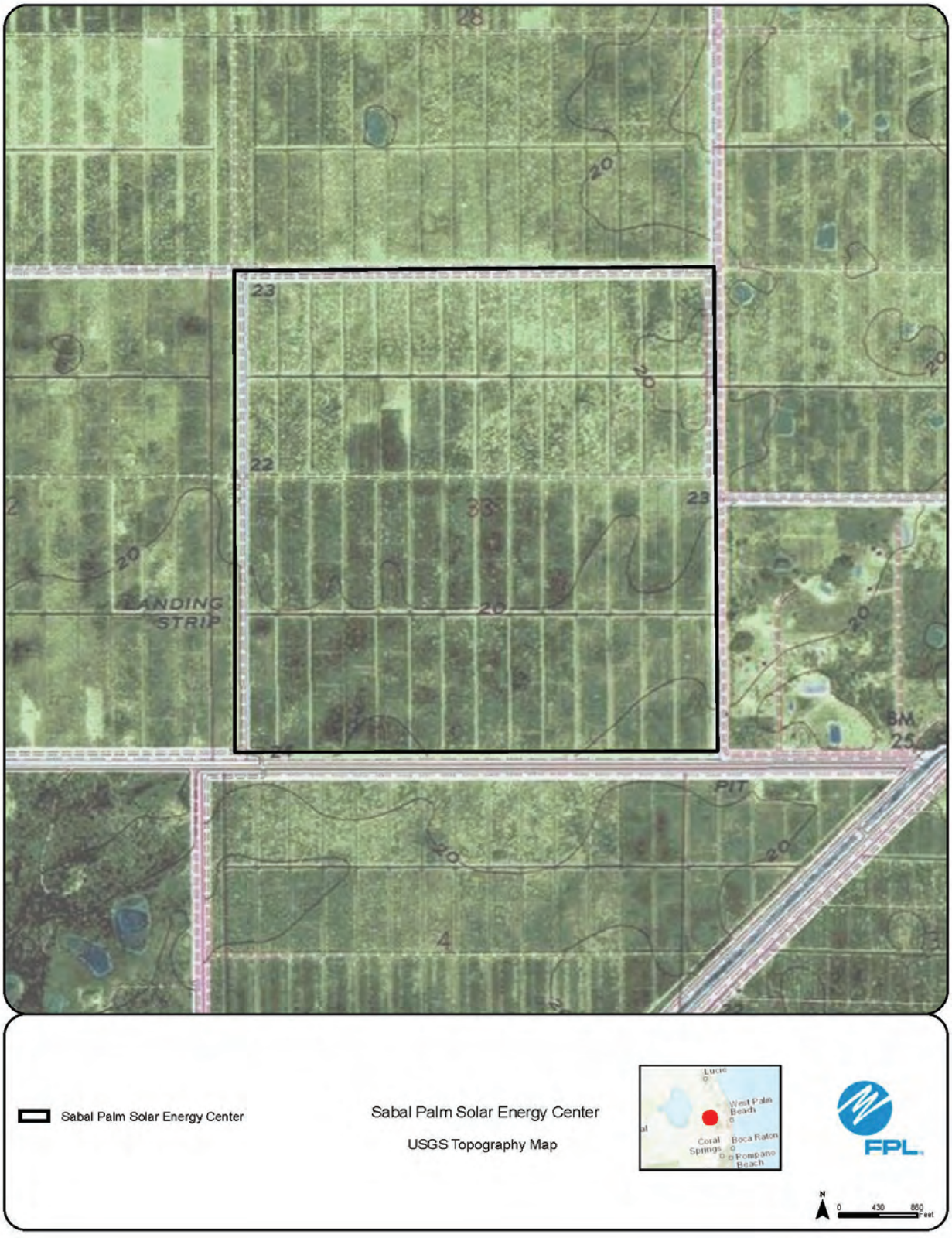

Orange Blossom Solar Energy Center
Orange Blossom Solar Energy Center
USGS Topography Map
FPL
N
0
460
920
Feet

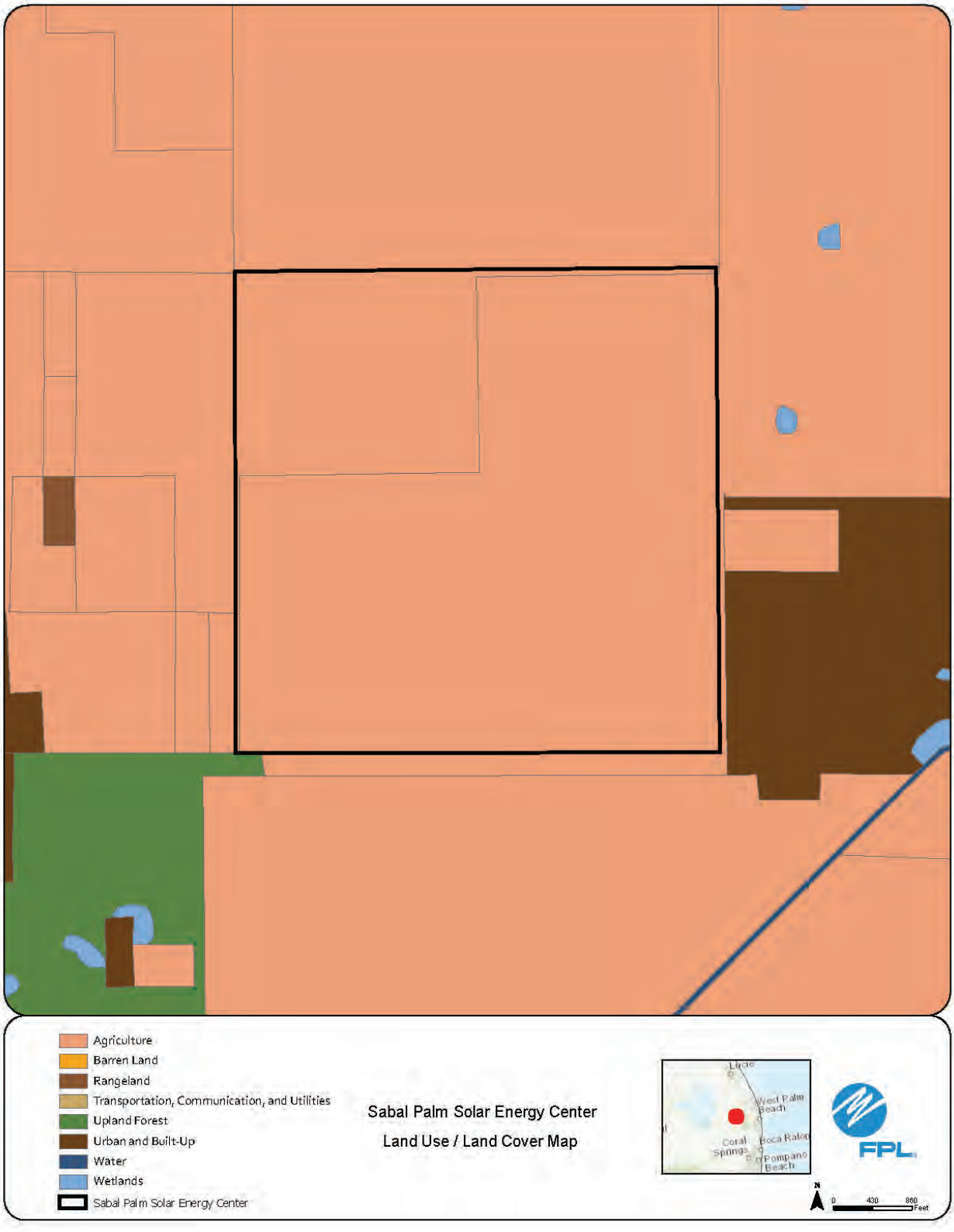

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Orange Blossom Solar Energy Center
Orange Blossom Solar Energy Center
Land Use / Land Cover Map
Melbourne
Palm Bay
Port St Lucie
West P Beach
FPL
0
460
920
Feet

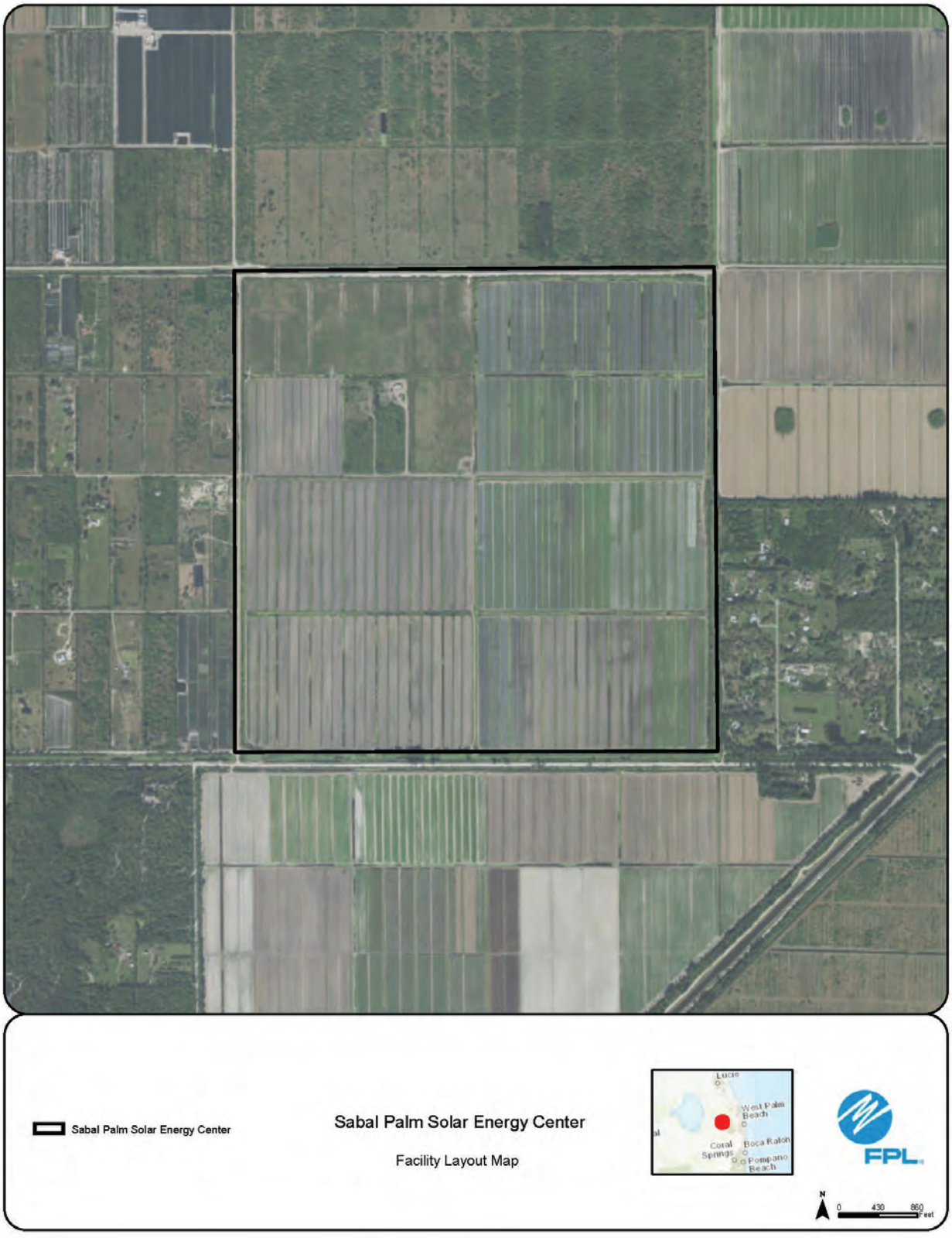

Orange Blossom Solar Energy Center
Orange Blossom Solar Energy Center
Facility Layout Map
FPL
N
0
460
920
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 15: Sabal Palm Solar Energy Center, Palm Beach County

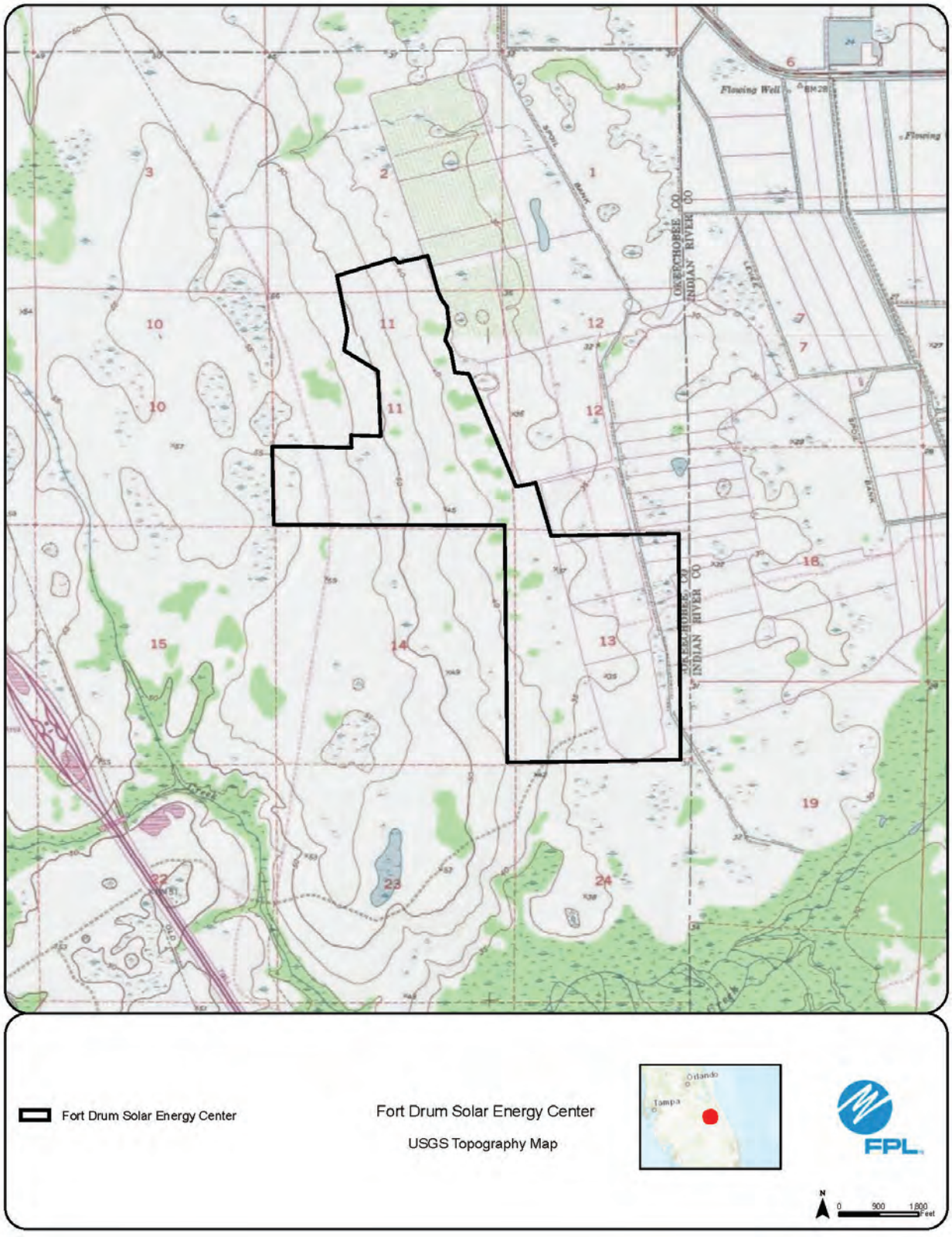

28
23
22
20
LANDING STRIP
PIT
BM 25
4
Sabal Palm Solar Energy Center
Sabal Palm Solar Energy Center
USGS Topography Map
Lucie
West Palm Beach
Coral Springs
Boca Raton
Pompano Beach
FPL
N
0
430
860
Feet

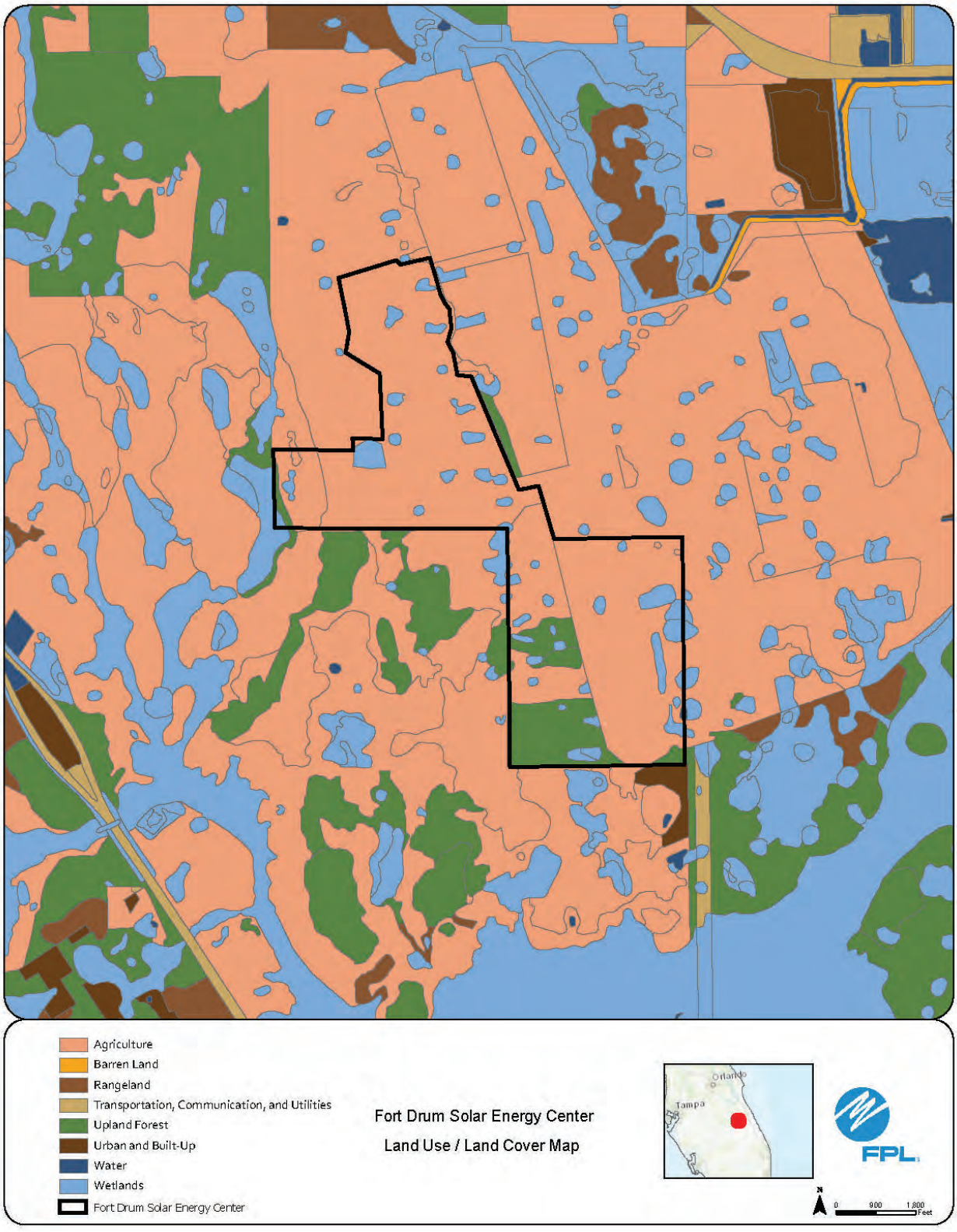

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Sabal Palm Solar Energy Center
Sabal Palm Solar Energy Center
Land Use / Land Cover Map
Lucie
West Palm Beach
Coral Springs
Boca Raton
Pompano Beach
FPL
N
0
430
860
Feet

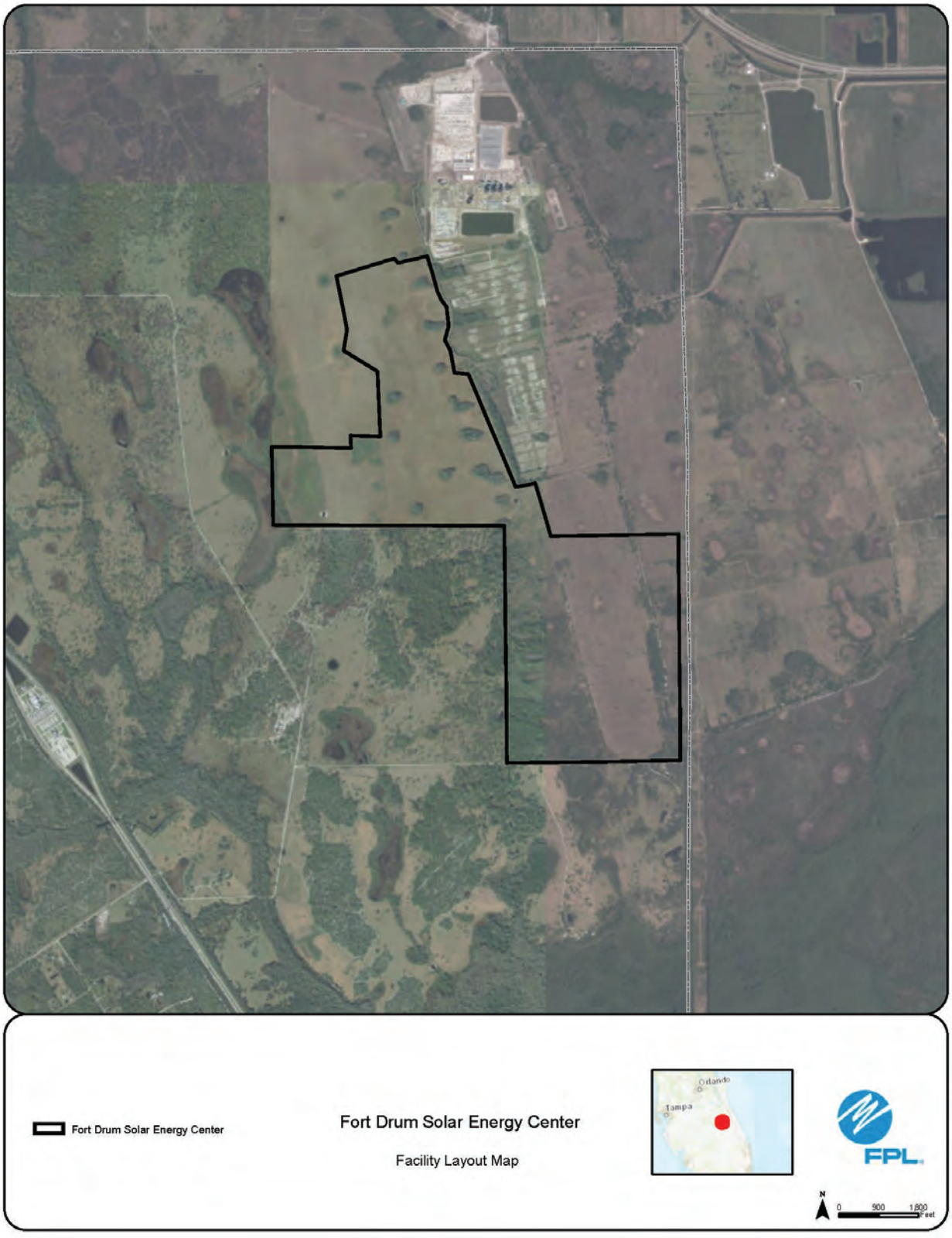

Sabal Palm Solar Energy Center
Sabal Palm Solar Energy Center
Facility Layout Map
Lucie
West Palm Beach
Coral Springs
Boca Raton
Pompano Beach
FPL
N
0
430
860
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 16: Fort Drum Solar Energy Center, Okeechobee County

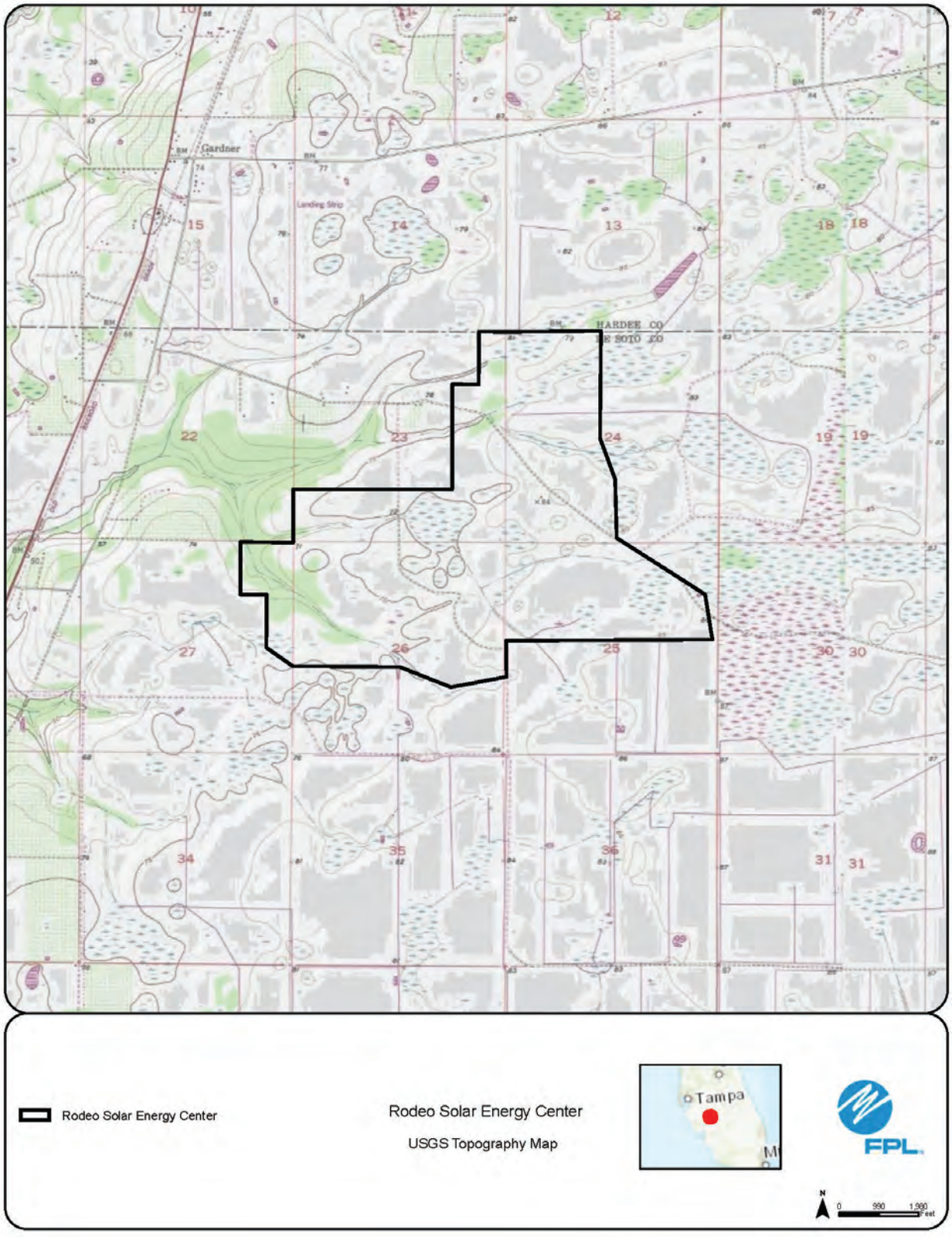

Fort Drum Solar Energy Center
Fort Drum Solar Energy Center
USGS Topography Map
Orlando
Tampa
FPL
N
0
900
1,800
Feet

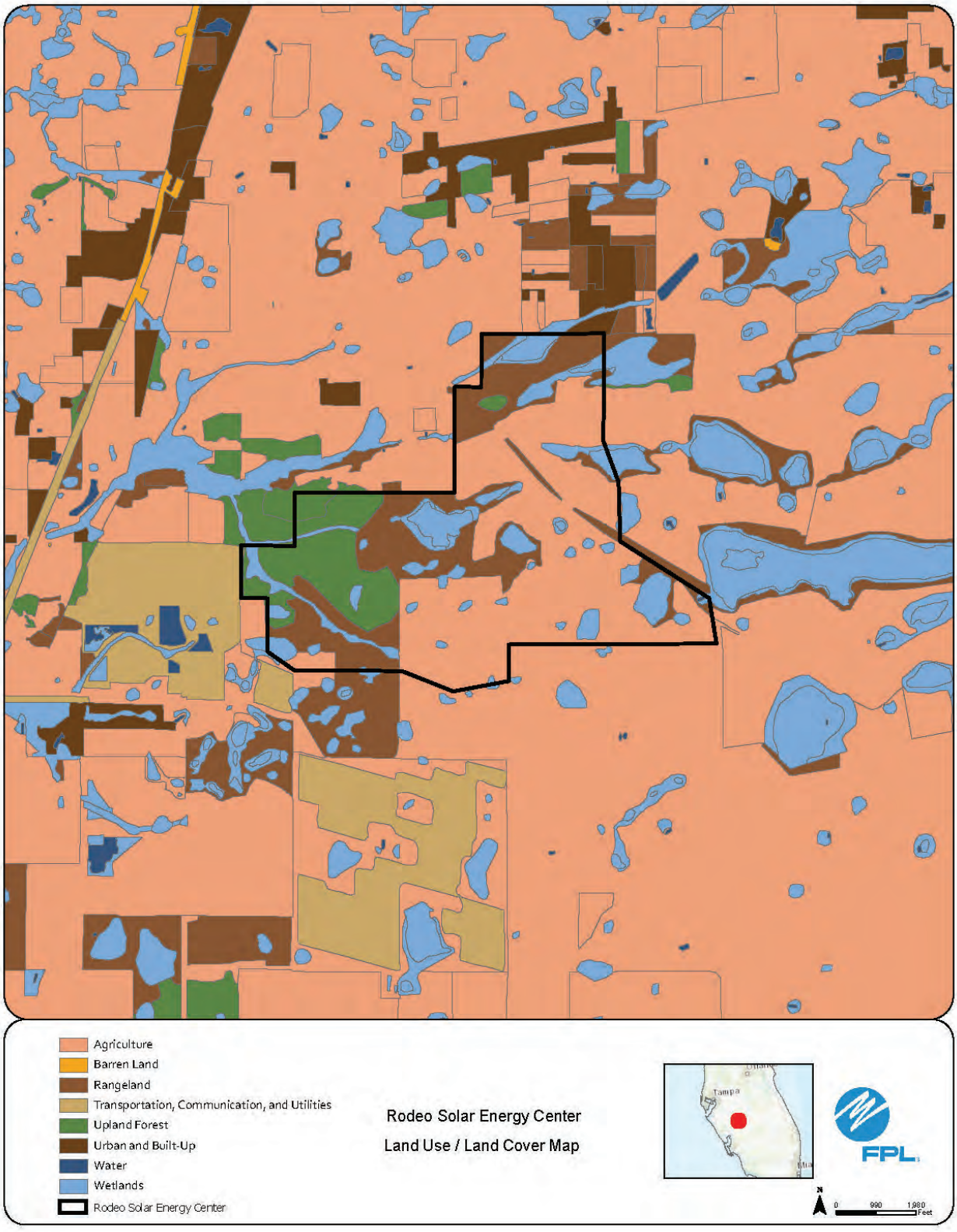

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Fort Drum Solar Energy Center
Fort Drum Solar Energy Center
Land Use / Land Cover Map
Orlando
Tampa
FPL
N
0
900
1,800
Feet

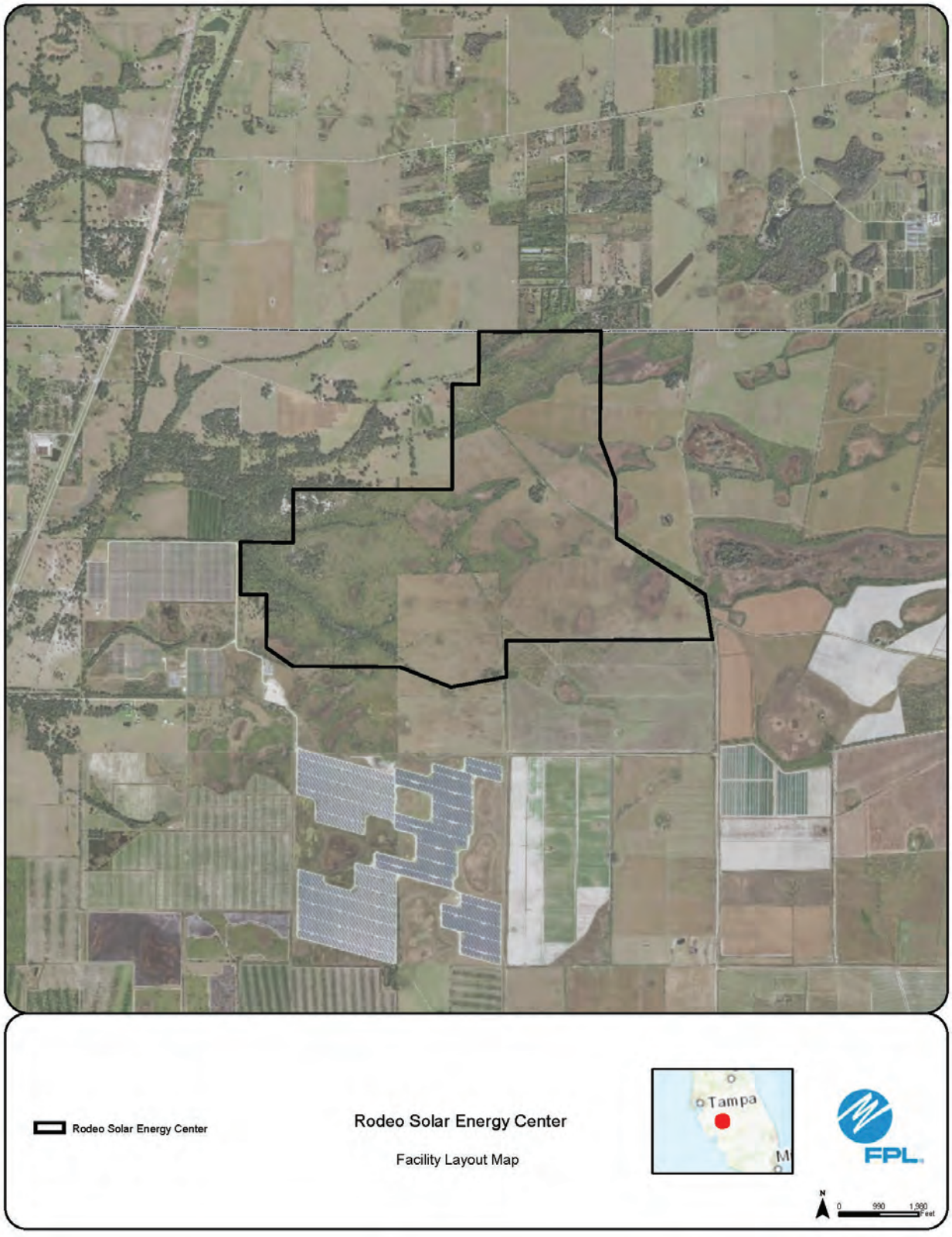

Fort Drum Solar Energy Center
Fort Drum Solar Energy Center
Facility Layout Map
Orlando
Tampa
FPL
N
0
900
1,800
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 17: Rodeo Solar Energy Center, DeSoto County

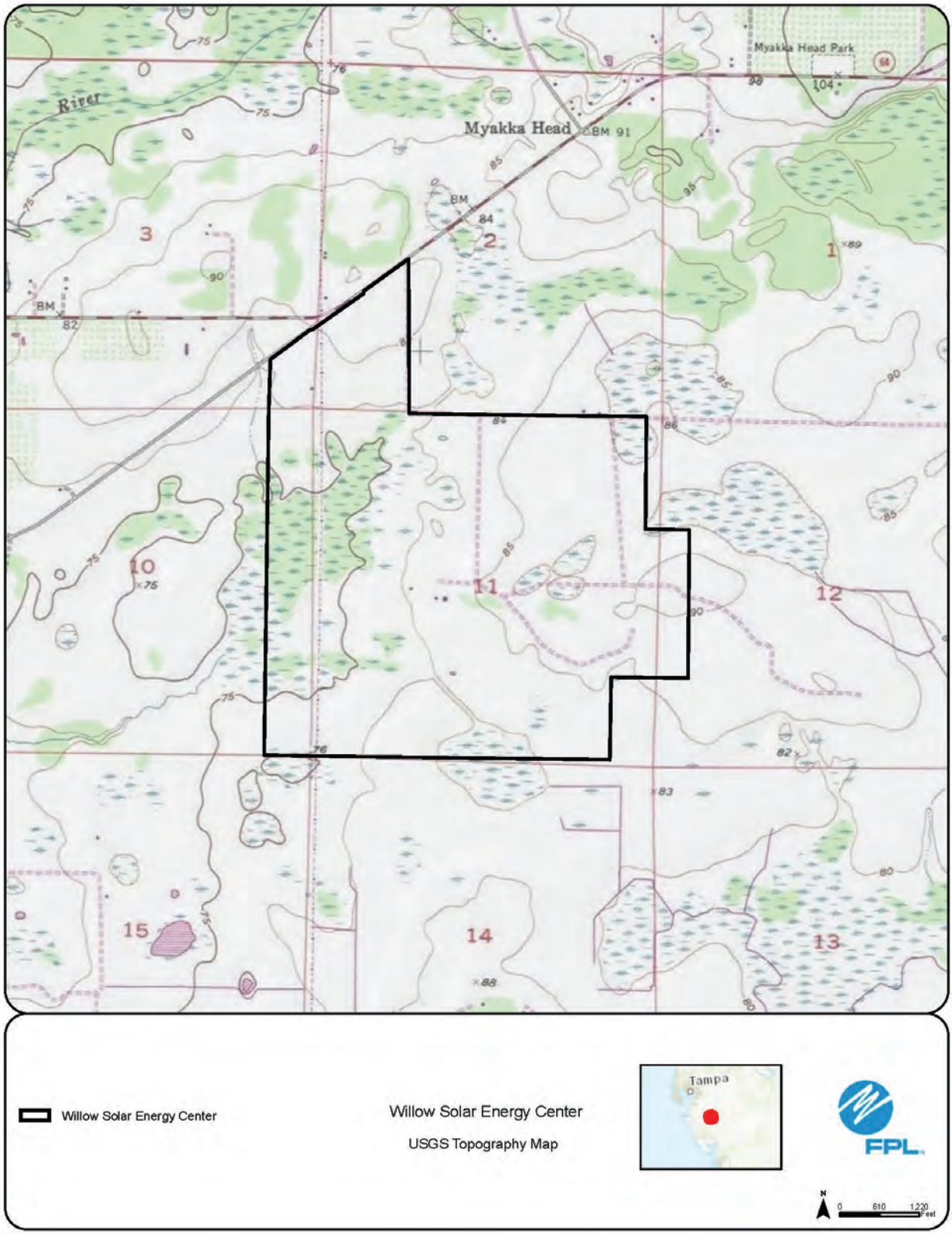

Gardner
HARDEE CO
DE SOTO CO
Rodeo Solar Energy Center
Rodeo Solar Energy Center
USGS Topography Map
Tampa
FPL
N
0
990
1,980
Feet

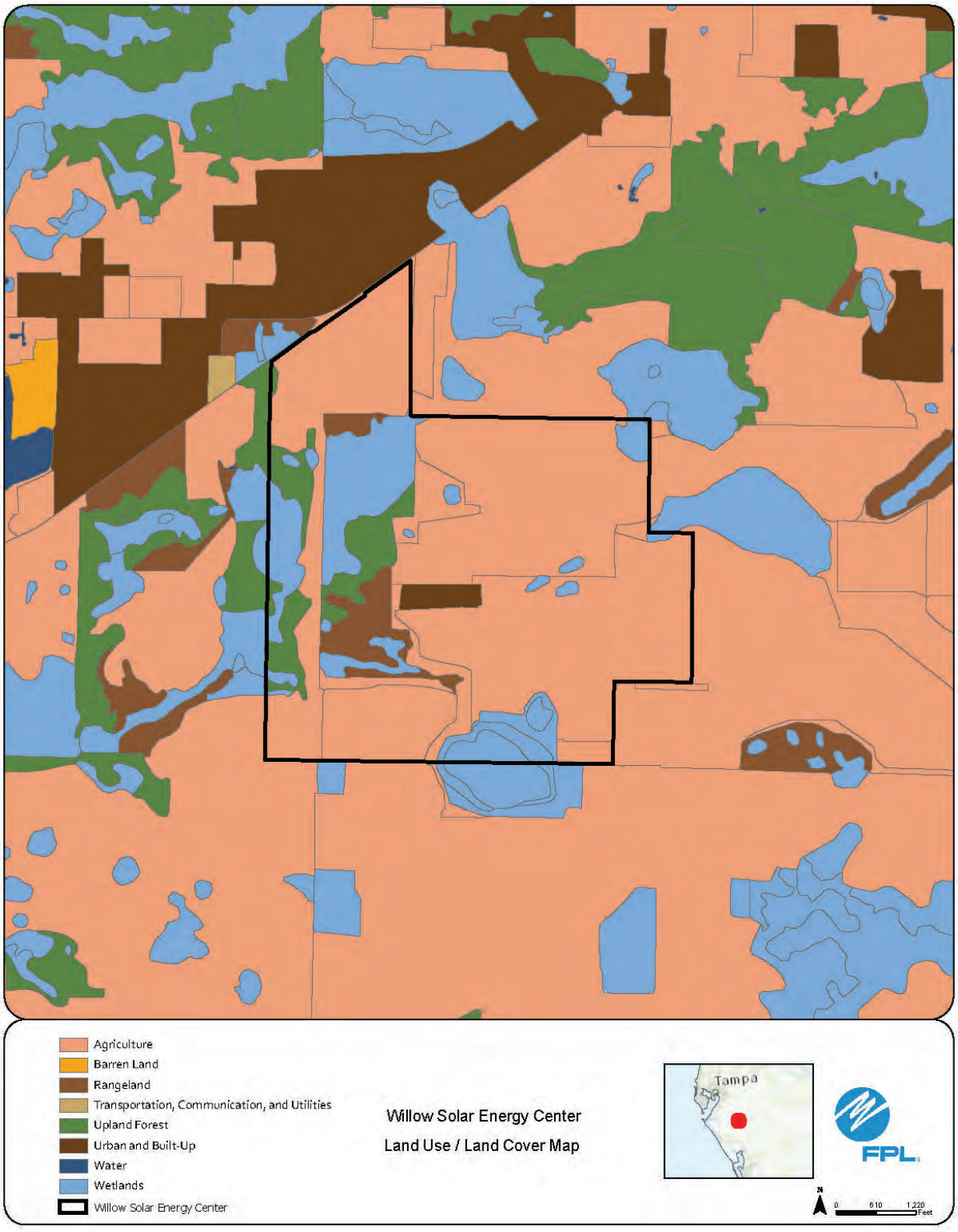

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Rodeo Solar Energy Center
Rodeo Solar Energy Center
Land Use / Land Cover Map
Tampa
FPL
N
0
990
1,980
Feet

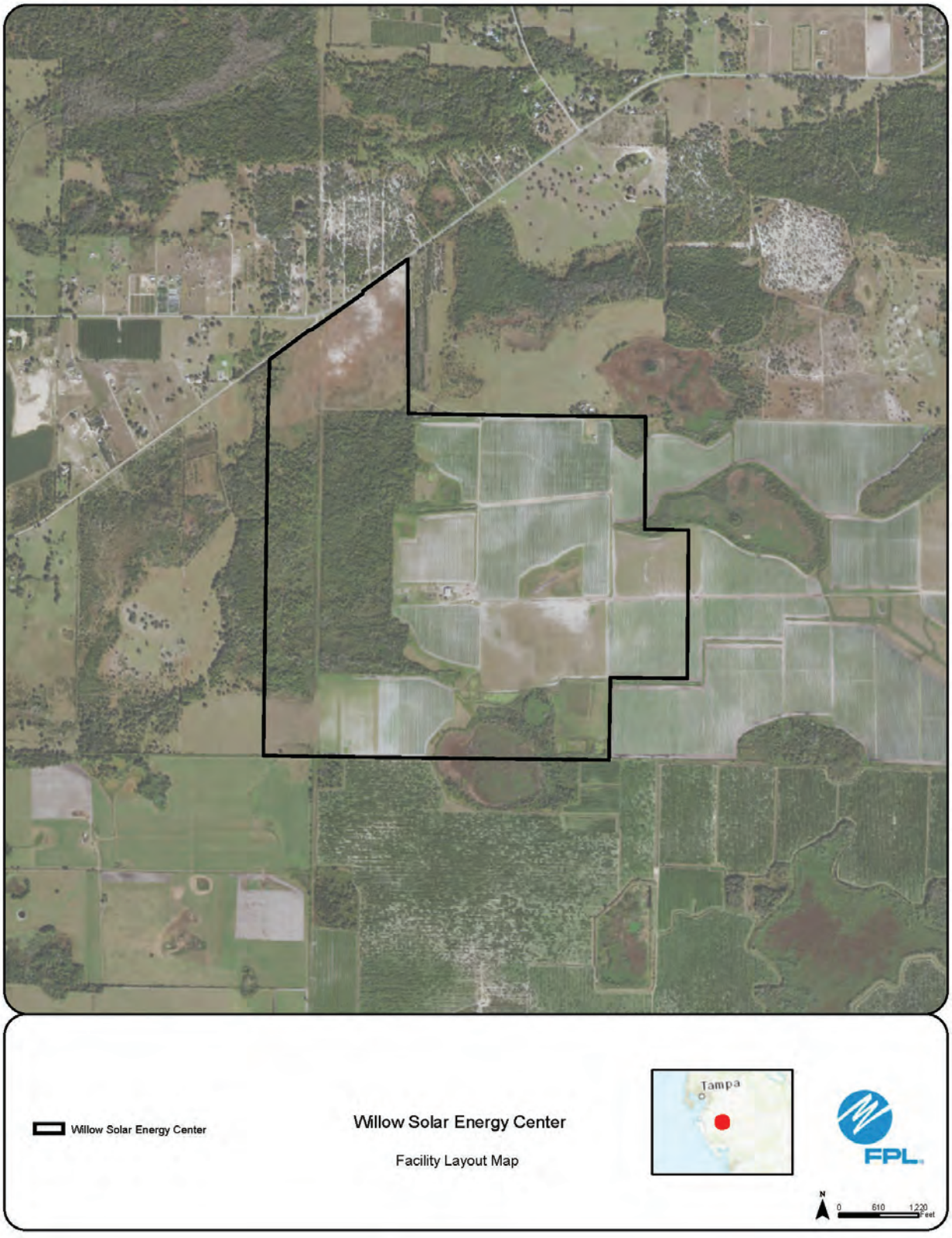

Rodeo Solar Energy Center
Rodeo Solar Energy Center
Facility Layout Map
Tampa
M
FPL.
N
0
990
1,980
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 18: Willow Solar Energy Center, Manatee County

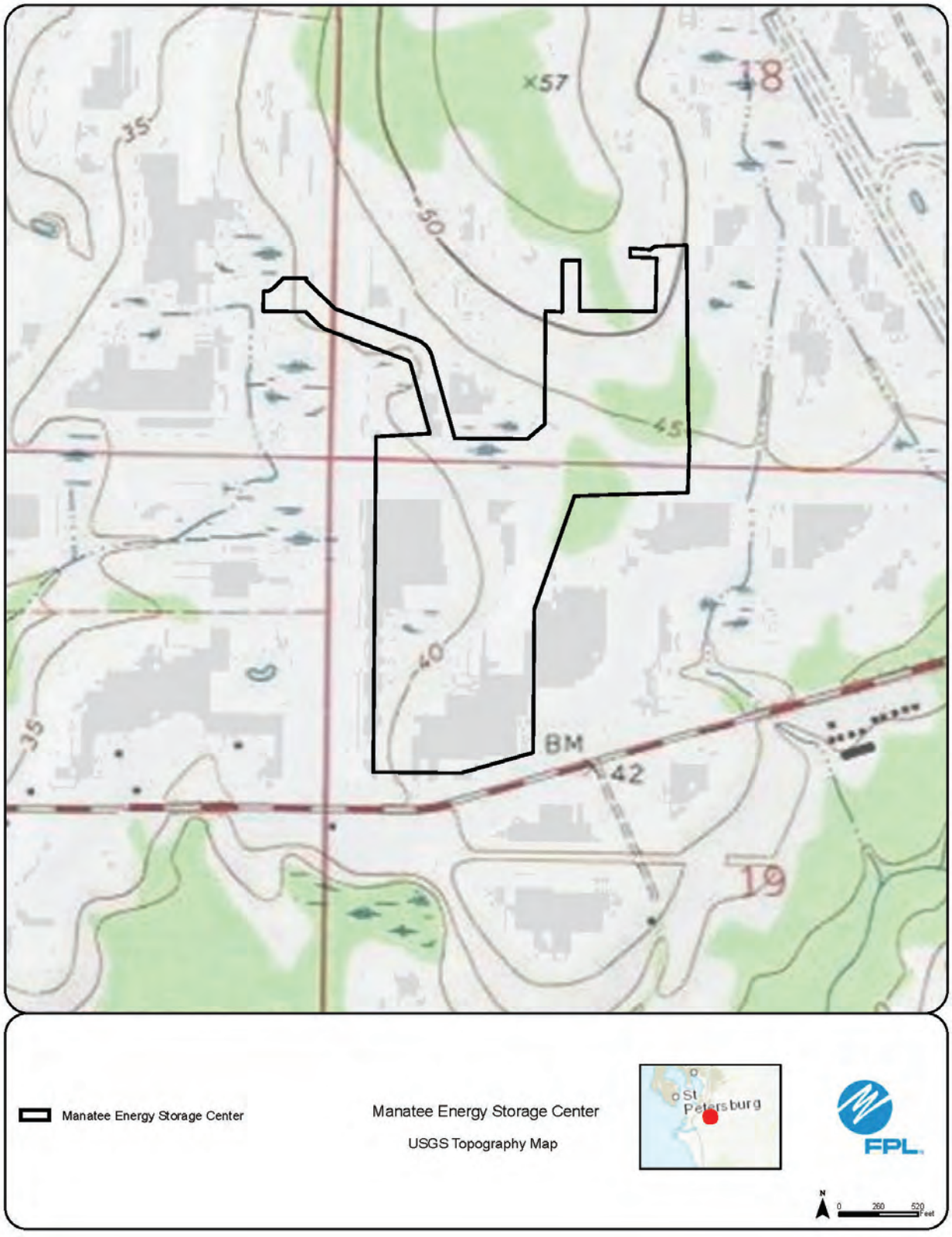

Myakka Head Park
Myakka Head
BM 91
River
Willow Solar Energy Center
Willow Solar Energy Center
USGS Topography Map
Tampa
FPL
N
0
610
1,220
Feet

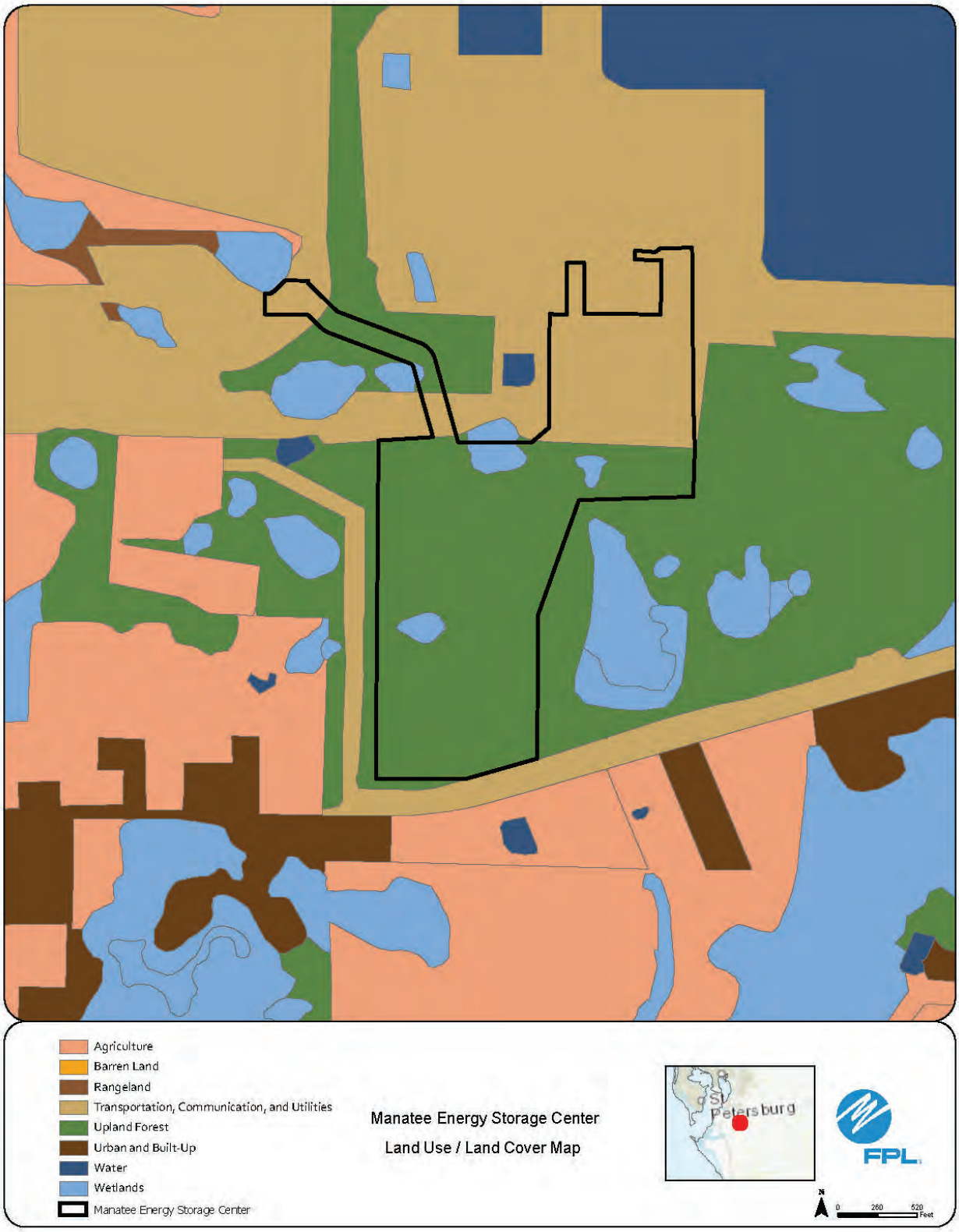

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Willow Solar Energy Center
Willow Solar Energy Center
Land Use / Land Cover Map
Tampa
FPL
N
0
610
1,220
Feet

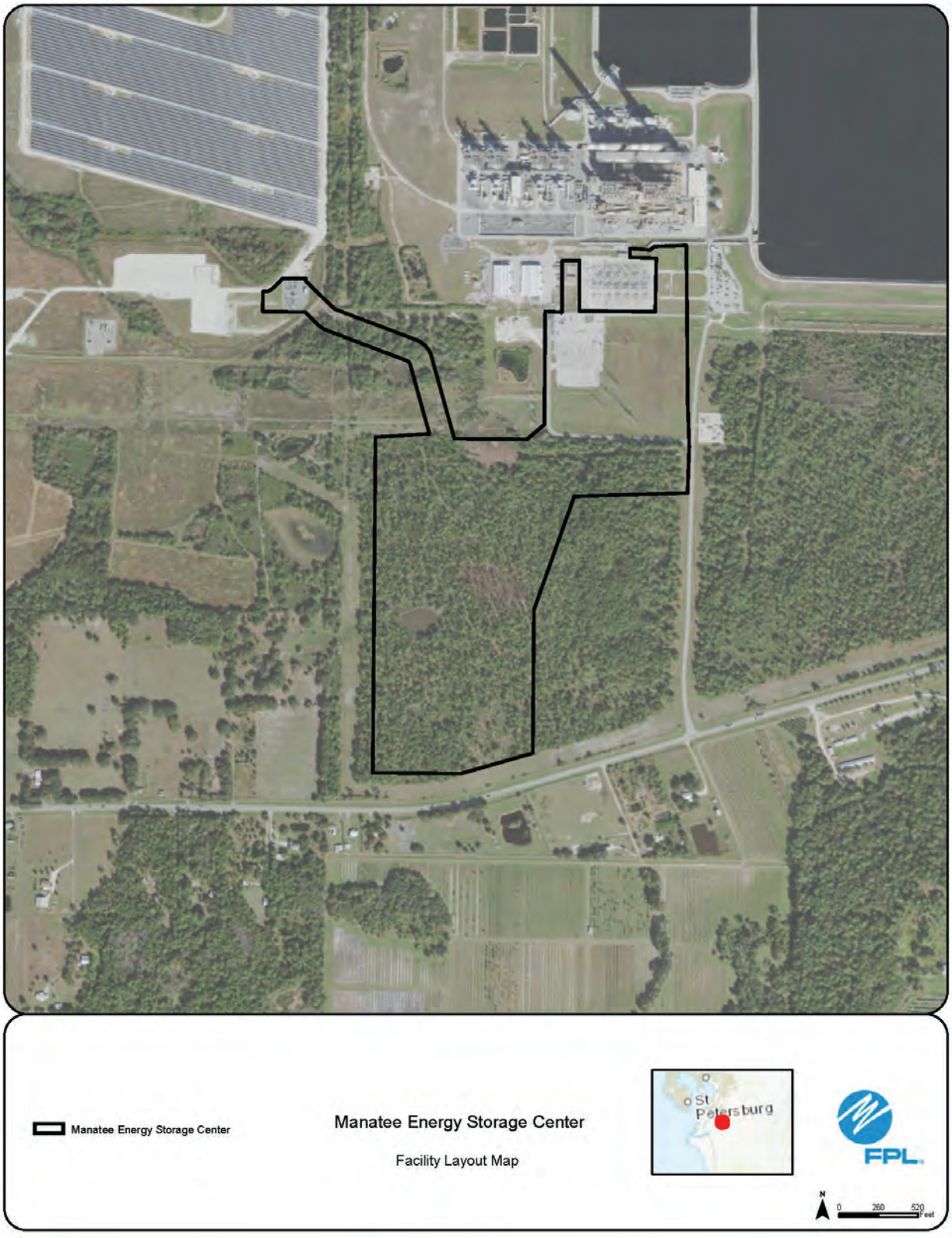

Willow Solar Energy Center
Willow Solar Energy Center
Facility Layout Map
Tampa
FPL
N
0
610
1,220
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 19: Manatee Energy Storage Center, Manatee County

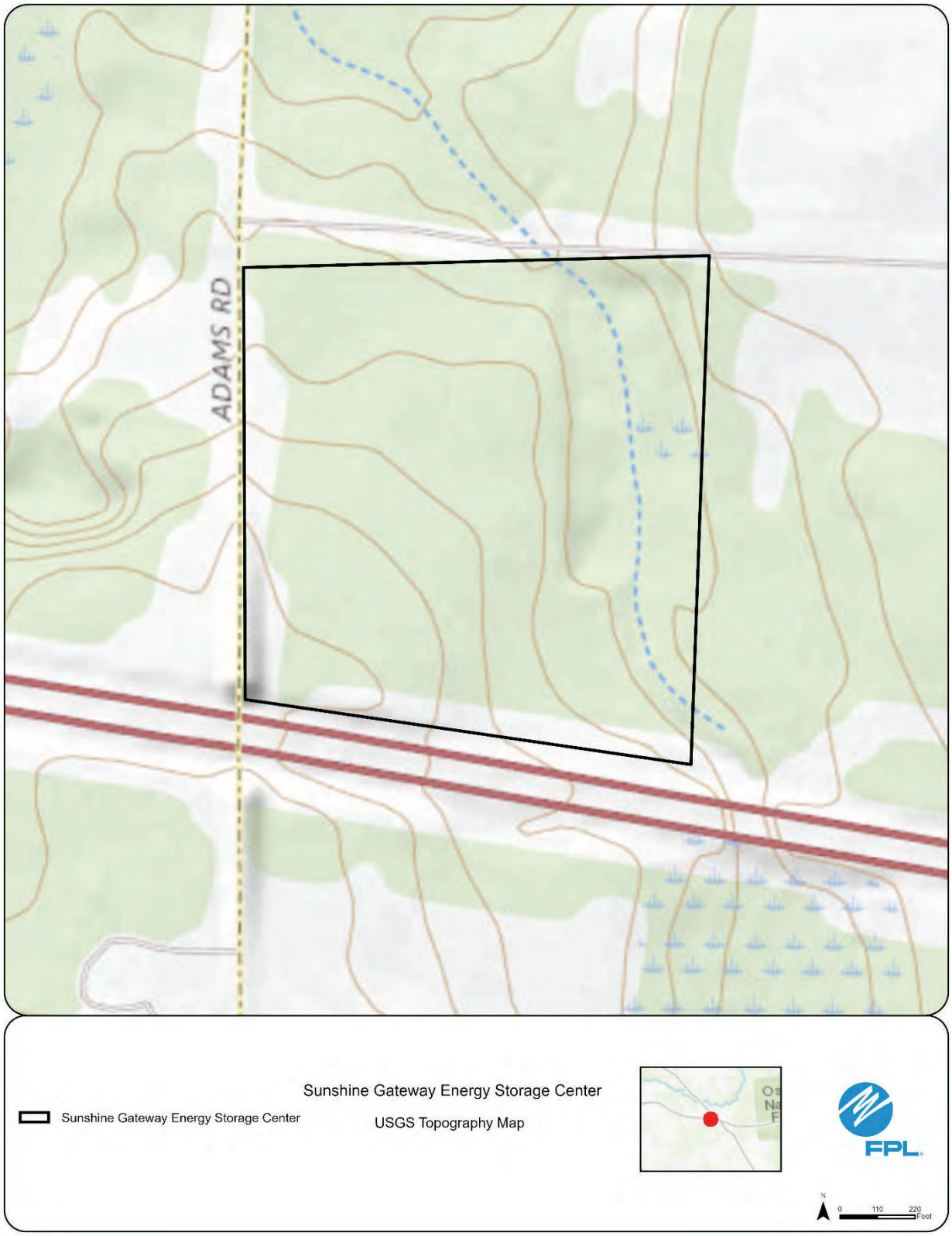

Manatee Energy Storage Center
Manatee Energy Storage Center
USGS Topography Map
St Petersburg
FPL
N
0
260
520
Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Manatee Energy Storage Center
Manatee Energy Storage Center
Land Use / Land Cover Map
St Petersburg
FPL
N
0
260
520
Feet

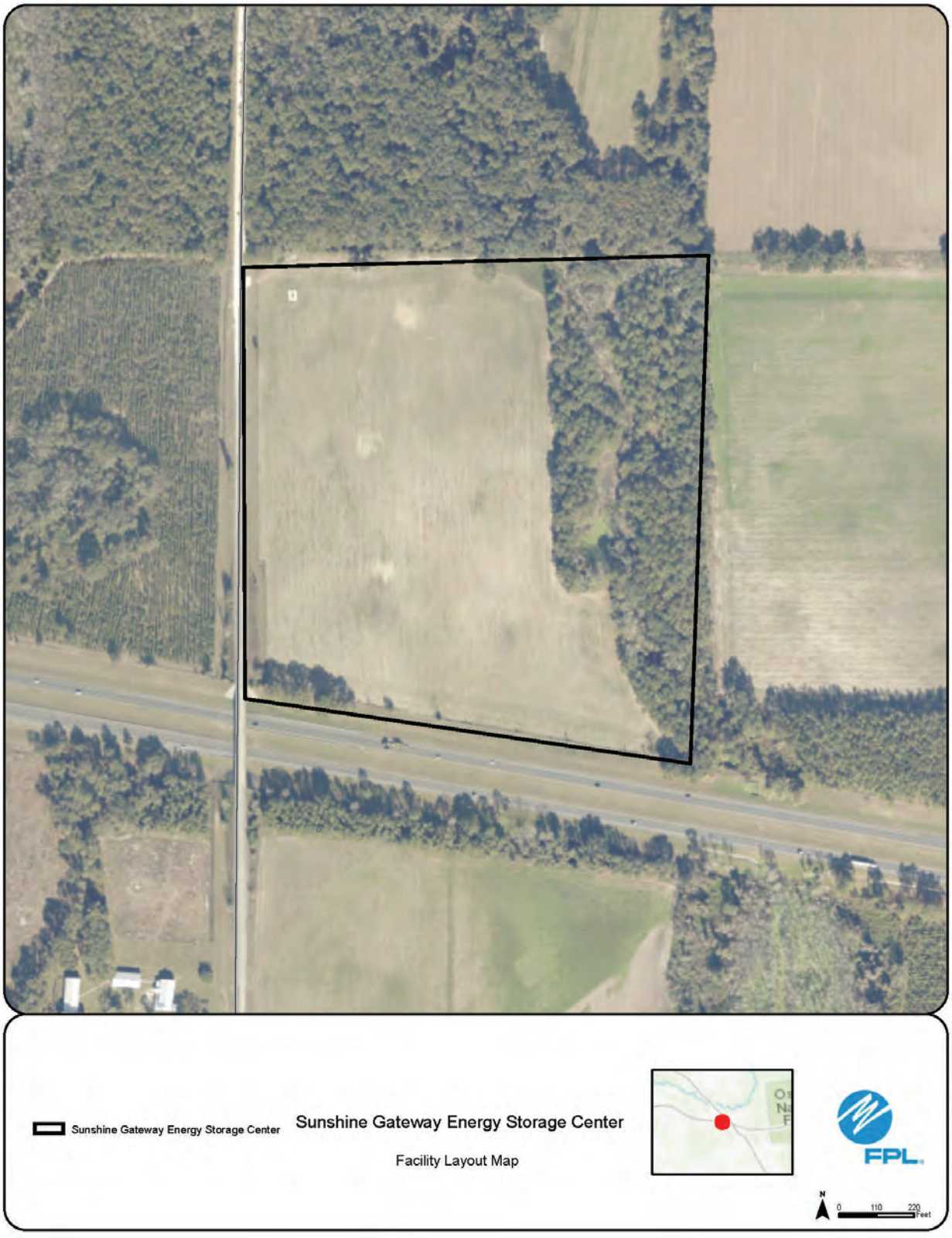

Manatee Energy Storage Center
Manatee Energy Storage Center
Facility Layout Map
St Petersburg
FPL
N
0
260
520
Feet

Environmental and Land Use Information:
Supplemental Information

Preferred Site # 20: Sunshine Gateway Energy Storage Center, Columbia County

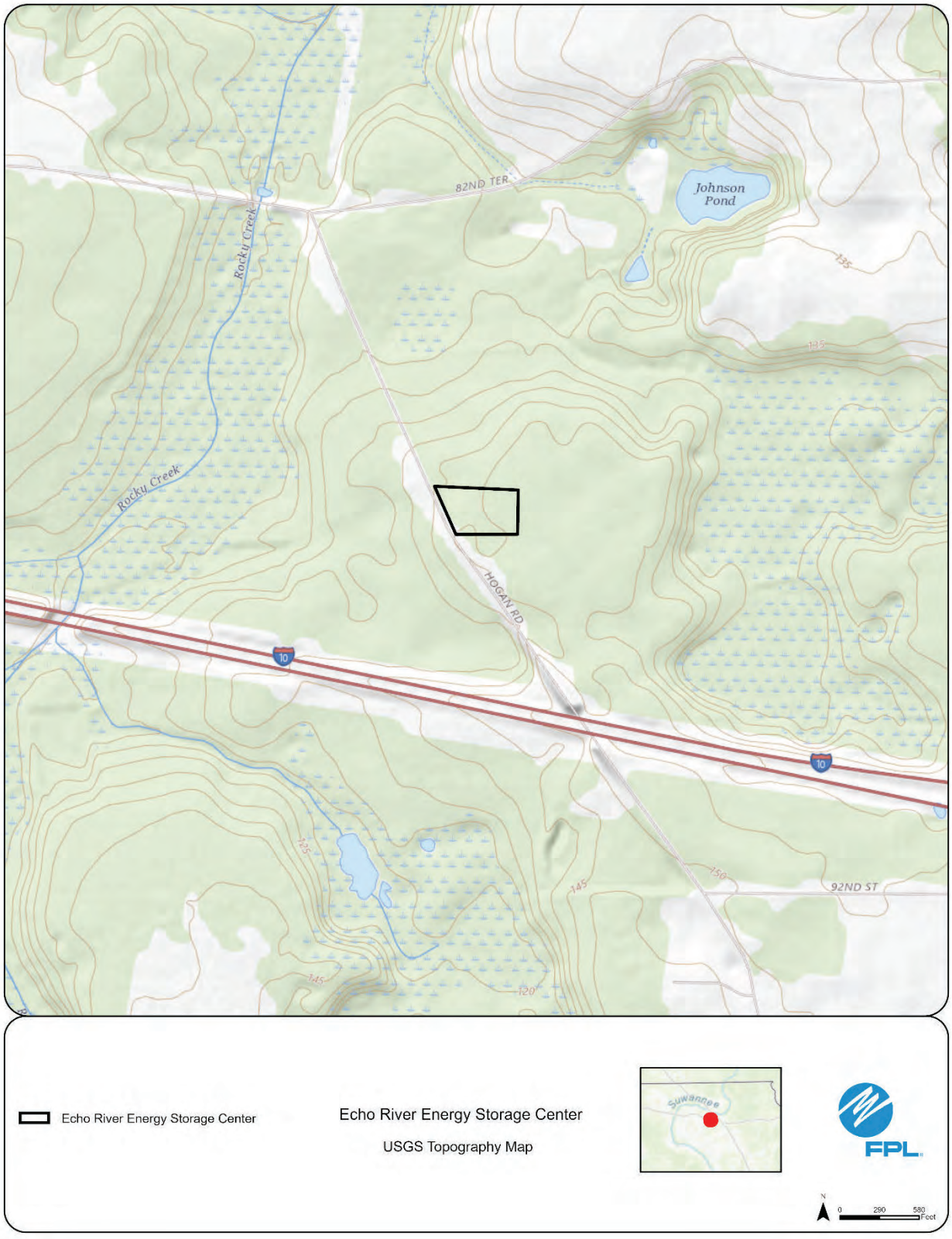

ADAMS RD
Sunshine Gateway Energy Storage Center
Sunshine Gateway Energy Storage Center
USGS Topography Map
FPL
N
0
110
220
Feet

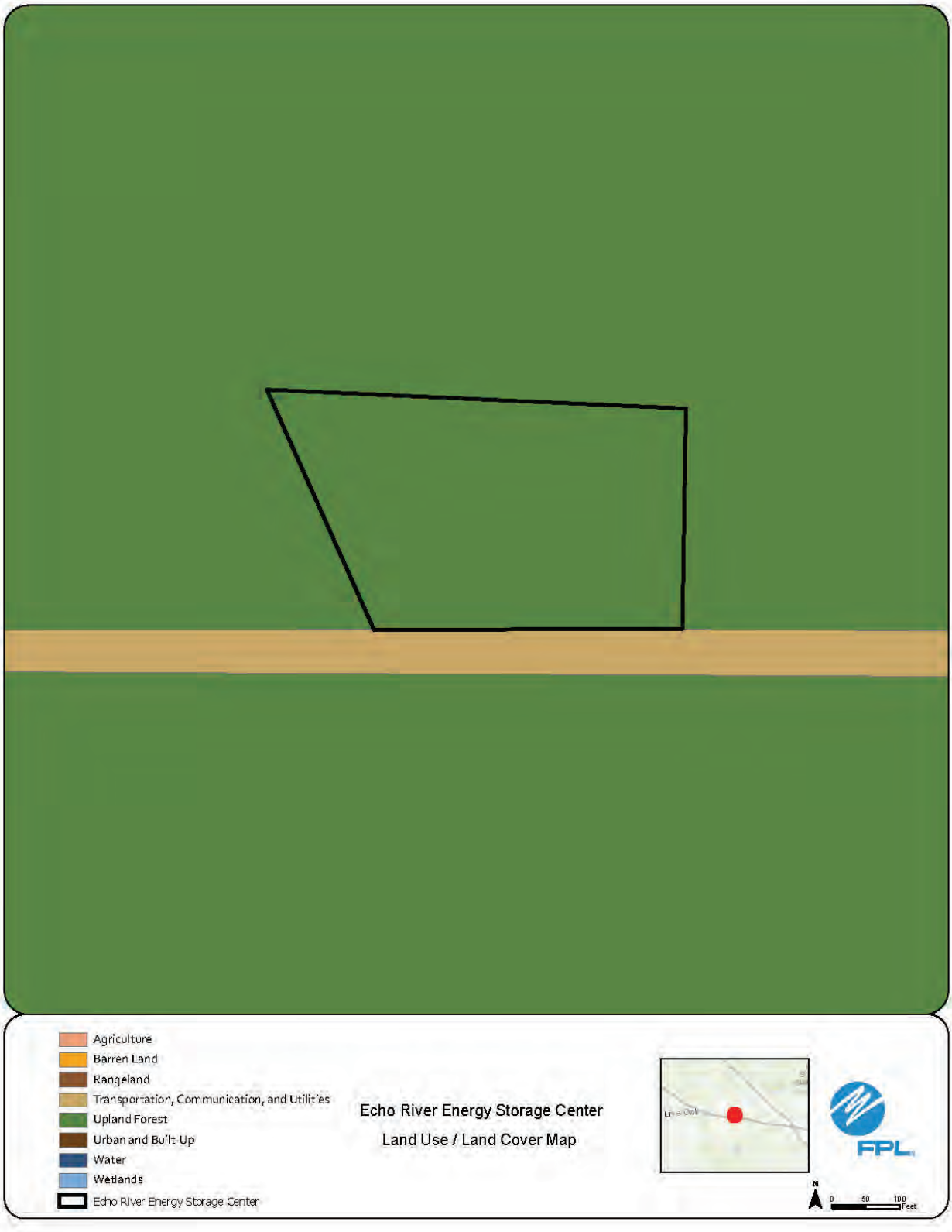

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Sunshine Gateway Energy Storage Center
Sunshine Gateway Energy Storage Center
Land Use / Land Cover Map
FPL
N
0
110
220
Feet

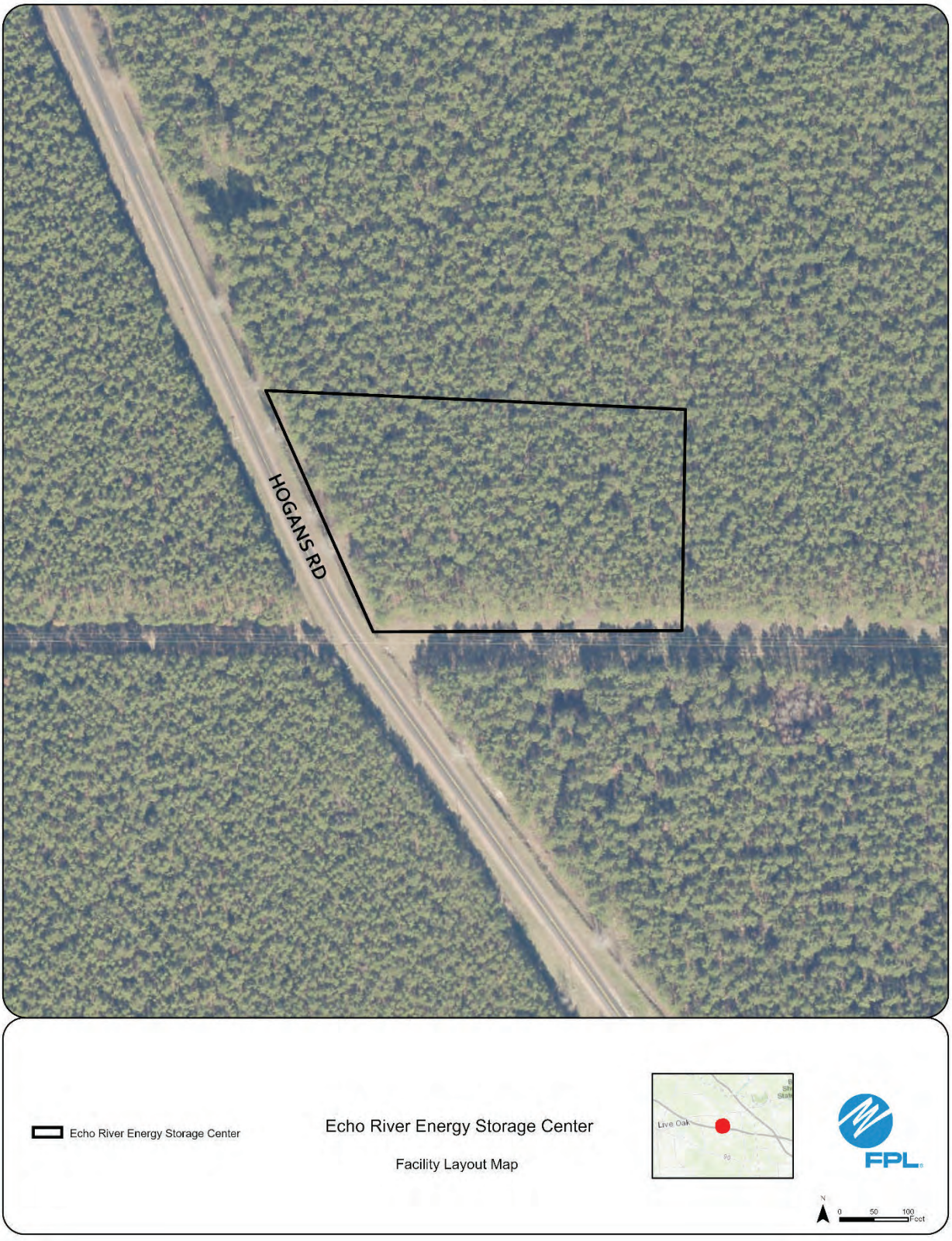

Sunshine Gateway Energy Storage Center
Sunshine Gateway Energy Storage Center
Facility Layout Map
FPL
N
0
110
220
Feet

Environmental and Land Use Information:
Supplemental Information

Preferred Site # 21: Echo River Energy Storage Center, Suwanee County

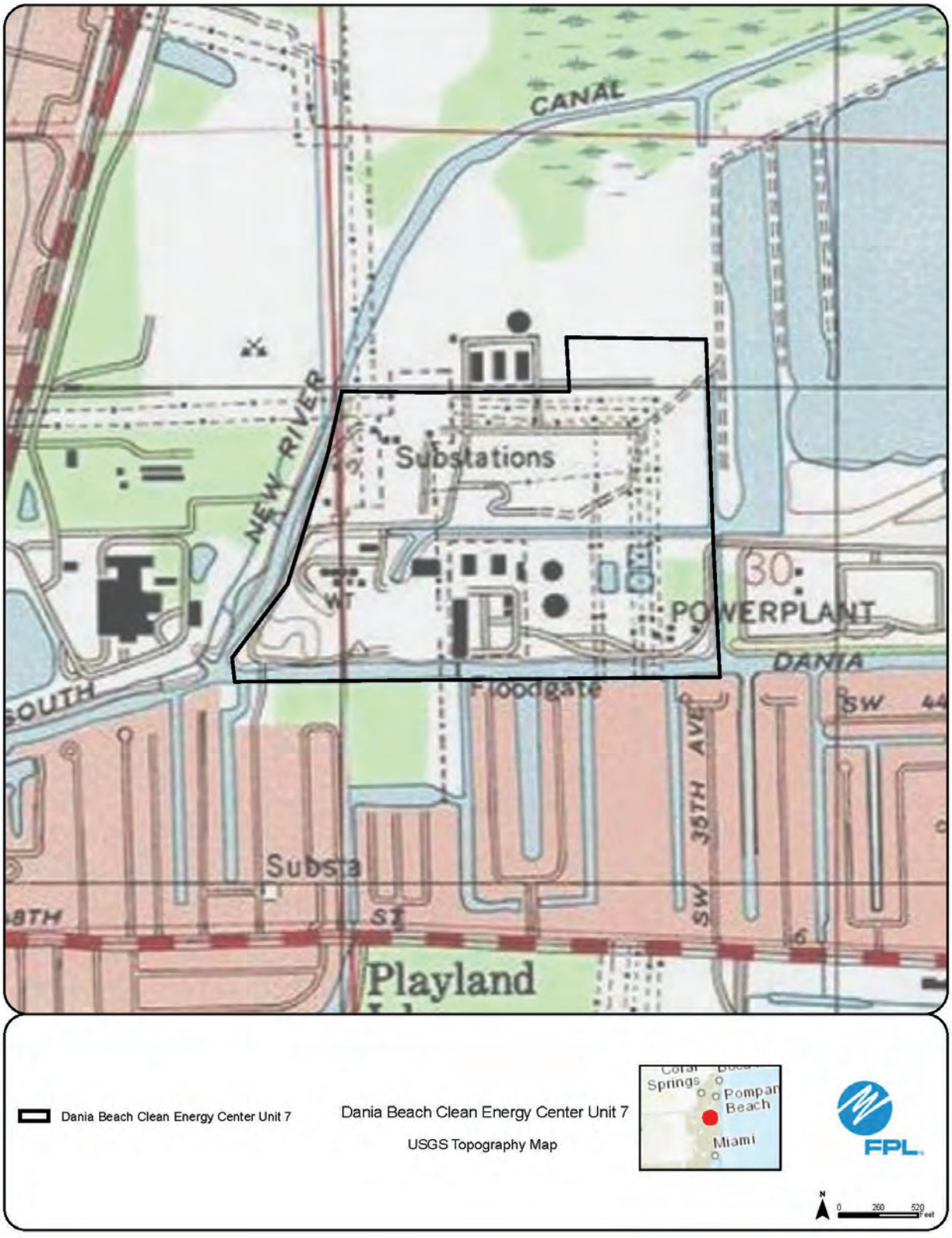

82ND TER
Johnson Pond
Rocky Creek
Rocky Creek
HOGAN RD
10
10
92ND ST
135
135
145
150
145
120
Echo River Energy Storage Center
Echo River Energy Storage Center
USGS Topography Map
Suwannee
FPL
N
0
290
580
Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Echo River Energy Storage Center
Echo River Energy Storage Center
Land Use / Land Cover Map
FPL
N
0
50
100
Feet

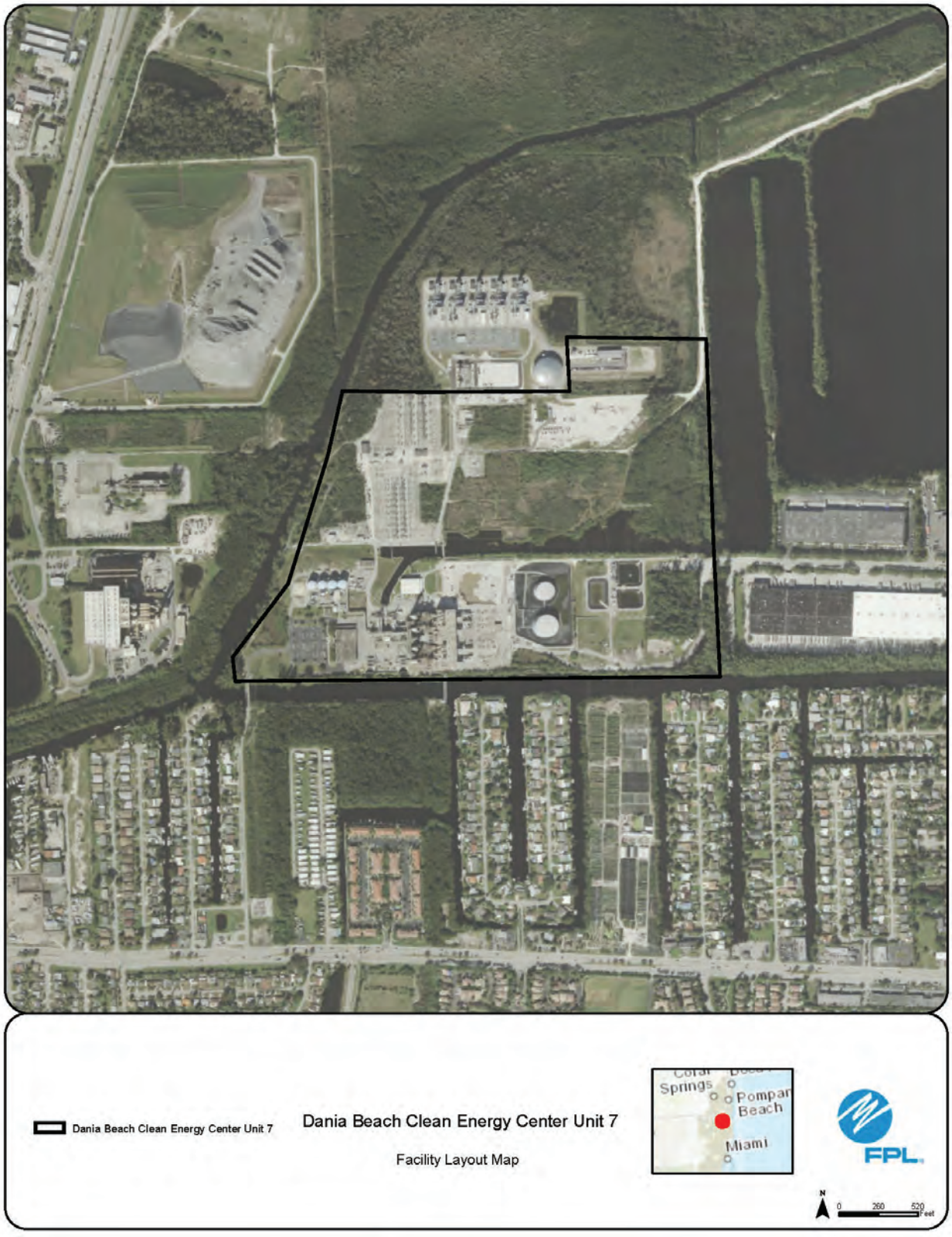

HOGANS RD
Echo River Energy Storage Center
Echo River Energy Storage Center
Facility Layout Map
Live Oak
FPL
N
0
50
100
Feet

Environmental and Land Use Information:
Supplemental Information

Preferred Site # 22: Dania Beach Clean Energy Center Unit 7, Broward County

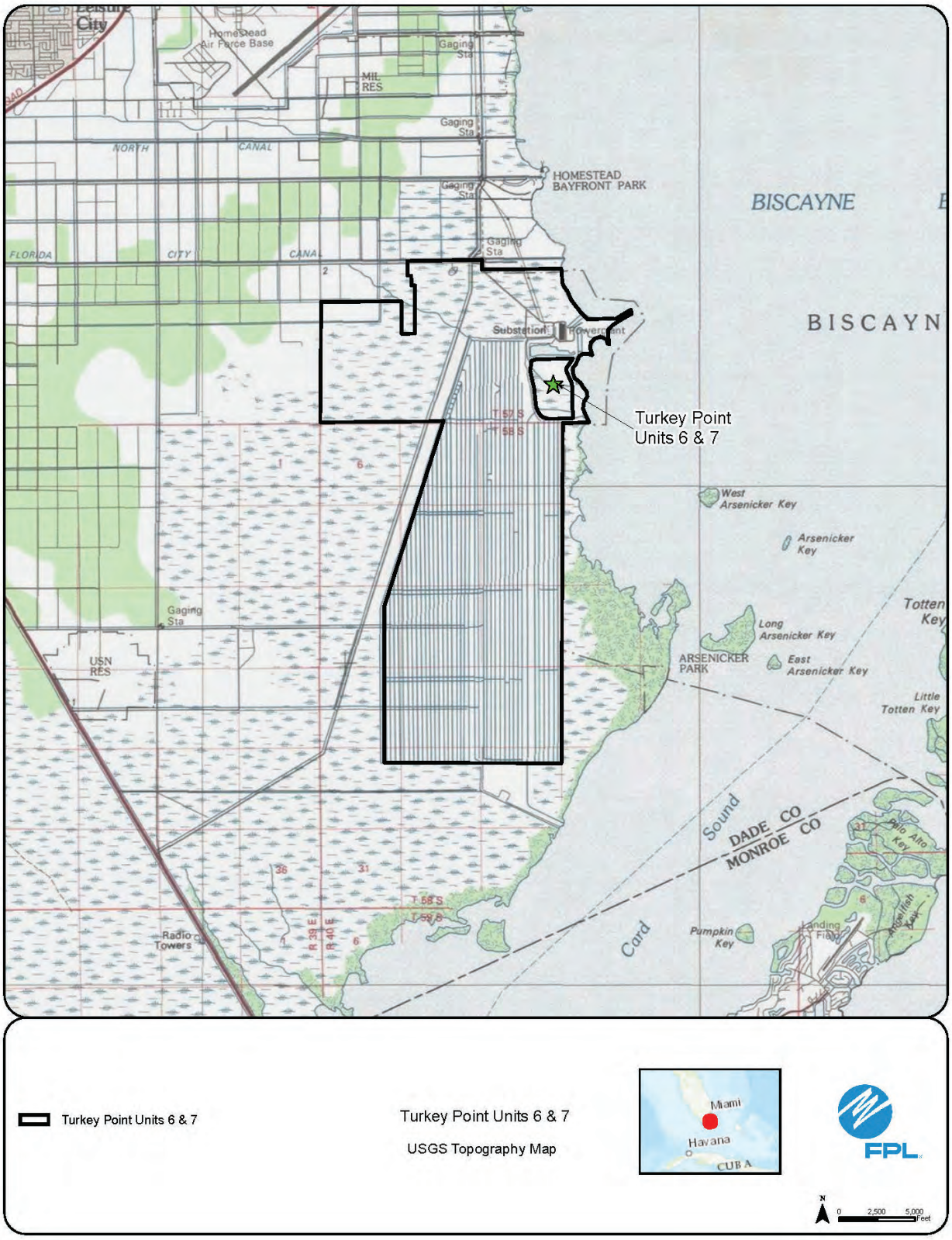

CANAL
NEW RIVER
Substations
POWERPLANT
DANIA
Floodgate
SW 35TH AVE
Playland
Dania Beach Clean Energy Center Unit 7
Dania Beach Clean Energy Center Unit 7
USGS Topography Map
Pompano Beach
Miami
FPL
N
0
260
520
Feet

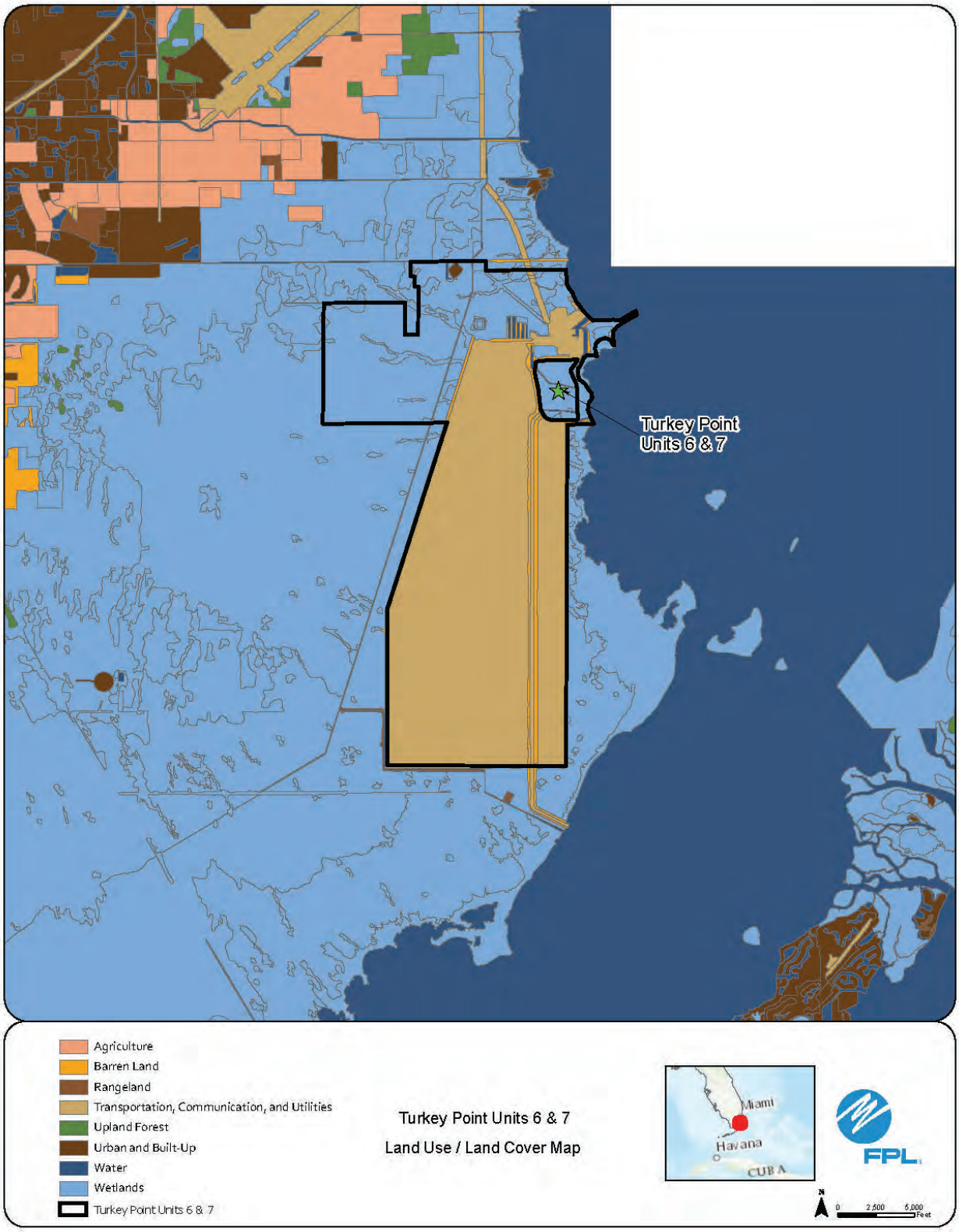

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Dania Beach Clean Energy Center Unit 7
Dania Beach Clean Energy Center Unit 7
Land Use / Land Cover Map
Springs
Pompano Beach
Miami
FPL
N
0
260
520
Feet


Dania Beach Clean Energy Center Unit 7
Dania Beach Clean Energy Center Unit 7
Facility Layout Map
Springs
Pompano Beach
Miami
FPL
N
0
260
520
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 23: Turkey Point Units 6&7, Miami-Dade County

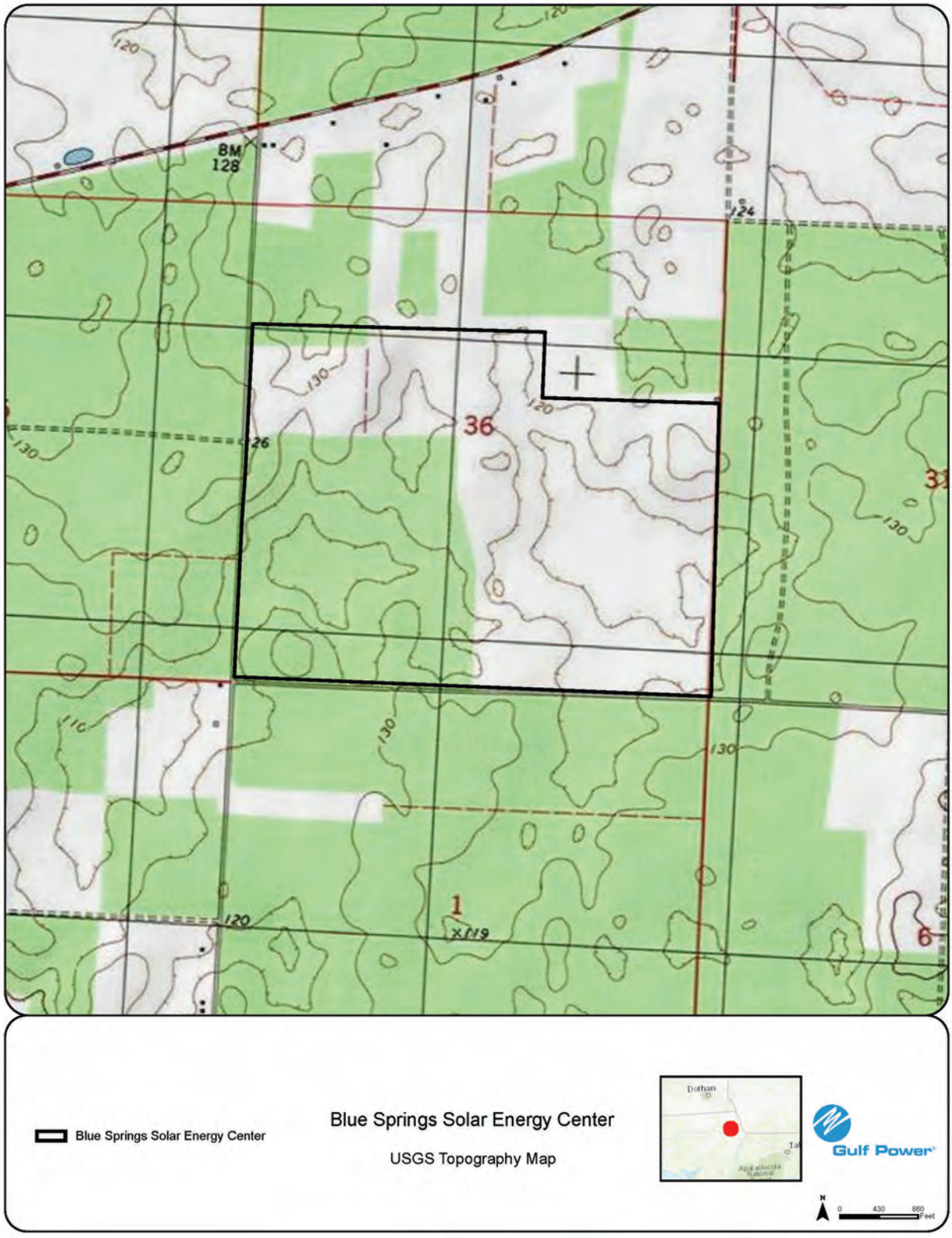

Homestead Air Force Base
MIL RES
Gaging Sta
NORTH CANAL
HOMESTEAD BAYFRONT PARK
BISCAYNE
FLORIDA CITY CANAL
Substation
Powerplant
Turkey Point Units 6 & 7
T 57 S
T 58 S
West Arsenicker Key
Arsenicker Key
Totten Key
Long Arsenicker Key
East Arsenicker Key
ARSENICKER PARK
Little Totten Key
USN RES
Sound
DADE CO
MONROE CO
Pelo Alto Key
Pumpkin Key
Landing Field
Card
Radio Towers
R 39 E
R 40 E
Turkey Point Units 6 & 7
Turkey Point Units 6 & 7
USGS Topography Map
Miami
Havana
CUBA
FPL
N
0 2,500 5,000 Feet

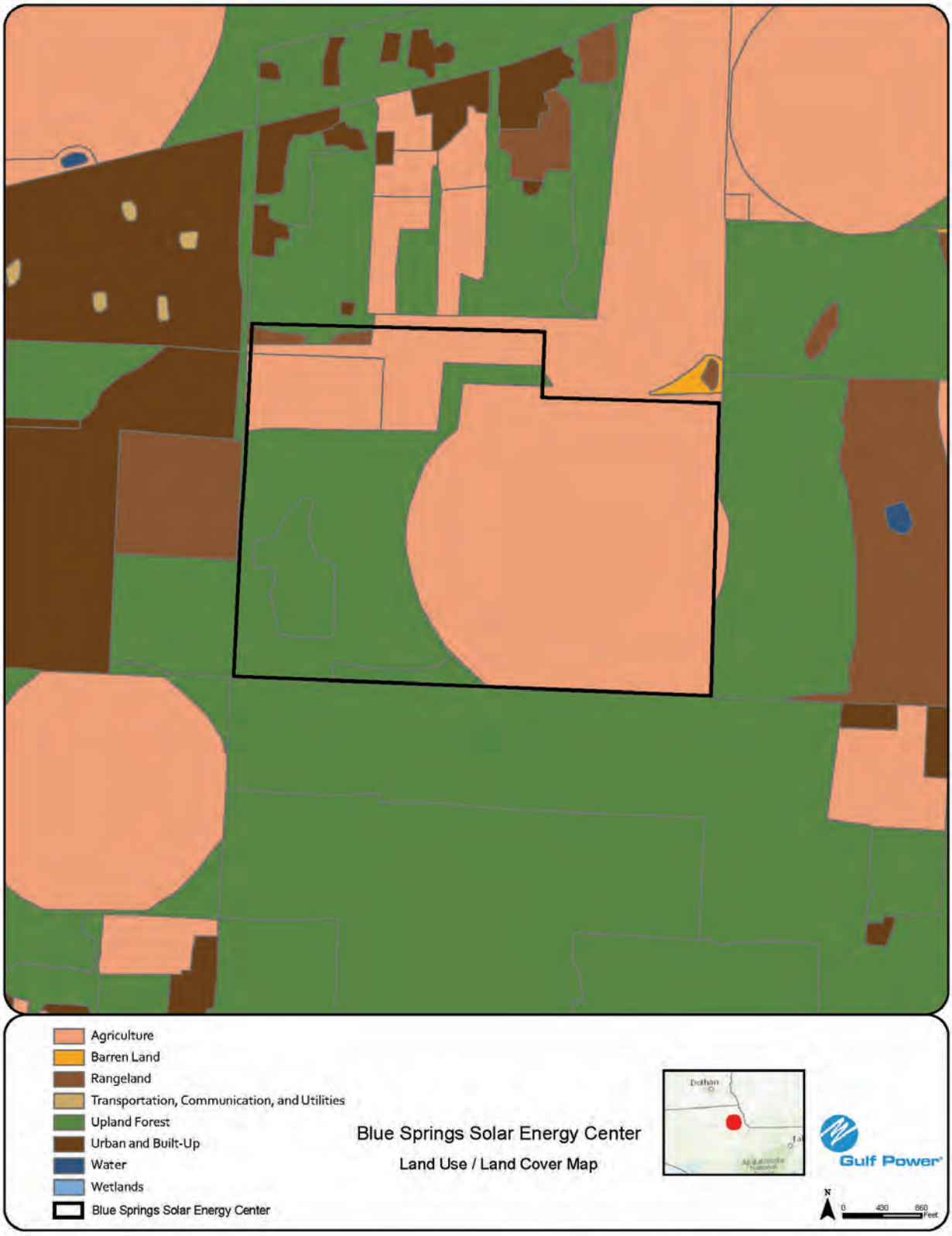

Turkey Point
Units 6 & 7
Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Turkey Point Units 6 & 7
Turkey Point Units 6 & 7
Land Use / Land Cover Map
Miami
Havana
CUBA
FPL
N
0
2,500
5,000
Feet

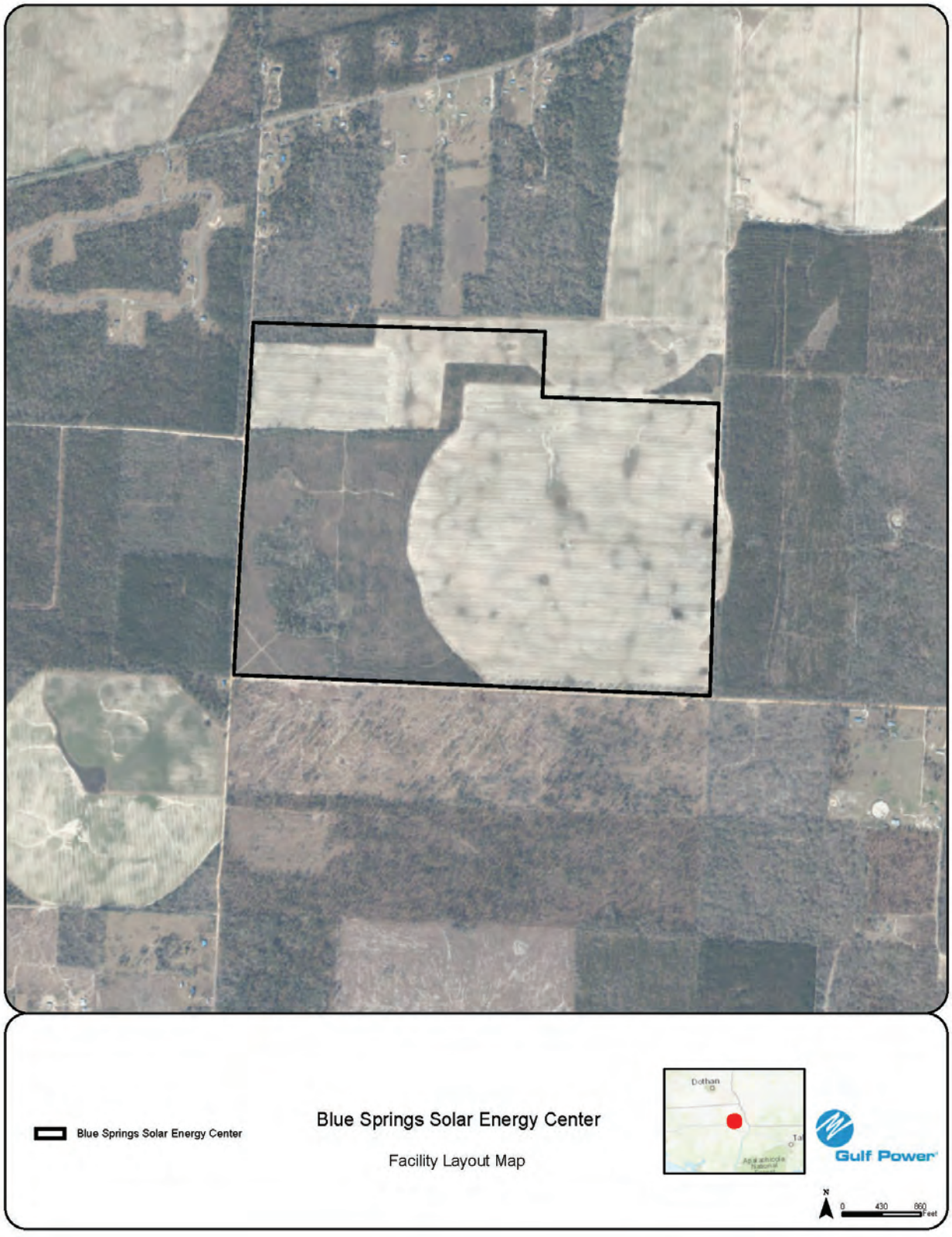

Turkey Point Units 6 & 7
Turkey Point Units 6 & 7
Facility Layout Map
FPL
N
0
320
640
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 24: Blue Springs Solar Energy Center, Jackson County

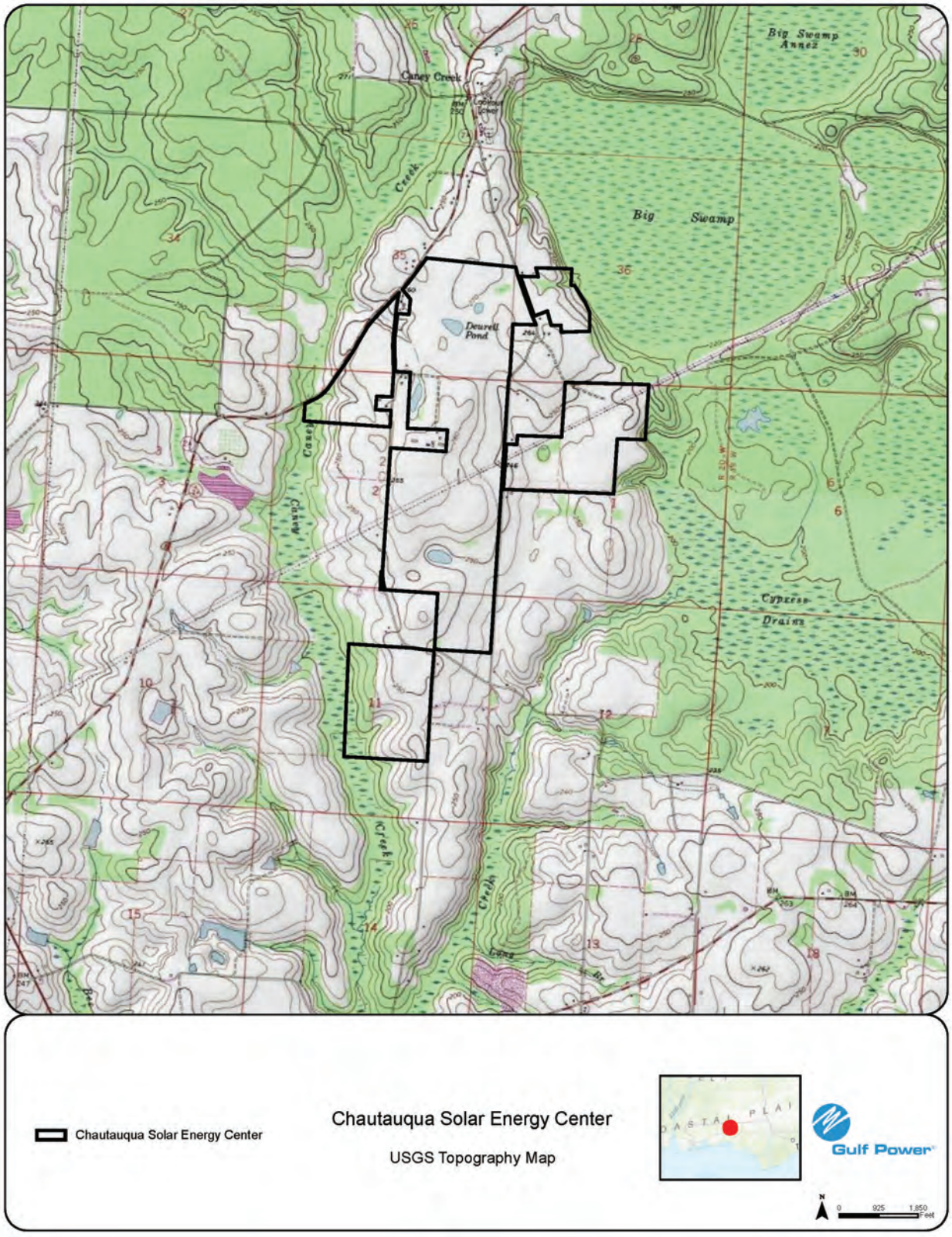

BM
128
36
1
Blue Springs Solar Energy Center
Blue Springs Solar Energy Center
USGS Topography Map
Dothan
Gulf Power
N
0
430
860
Feet

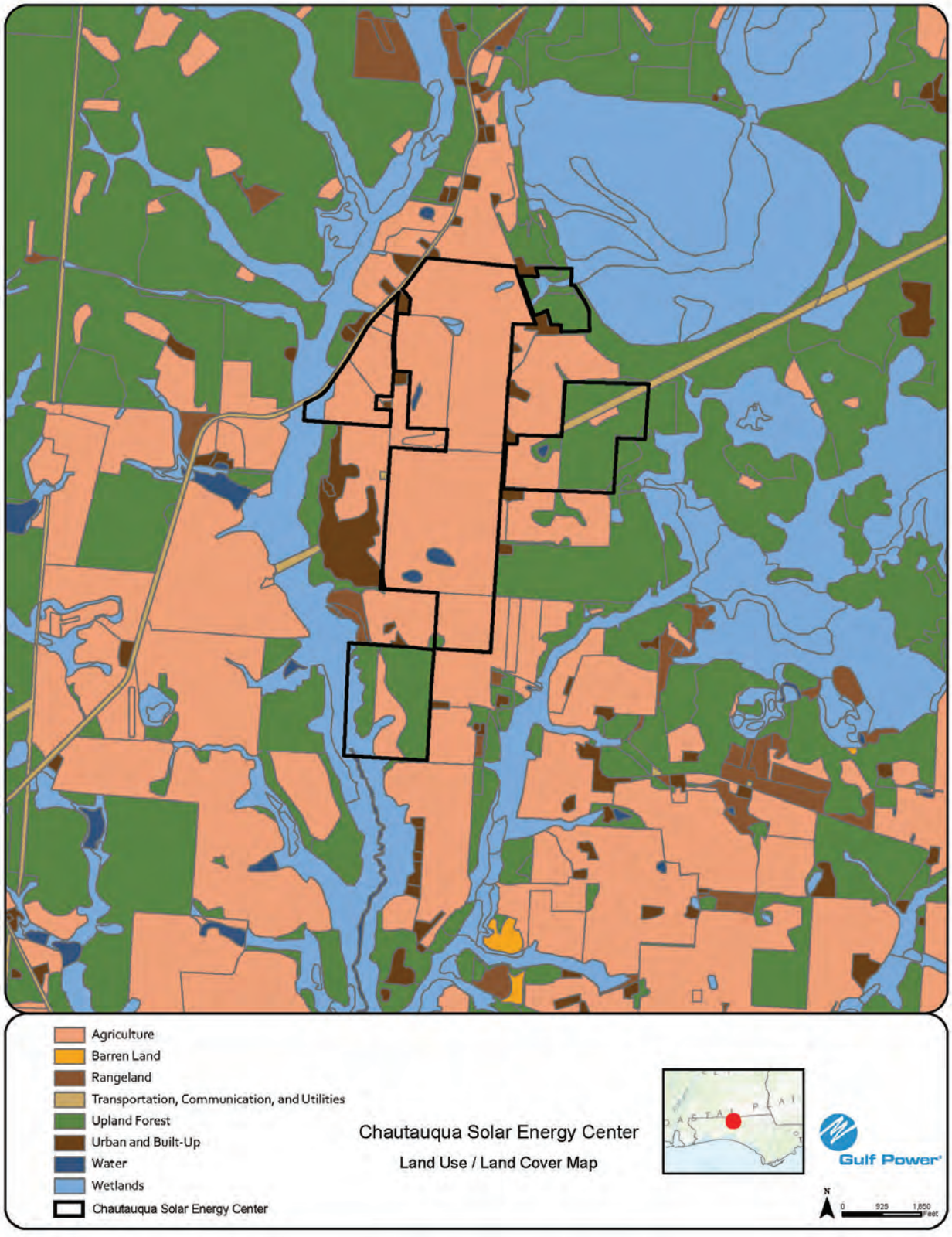

Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Blue Springs Solar Energy Center
Blue Springs Solar Energy Center
Land Use / Land Cover Map
Dothan
Gulf Power
N
0
430
860
Feet

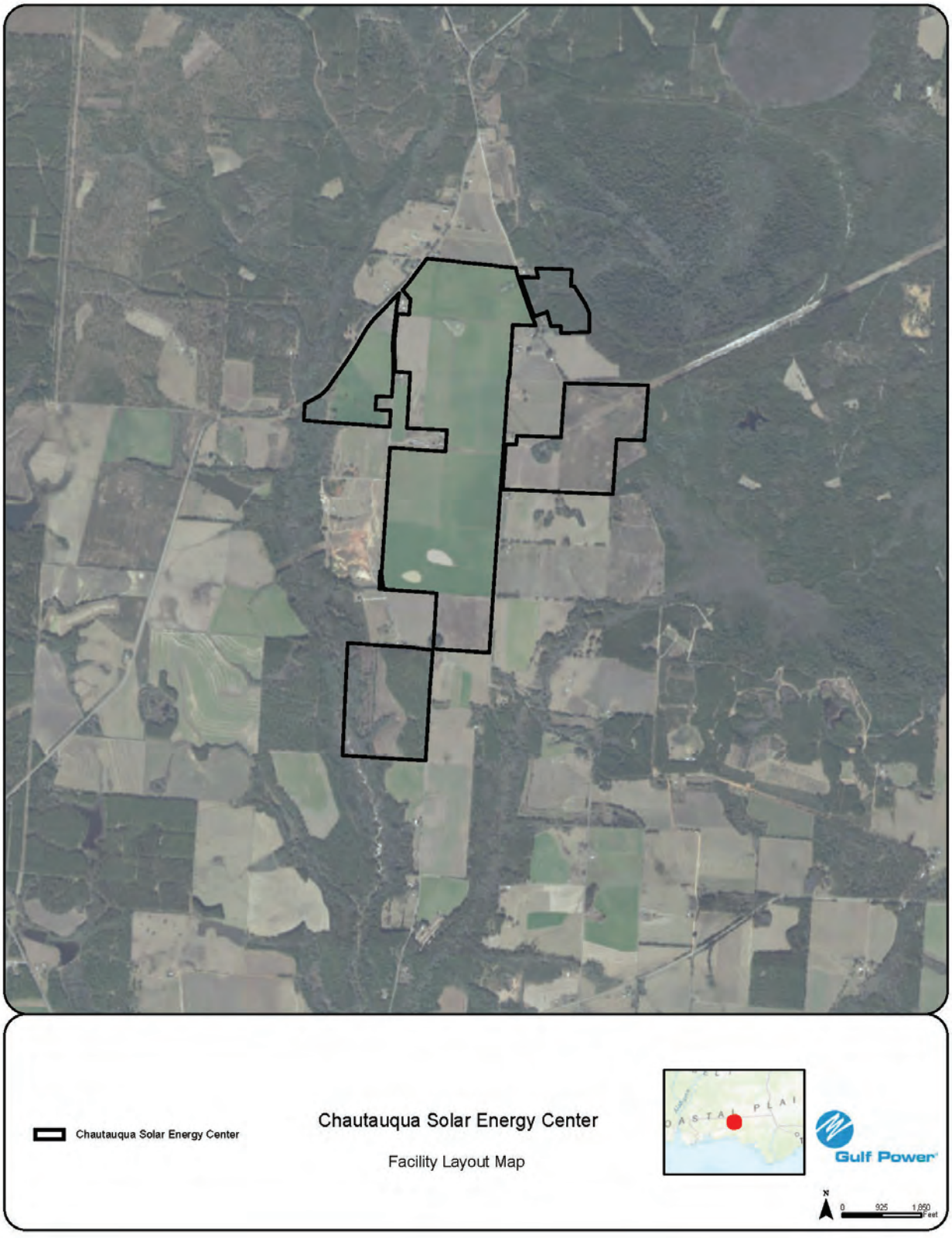

Blue Springs Solar Energy Center
Blue Springs Solar Energy Center
Facility Layout Map
Dothan
Gulf Power
N
0
430
860
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 25: Chautauqua Solar Energy Center, Walton County

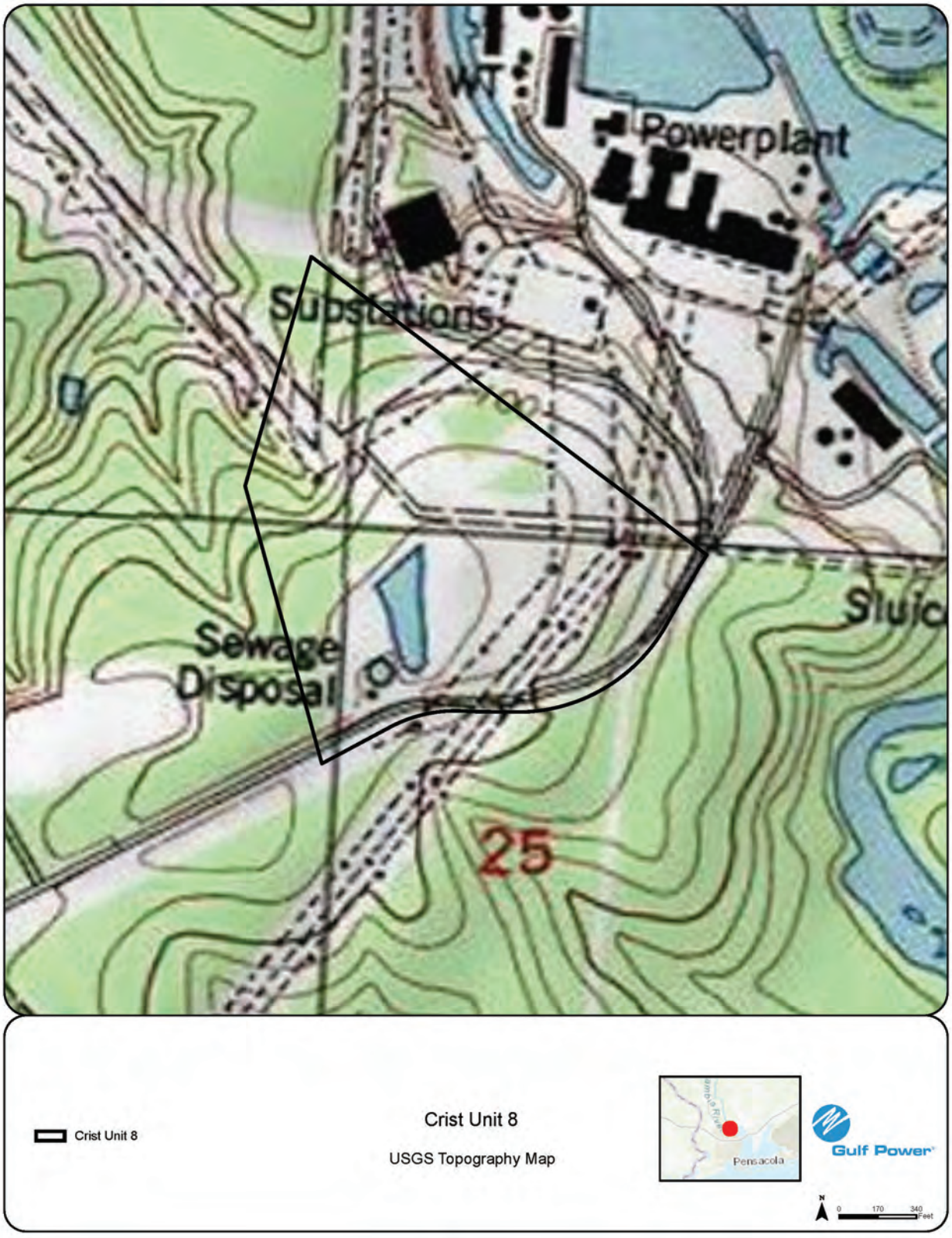

Big Swamp Annex
Caney Creek
Big Swamp
Deuvell Pond
Cypress Drains
Chautauqua Solar Energy Center
Chautauqua Solar Energy Center
USGS Topography Map
Gulf Power
0 925 1,850 Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Chautauqua Solar Energy Center
Chautauqua Solar Energy Center
Land Use / Land Cover Map
Gulf Power
N
0
925
1,850
Feet


Chautauqua Solar Energy Center
Chautauqua Solar Energy Center
Facility Layout Map
Gulf Power
0
925
1,850
Feet

Environmental and Land Use Information: Supplemental Information

Preferred Site # 26: Crist Unit 8, Escambia County

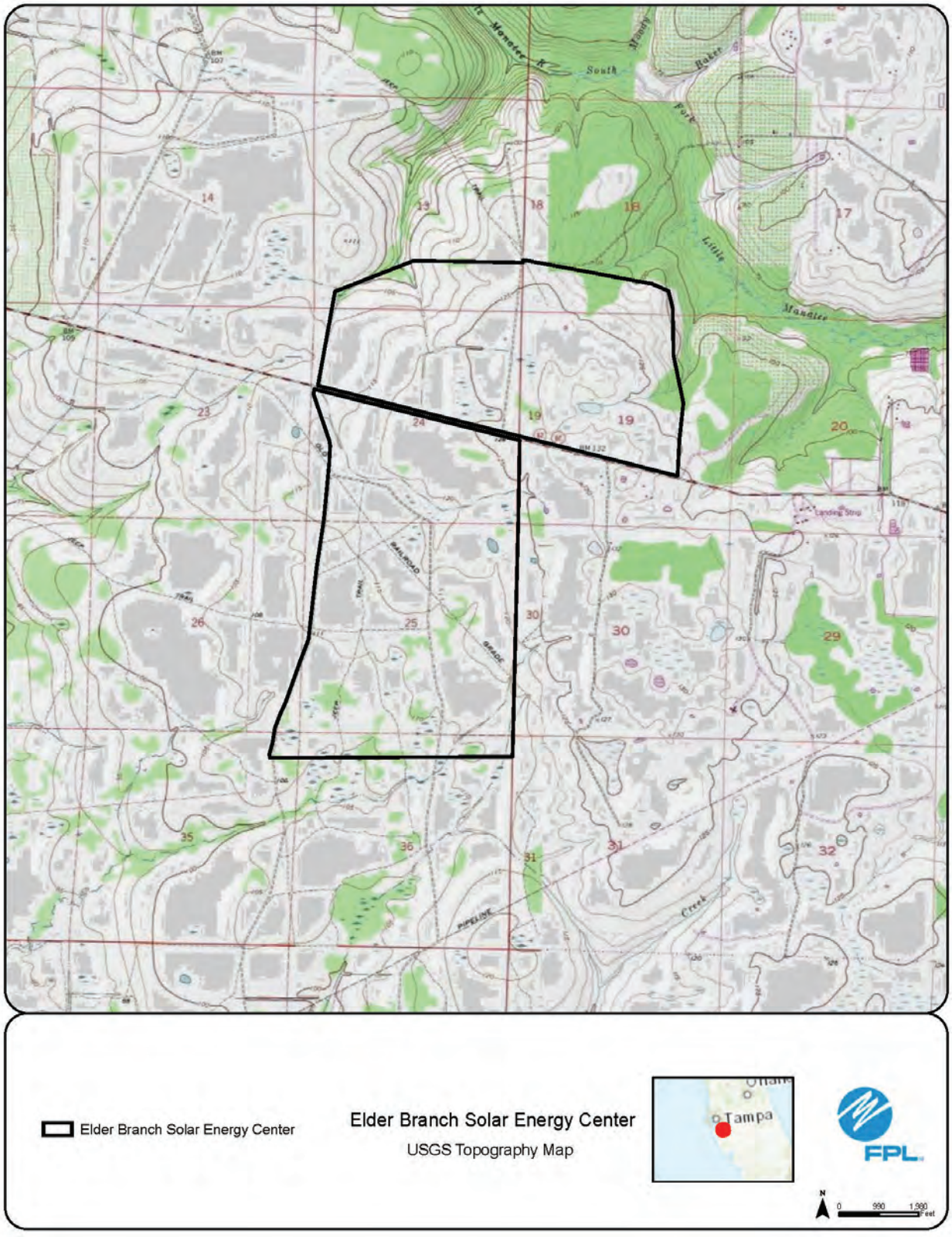

WT
Powerplant
Substations
Sewage
Disposal
Sluic
25
Crist Unit 8
Crist Unit 8
USGS Topography Map
Pensacola
Gulf Power
N
0
170
340
Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Crist Unit 8
Crist Unit 8
Land Use / Land Cover Map
Pensacola
Gulf Power
N
0
170
340
Feet


Crist Unit 8
Crist Unit 8
Facility Layout Map
Pensacola
Gulf Power
N
0
170
340
Feet

Environmental and Land Use Information:
Supplemental Information

FPL Area Potential Site # 1: Elder Branch Solar Energy Center, Manatee County


Elder Branch Solar Energy Center
Elder Branch Solar Energy Center
USGS Topography Map
Tampa
FPL
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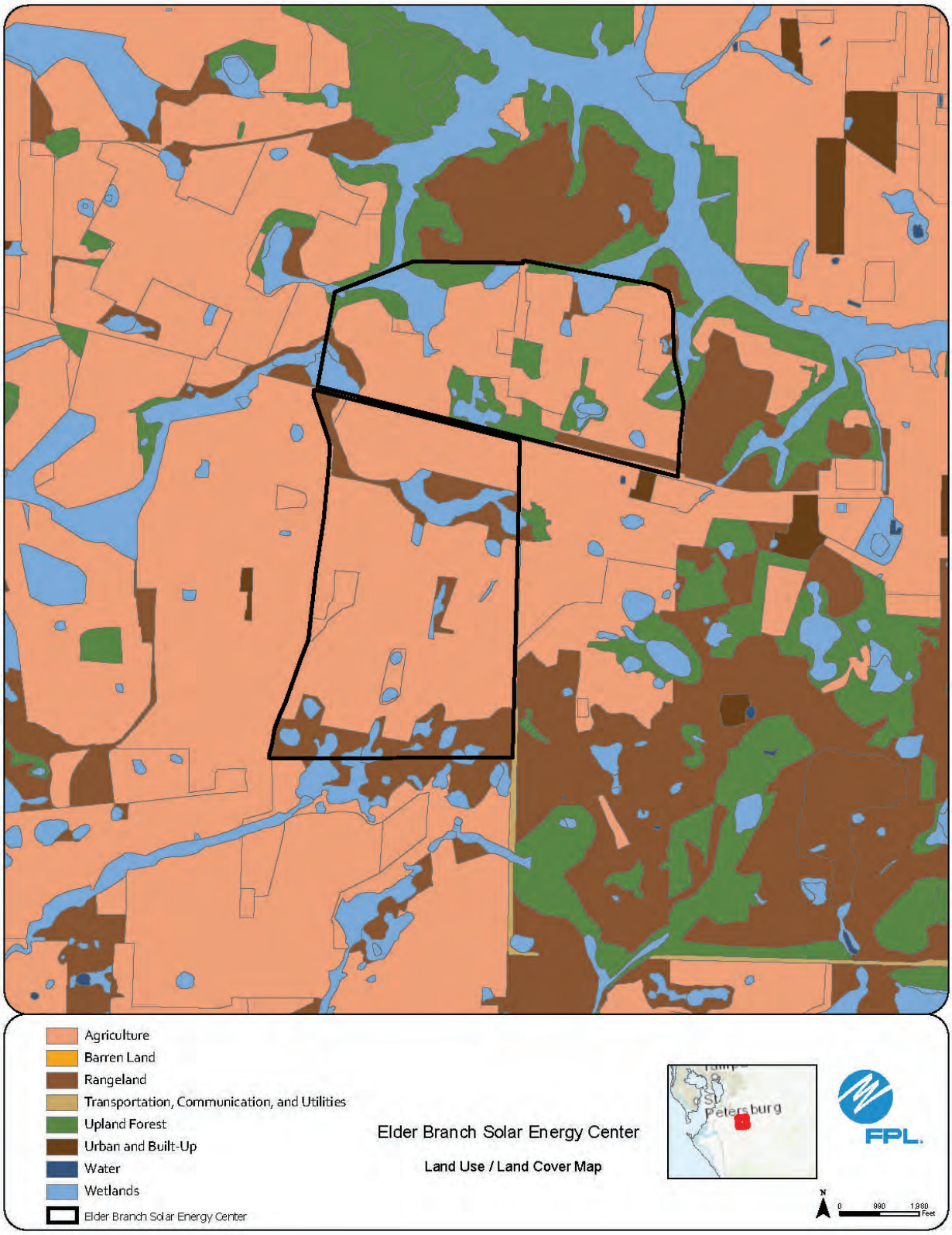
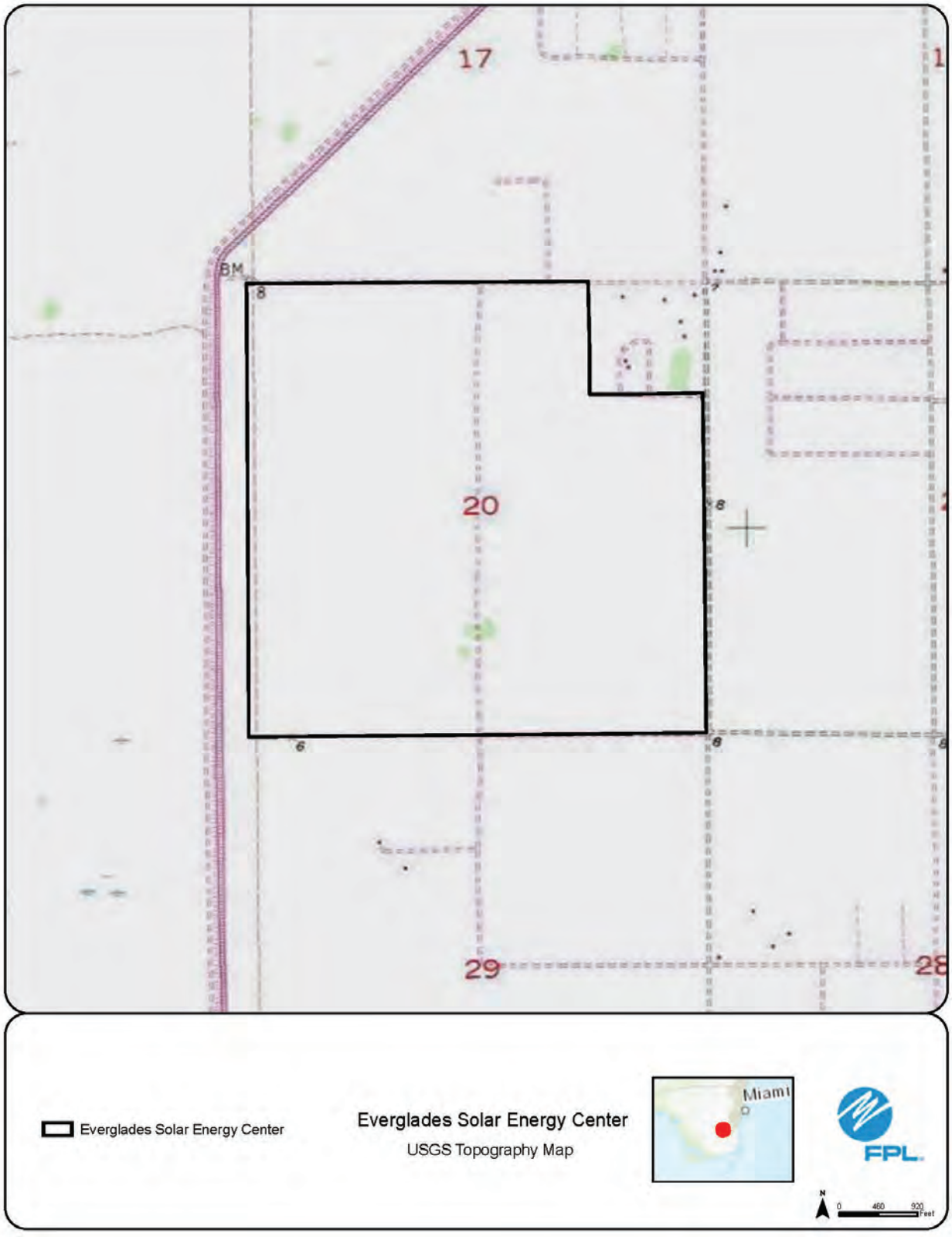
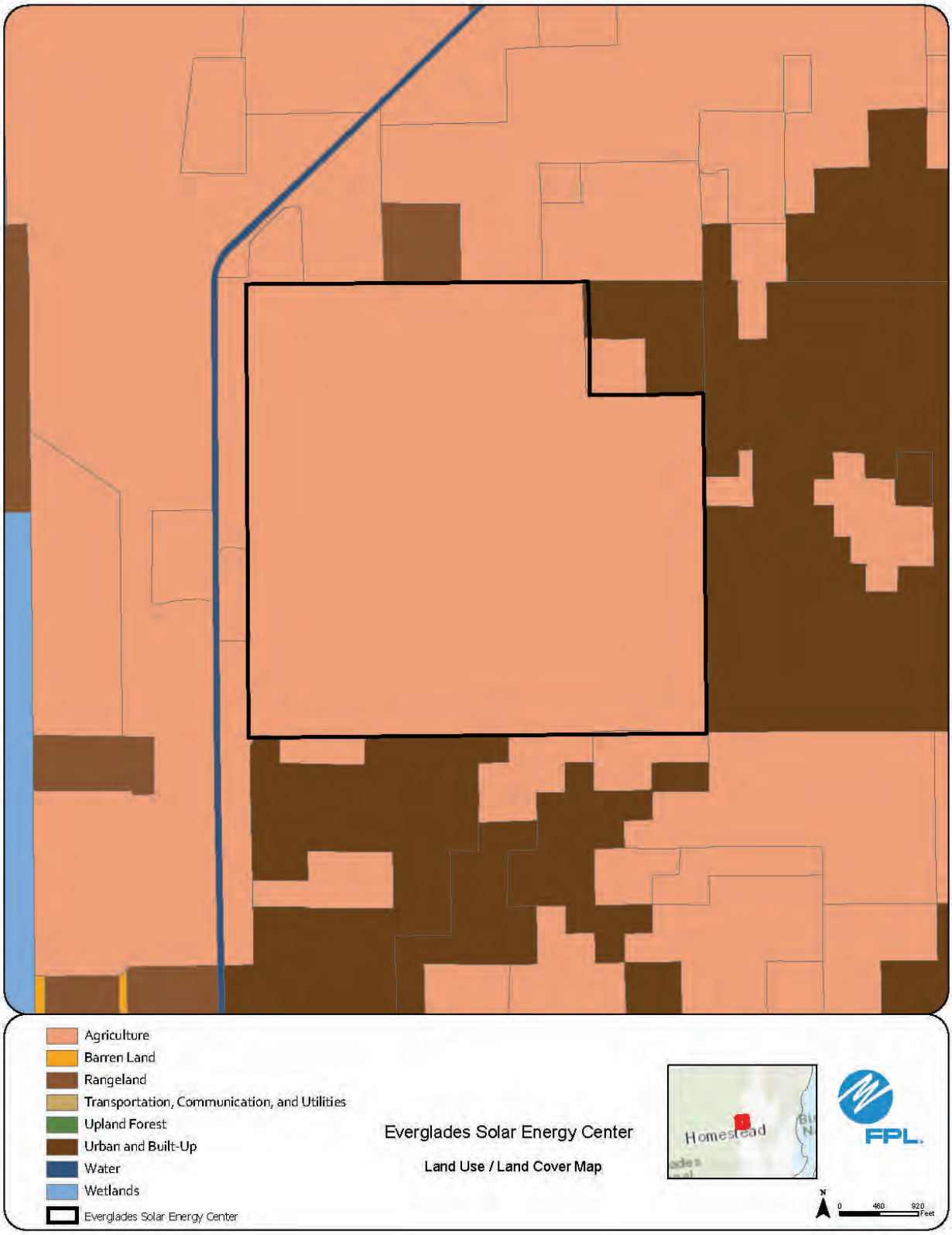
0
990
1,980
Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Elder Branch Solar Energy Center
Elder Branch Solar Energy Center
Land Use / Land Cover Map
St. Petersburg
FPL.
N
0
990
1,980
Feet

Environmental and Land Use Information:
Supplemental Information

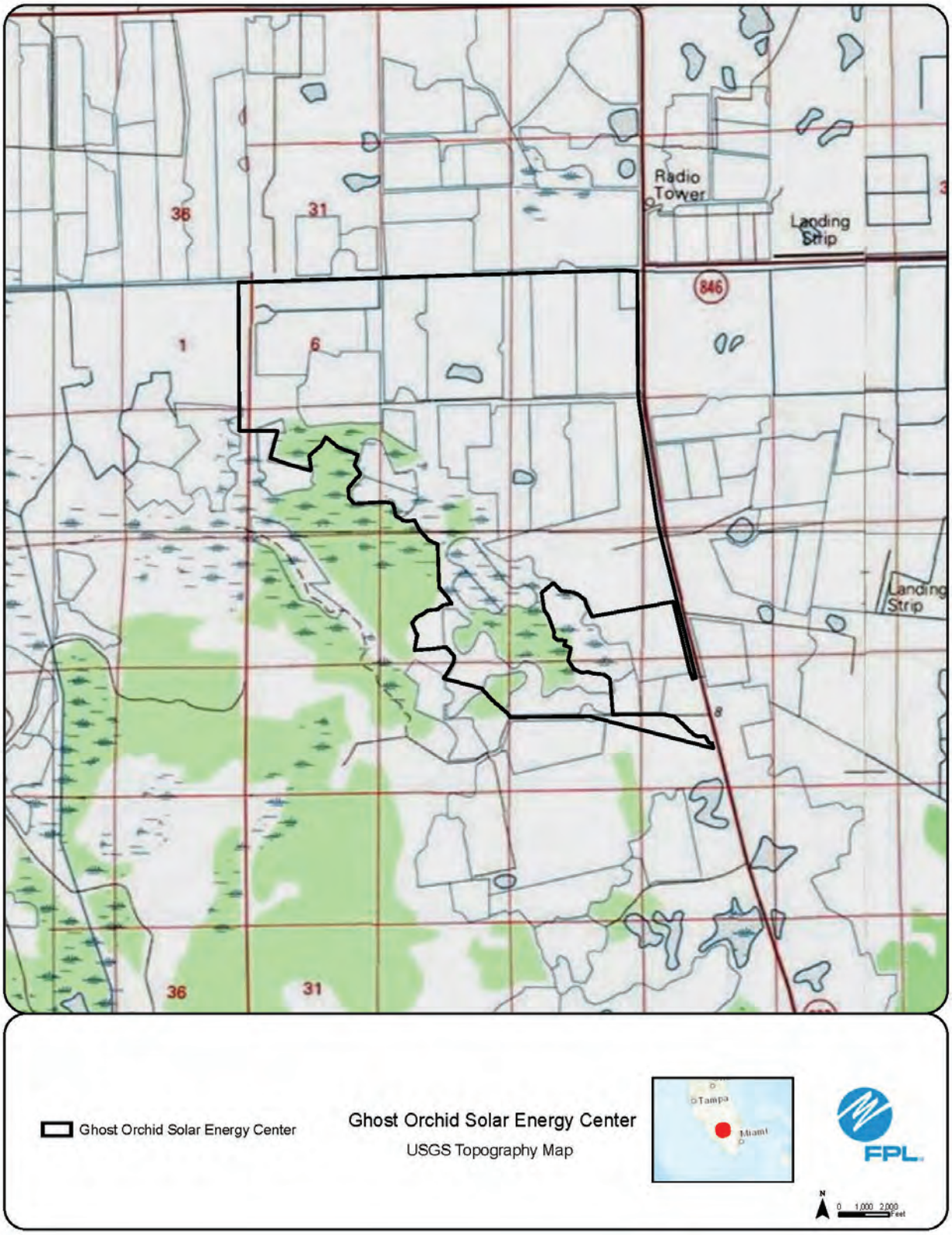
FPL Area Potential Site # 2: Everglades Solar Energy Center, Miami-Dade County

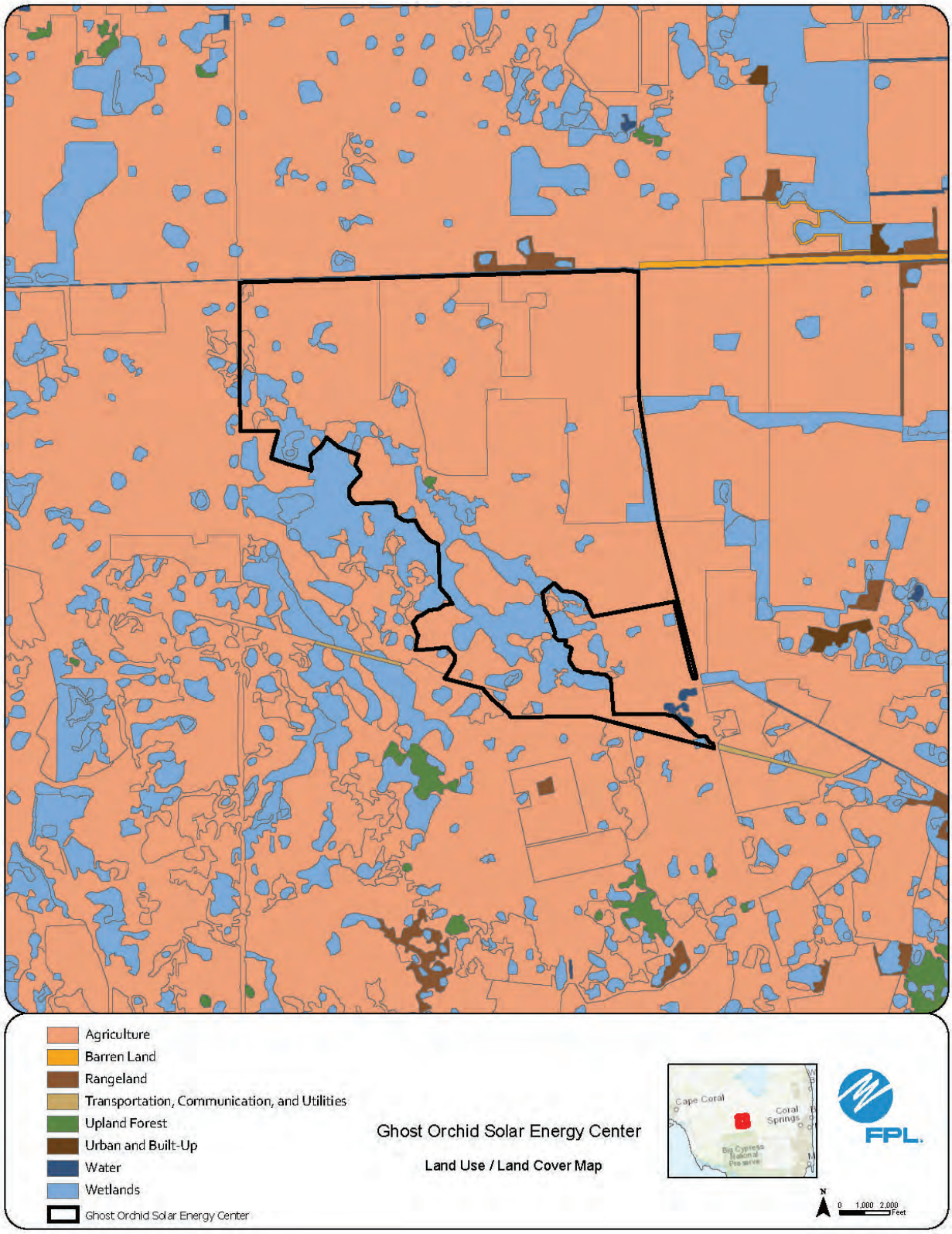

17
20
29
BM
Everglades Solar Energy Center
Everglades Solar Energy Center
USGS Topography Map
Miami
FPL
N
0
460
920
Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Everglades Solar Energy Center
Everglades Solar Energy Center
Land Use / Land Cover Map
Homestead
FPL.
N
0
460
920
Feet

Environmental and Land Use Information:
Supplemental Information

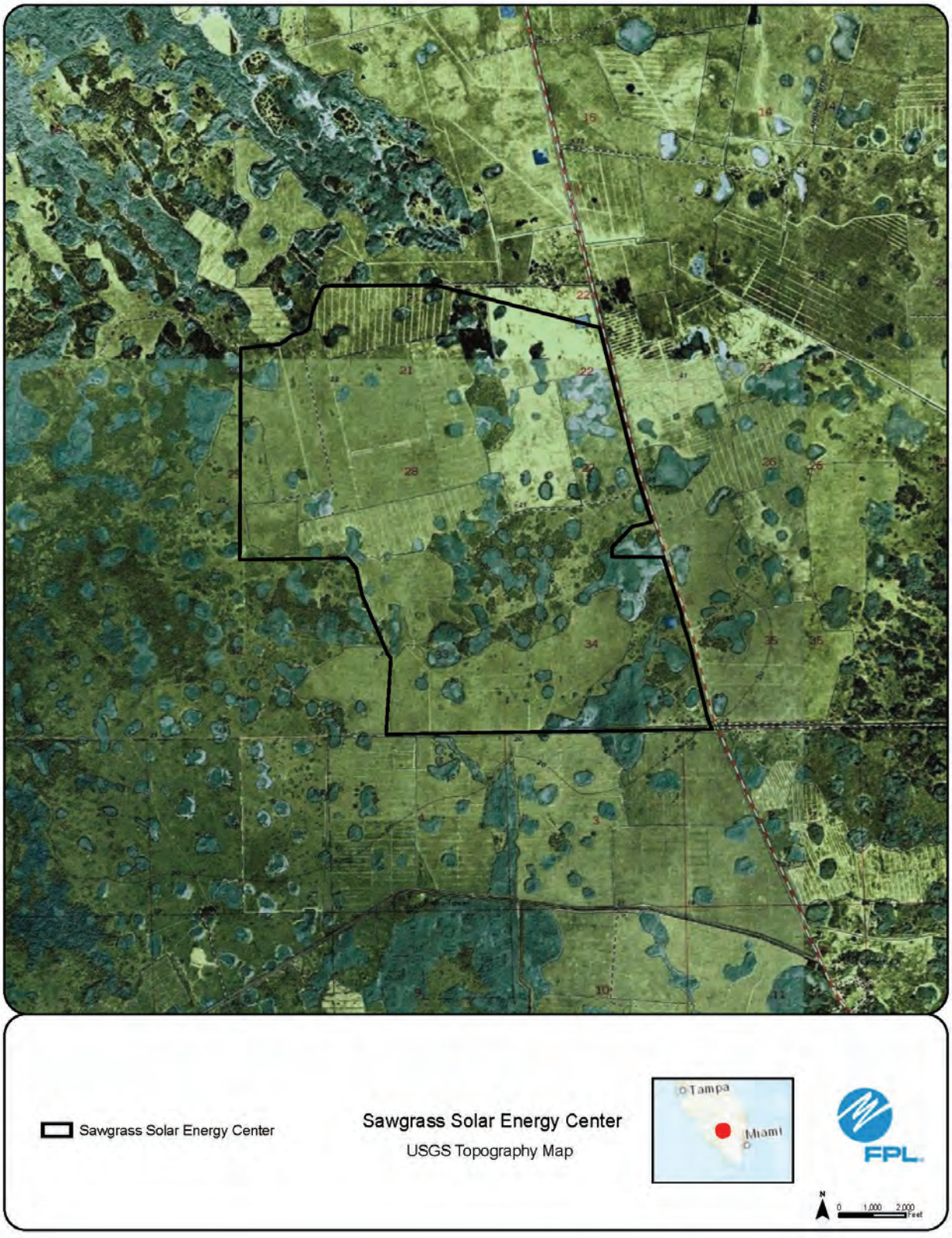
FPL Area Potential Site # 3: Ghost Orchid Solar Energy Center, Hendry County

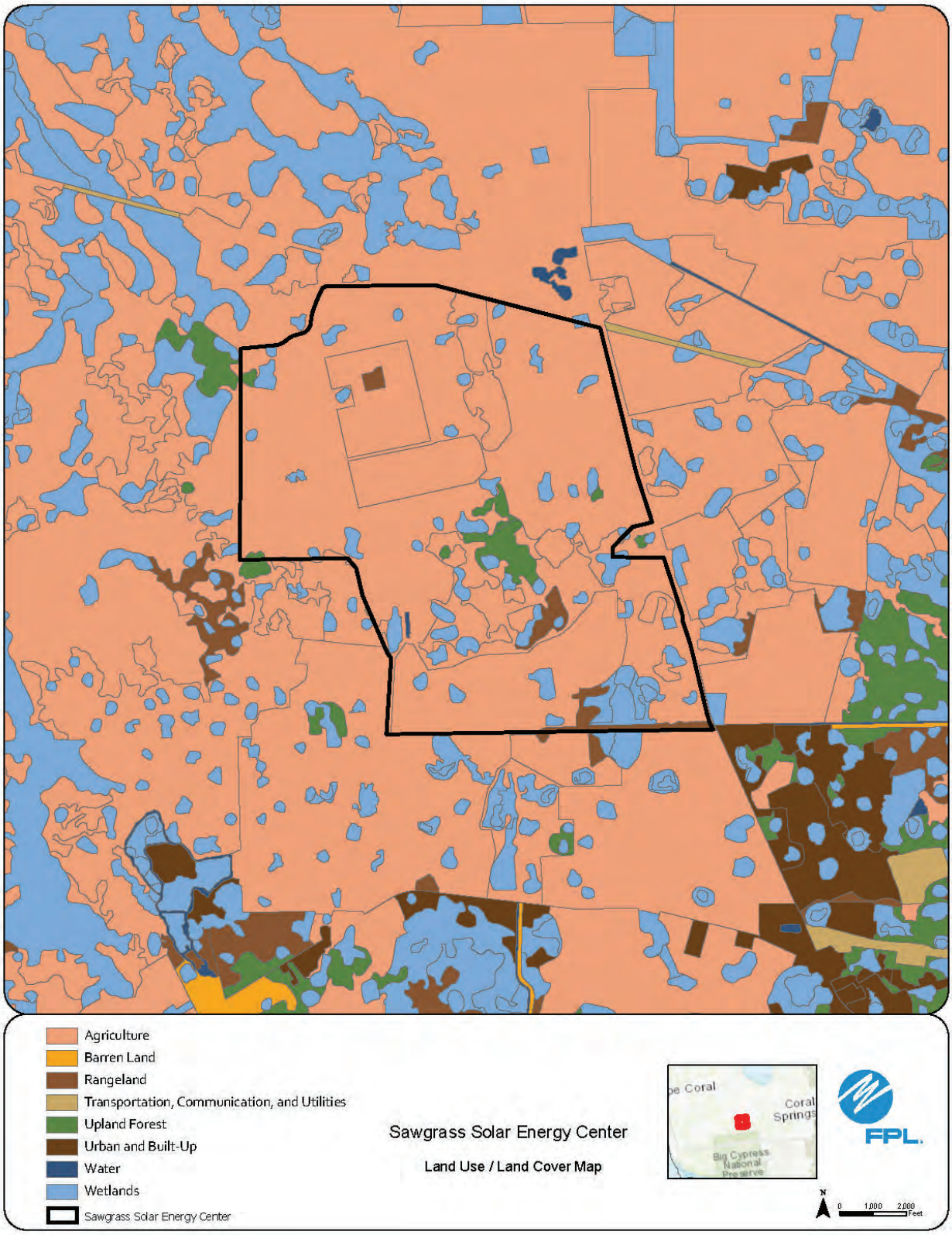

Radio Tower
Landing Strip
846
36
31
1
6
Landing Strip
36
31
Ghost Orchid Solar Energy Center
Ghost Orchid Solar Energy Center
USGS Topography Map
Tampa
Miami
FPL
N
0 1,000 2,000 Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Ghost Orchid Solar Energy Center
Ghost Orchid Solar Energy Center
Land Use / Land Cover Map
Cape Coral
Coral Springs
Big Cypress National Preserve
FPL.
N
0 1,000 2,000 Feet

Environmental and Land Use Information: Supplemental Information

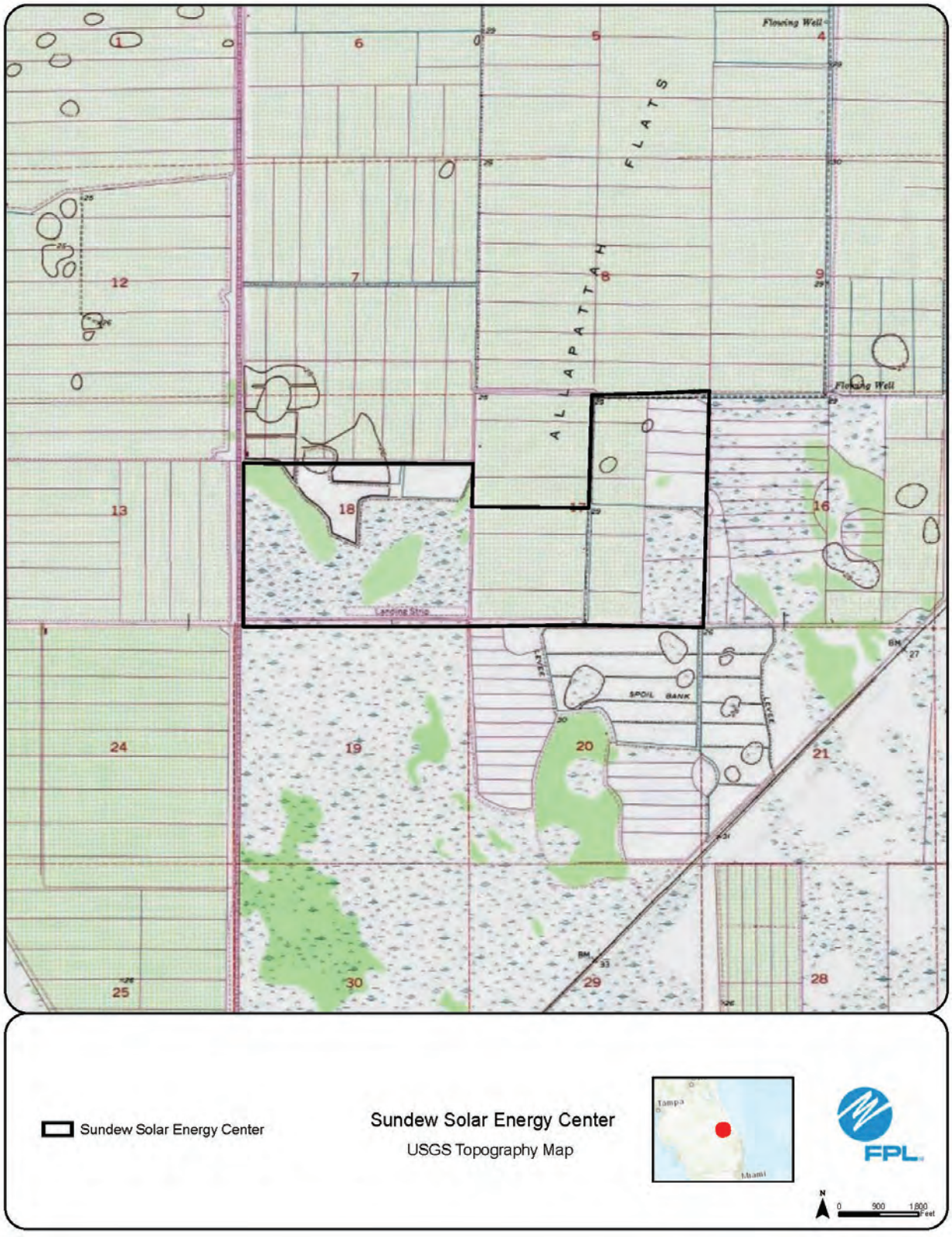
FPL Area Potential Site # 4: Sawgrass Solar Energy Center, Hendry County

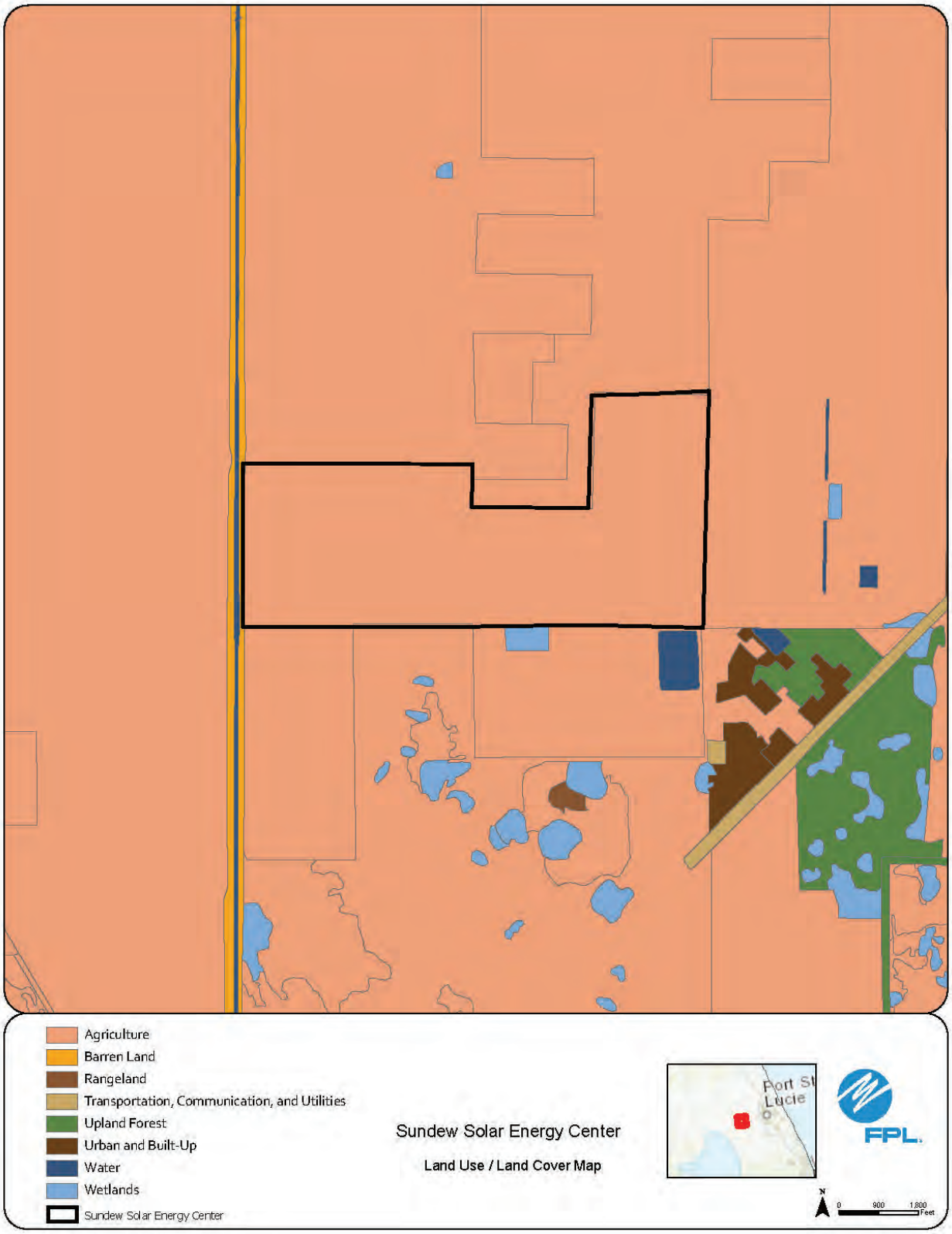

Sawgrass Solar Energy Center
Sawgrass Solar Energy Center
USGS Topography Map
Tampa
Miami
FPL
N
0
1,000
2,000
Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Sawgrass Solar Energy Center
Sawgrass Solar Energy Center
Land Use / Land Cover Map
Coral Springs
Big Cypress National Preserve
FPL.
N
0 1,000 2,000 Feet

Environmental and Land Use Information:
Supplemental Information

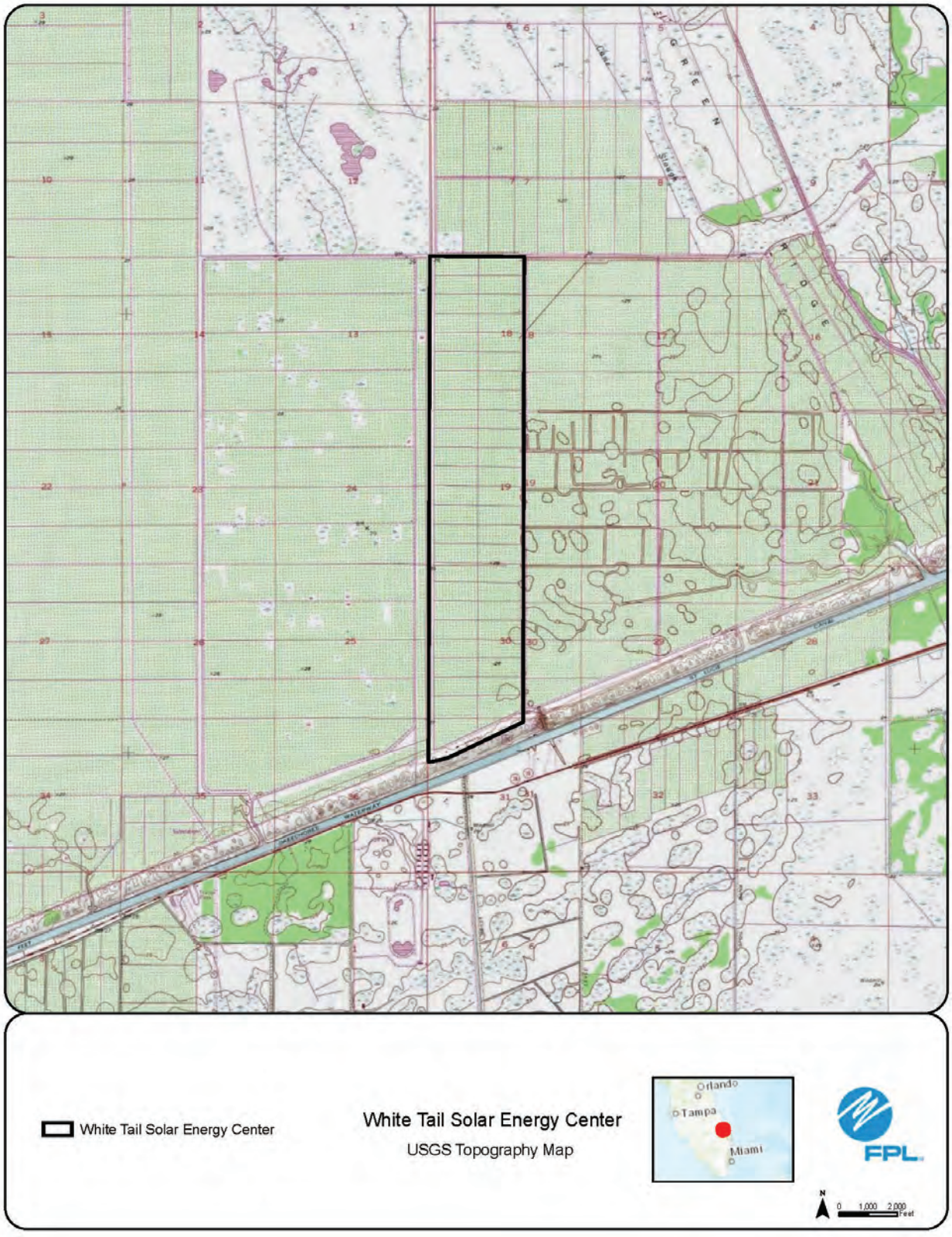
FPL Area Potential Site # 5: Sundew Solar Energy Center, St. Lucie County

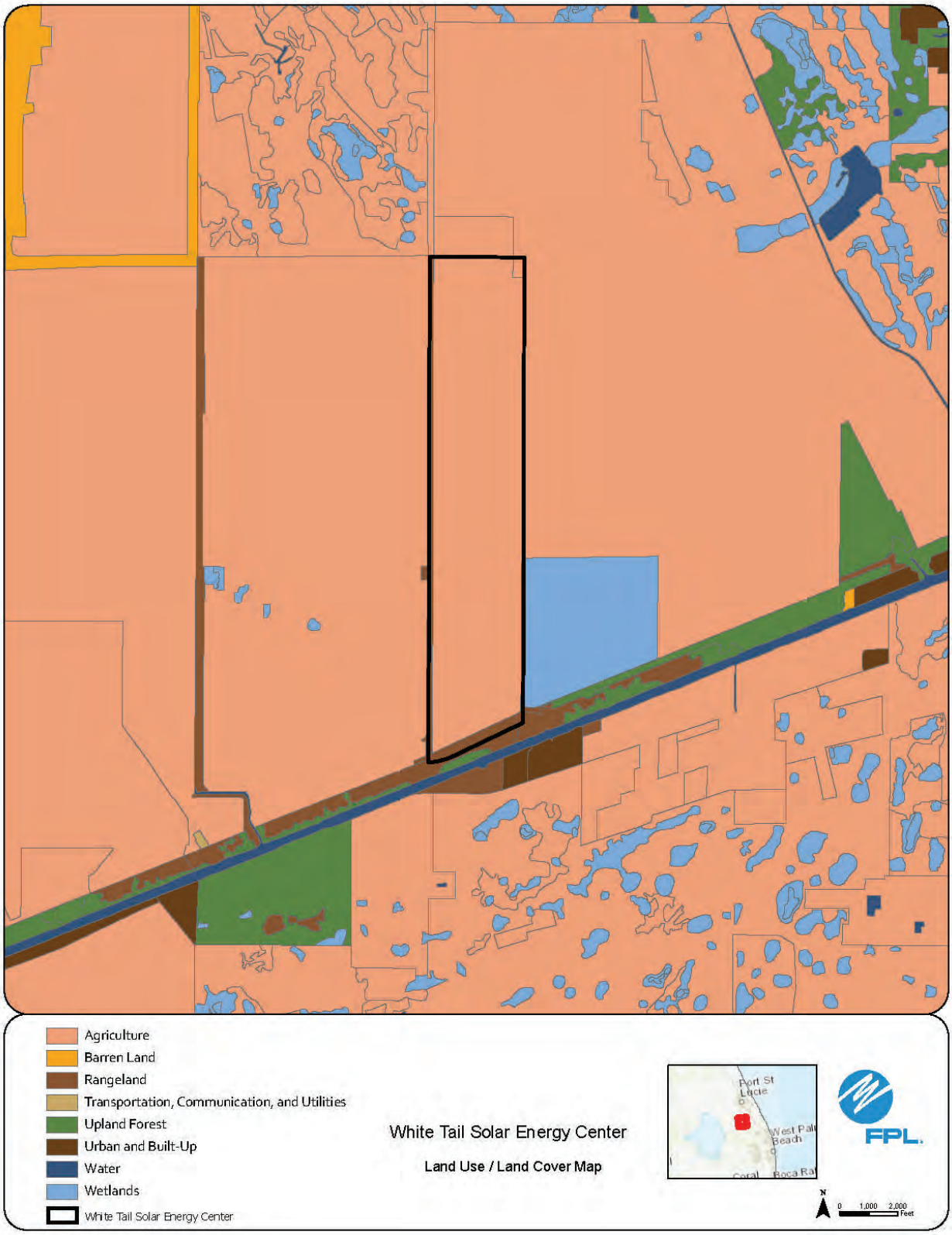

Flowing Well
ALLAPATTAH FLATS
Flowing Well
Landing Strip
SPOIL BANK
LEVEE
Sundew Solar Energy Center
Sundew Solar Energy Center
USGS Topography Map
Tampa
Miami
FPL
N
0
900
1,800
Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Sundew Solar Energy Center
Sundew Solar Energy Center
Land Use / Land Cover Map
Port St Lucie
FPL.
N
0
900
1,800
Feet

Environmental and Land Use Information:
Supplemental Information

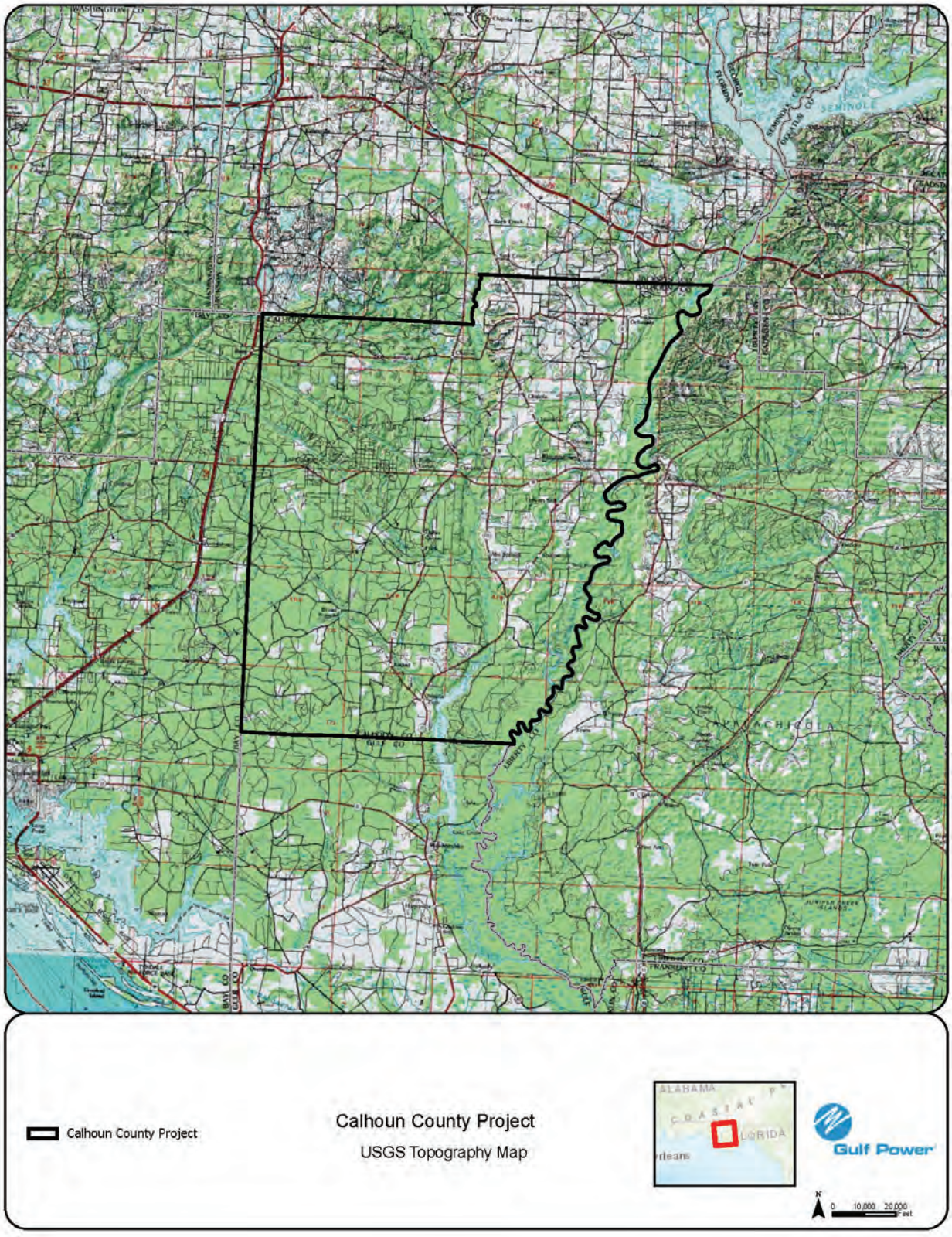
FPL Area Potential Site # 6: White Tail Solar Energy Center, Martin County

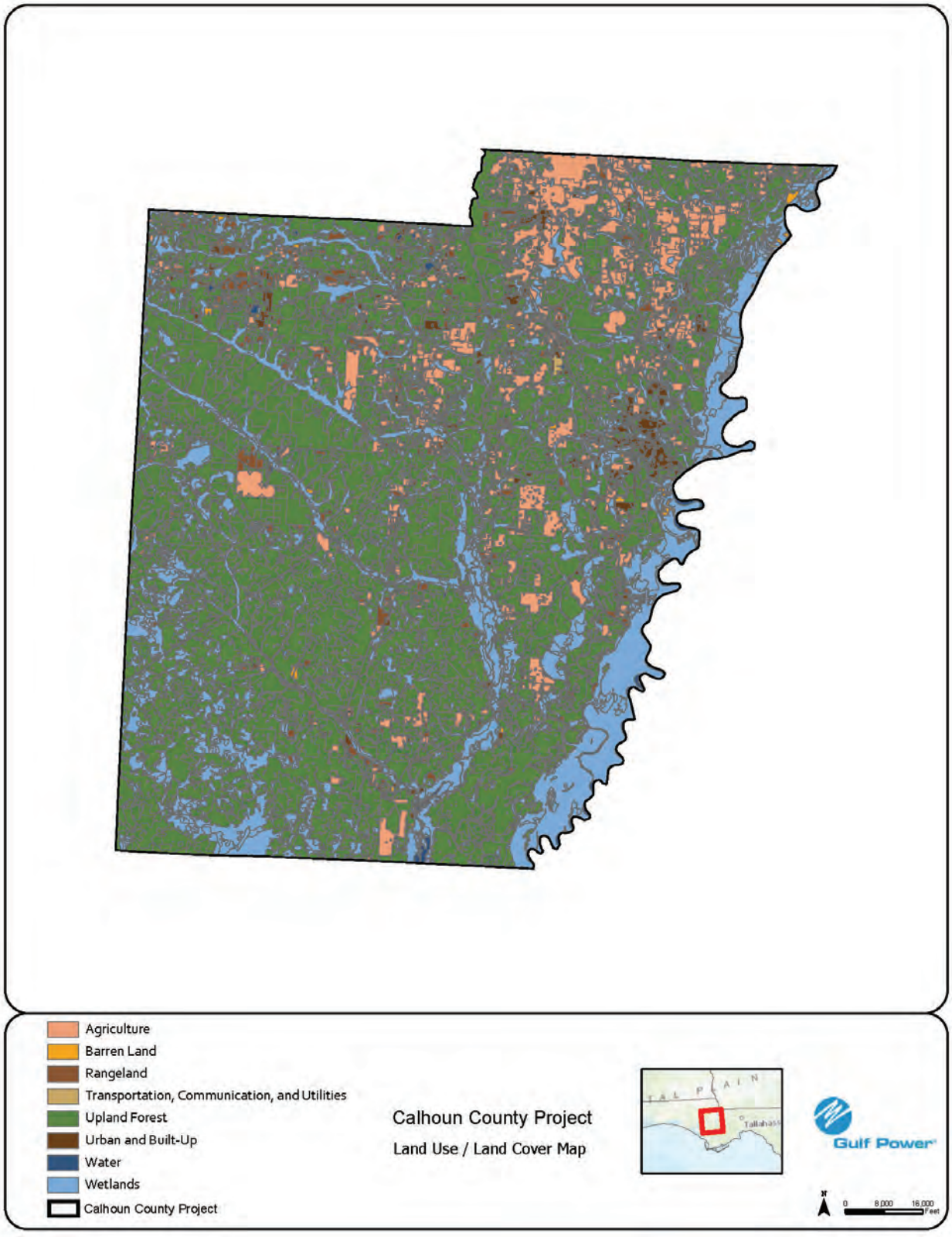

White Tail Solar Energy Center
White Tail Solar Energy Center
USGS Topography Map
Orlando
Tampa
Miami
FPL
N
0 1,000 2,000 Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
White Tail Solar Energy Center
White Tail Solar Energy Center
Land Use / Land Cover Map
Port St Lucie
West Palm Beach
Coral
Boca Ra
FPL.
N
0 1,000 2,000
Feet

Environmental and Land Use Information:
Supplemental Information

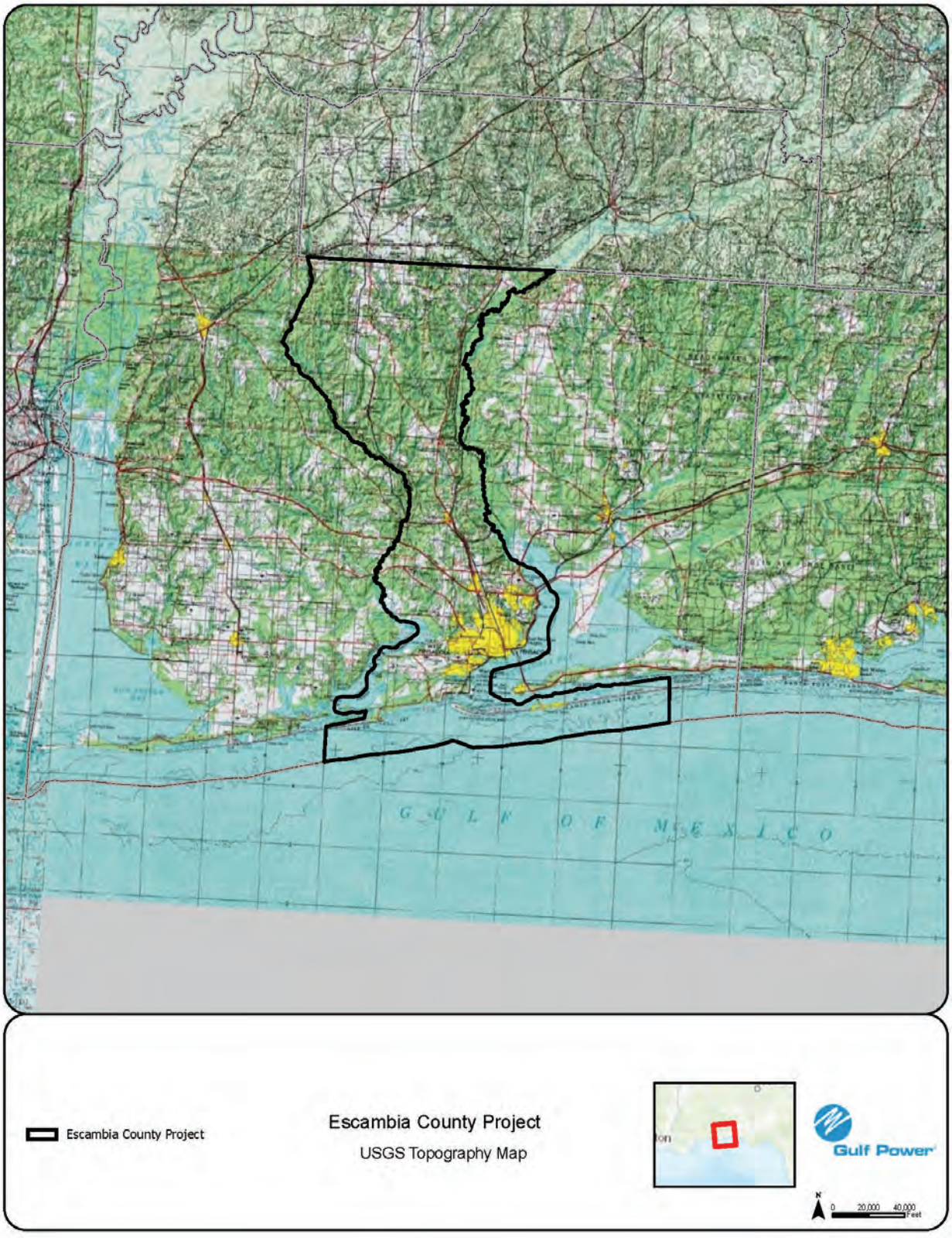
Gulf Area Potential Sites # 1 & 2: Calhoun County


Calhoun County Project
Calhoun County Project
USGS Topography Map
ALABAMA
Gulf Power
0 10,000 20,000 Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Calhoun County Project
Calhoun County Project
Land Use / Land Cover Map
Gulf Power
0
8,000
16,000
Feet

Environmental and Land Use Information:
Supplemental Information

Gulf Area Potential Site # 3: Escambia County


Escambia County Project
Escambia County Project
USGS Topography Map
Gulf Power
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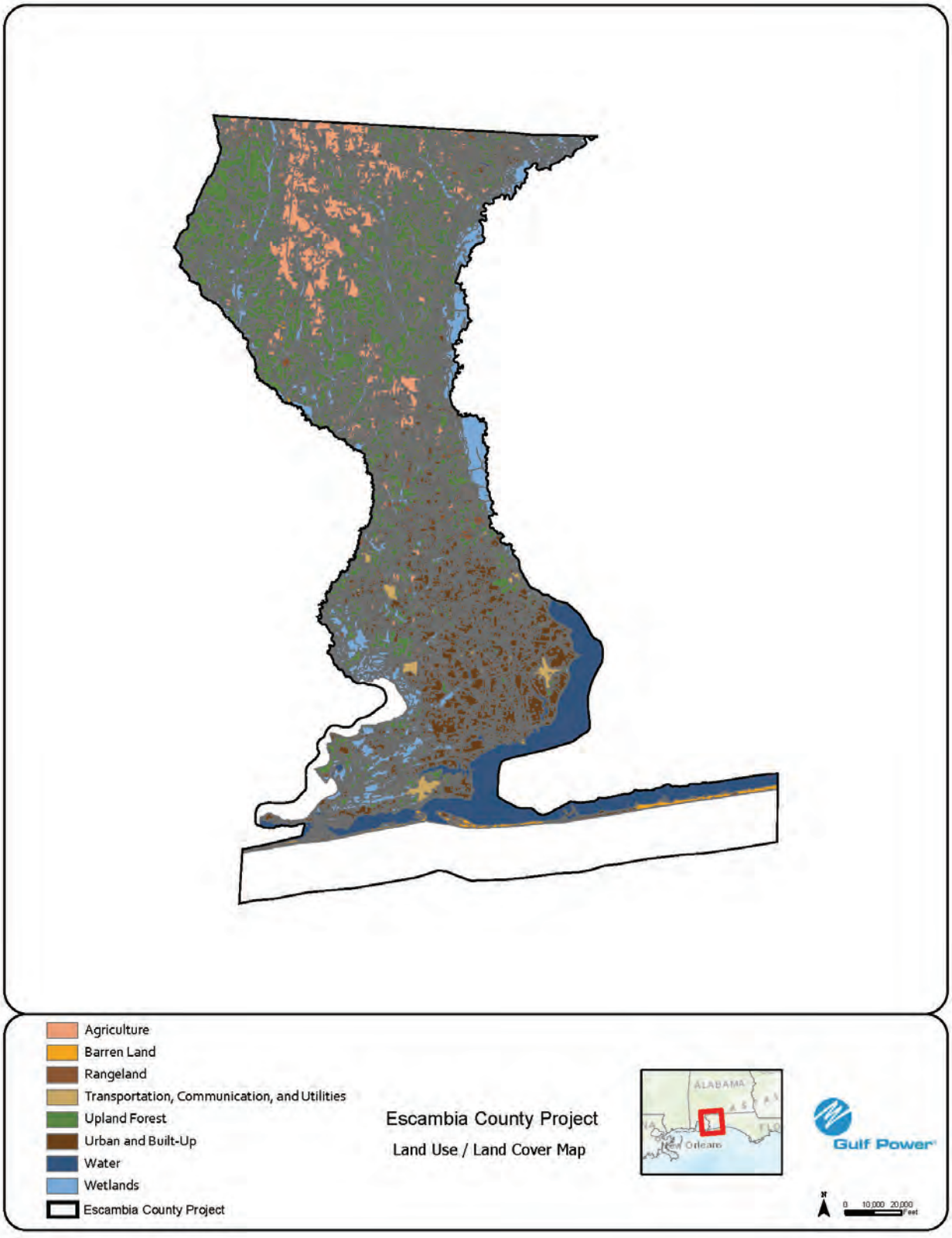
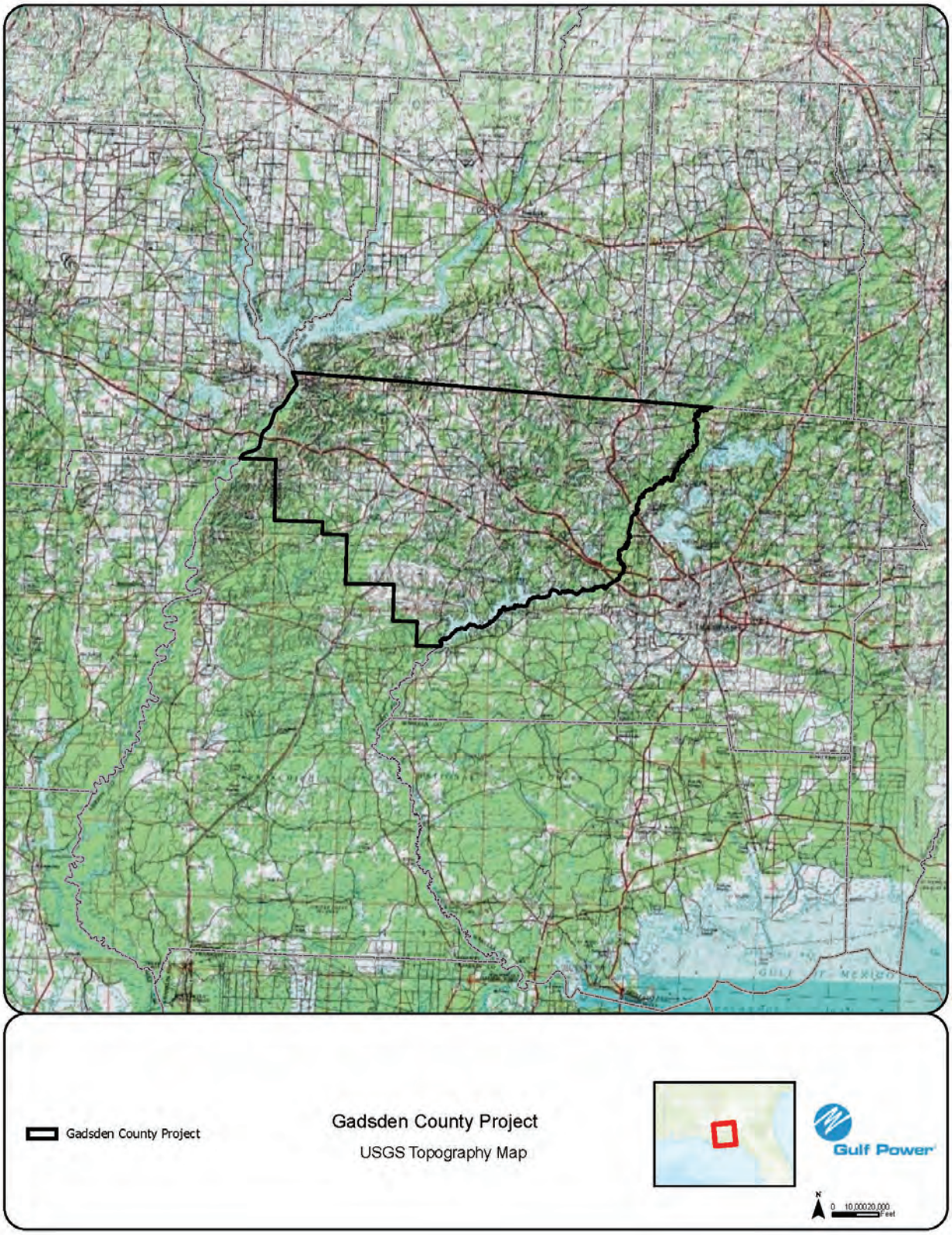
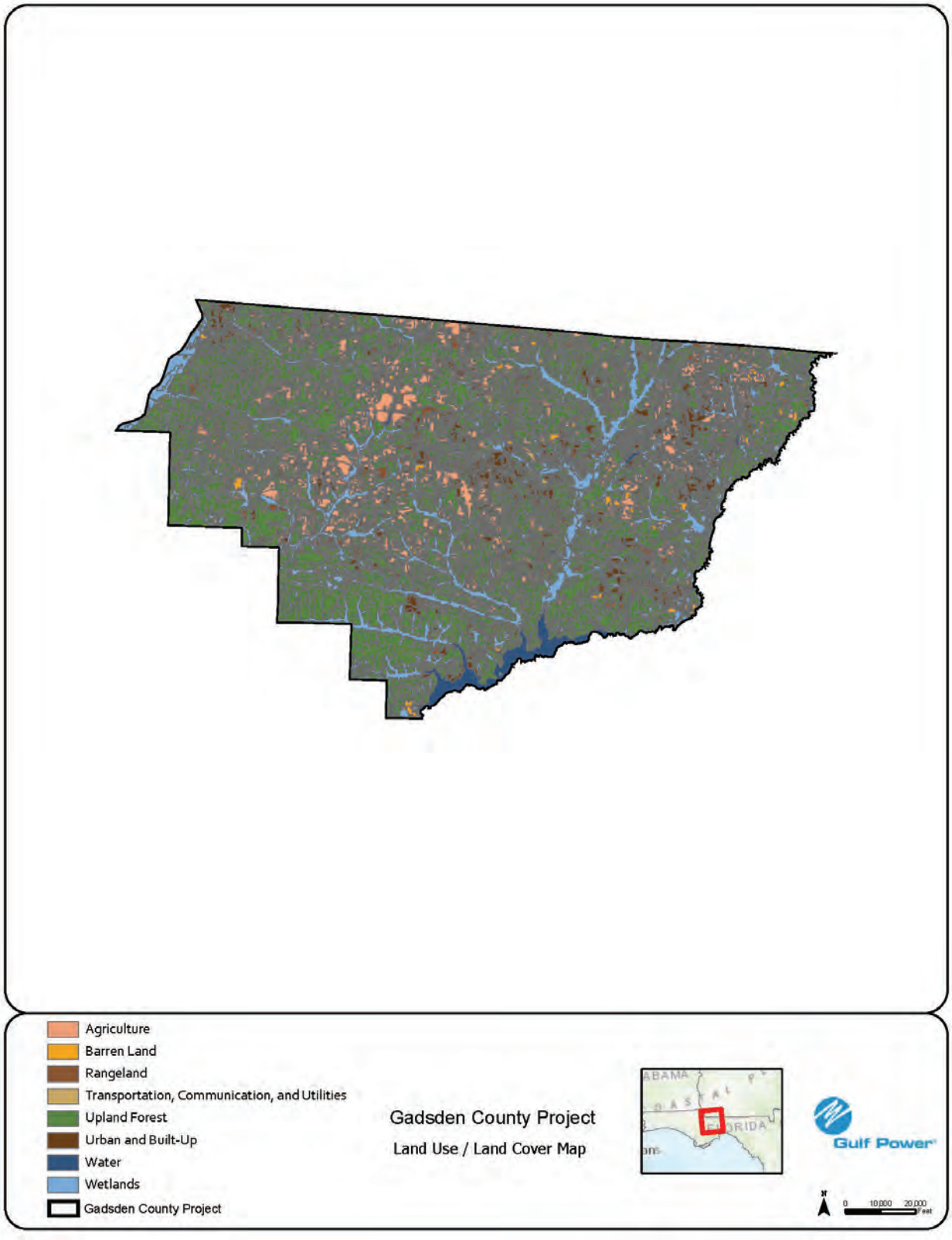
0 20,000 40,000
Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Escambia County Project
Escambia County Project
Land Use / Land Cover Map
ALABAMA
New Orleans
Gulf Power
N
0 10,000 20,000
Feet

Environmental and Land Use Information: Supplemental Information

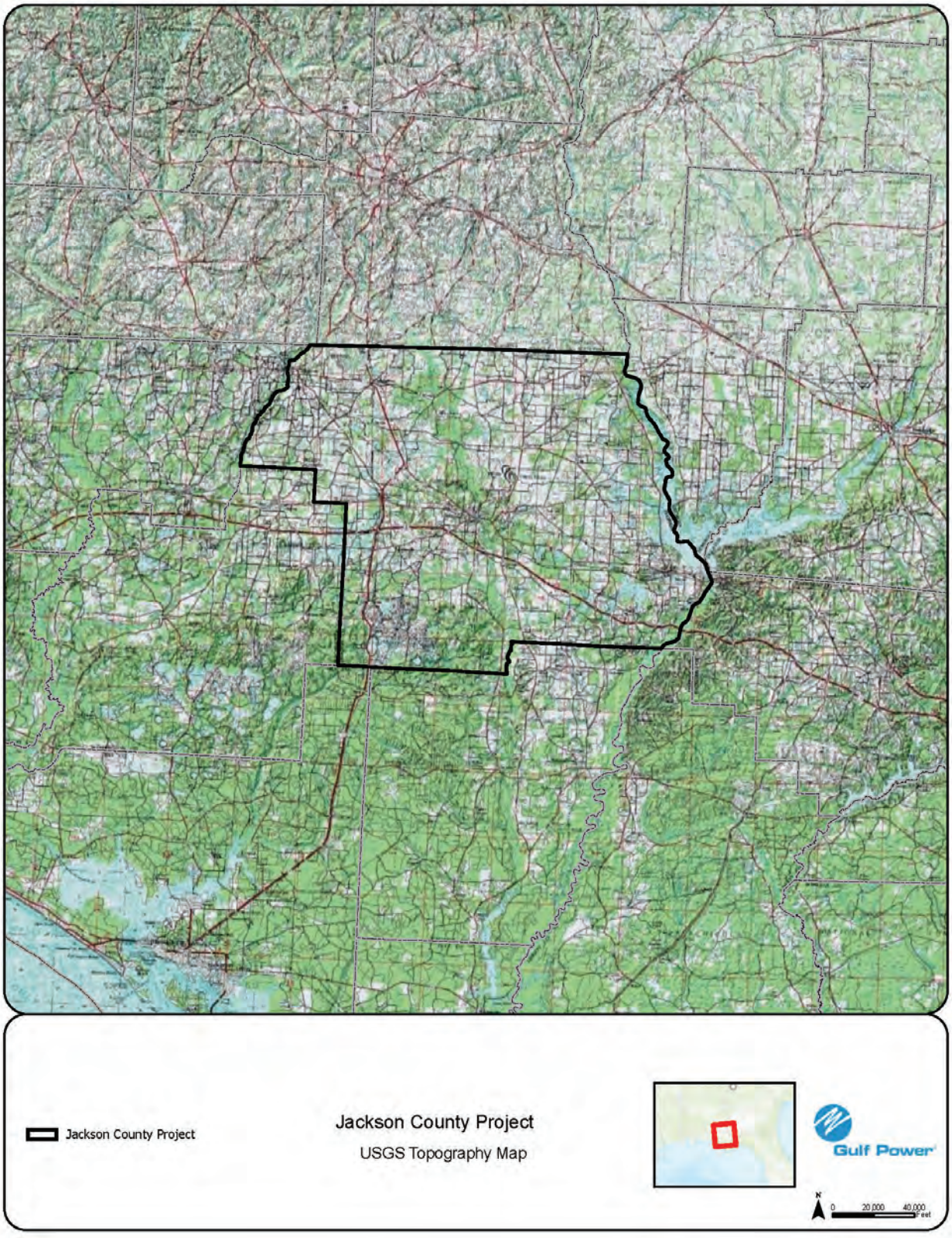
Gulf Area Potential Site # 4: Gadsden County

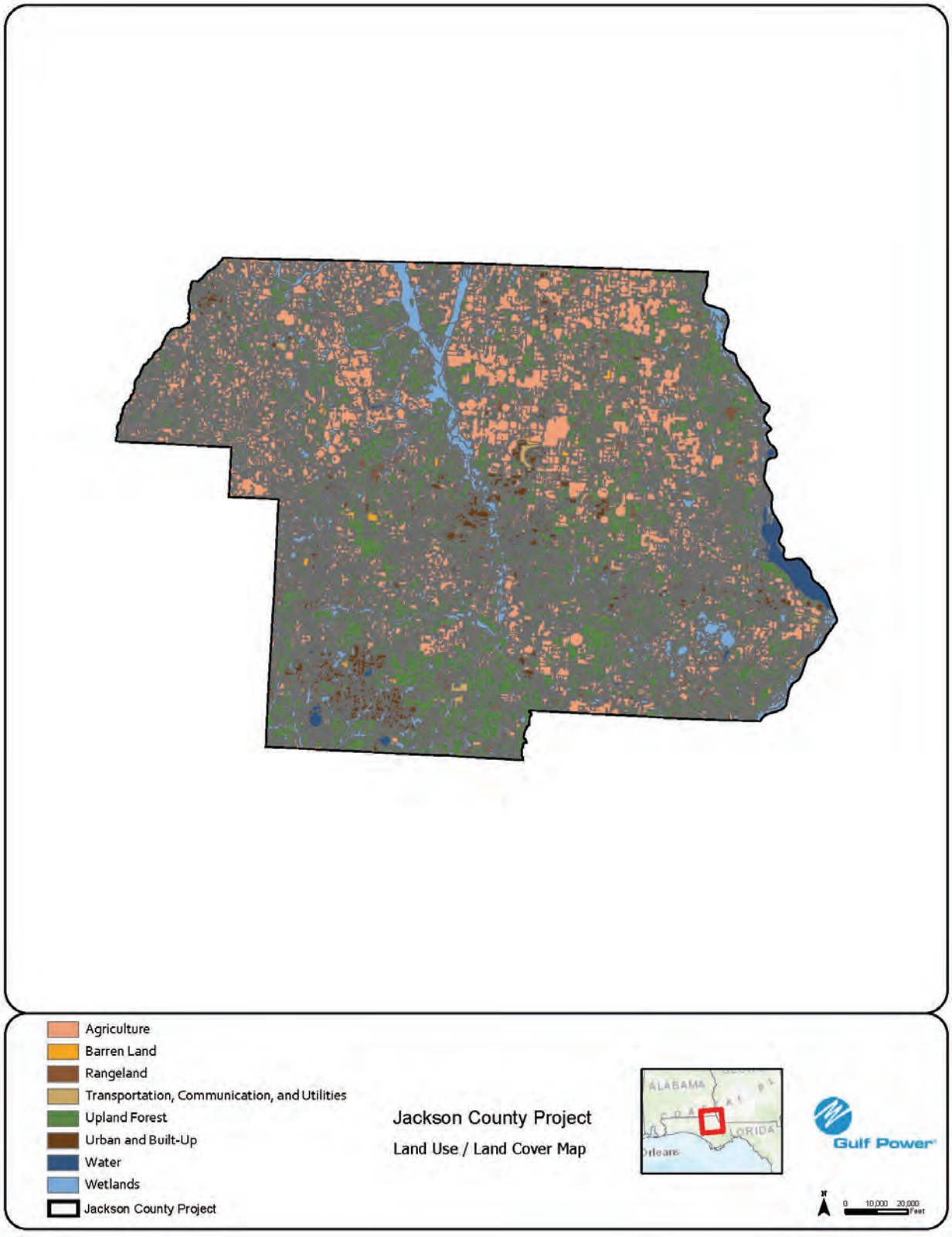

Gadsden County Project
Gadsden County Project
USGS Topography Map
Gulf Power
N
0 10,000 20,000
Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Gadsden County Project
Gadsden County Project
Land Use / Land Cover Map
Gulf Power
0 10,000 20,000 Feet

Environmental and Land Use Information: Supplemental Information

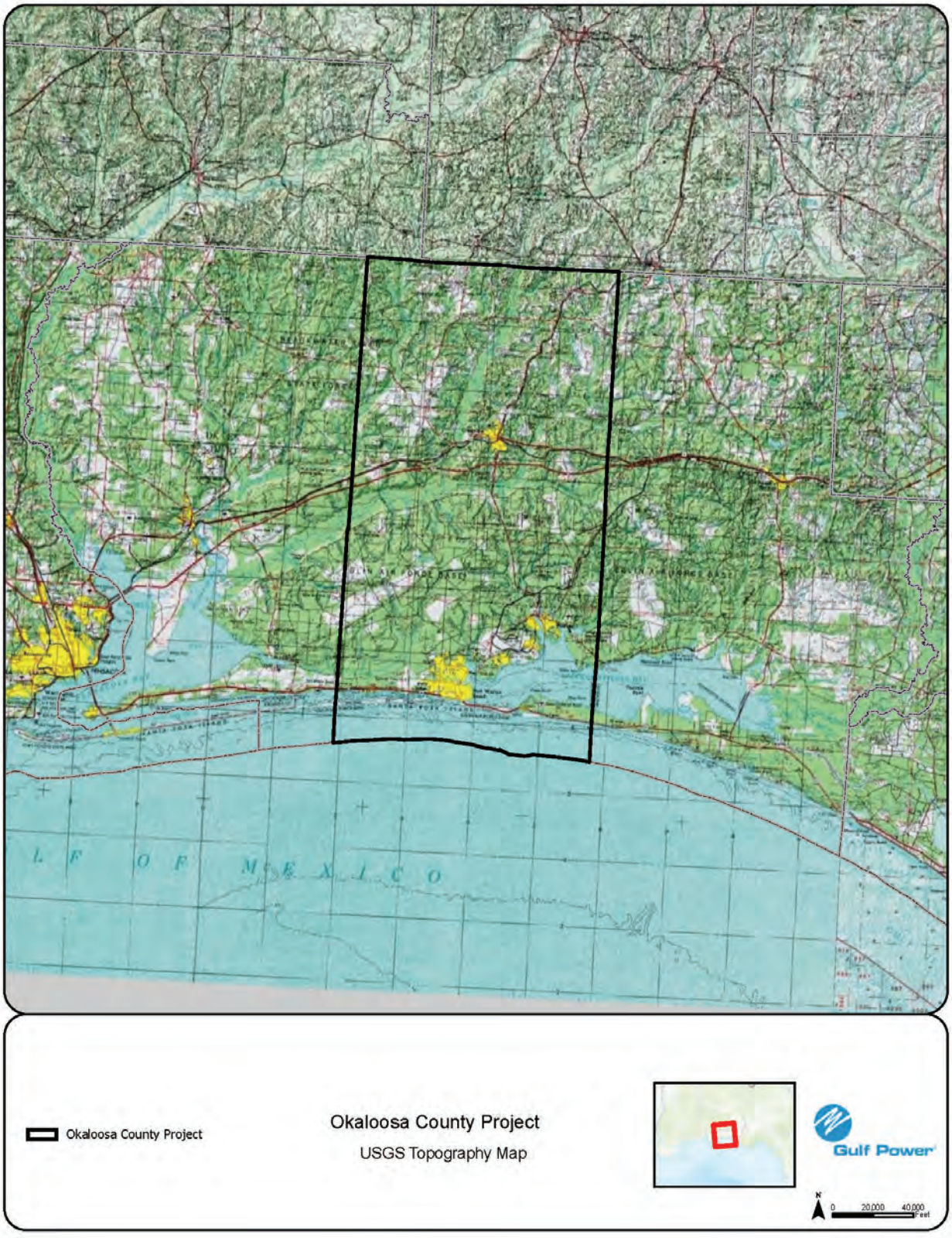
Gulf Area Potential Site # 5: Jackson County


Jackson County Project
Jackson County Project
USGS Topography Map
Gulf Power
N
0
20,000
40,000
Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Jackson County Project
Jackson County Project
Land Use / Land Cover Map
ALABAMA
FLORIDA
Orleans
Gulf Power
N
0 10,000 20,000
Feet

Environmental and Land Use Information: Supplemental Information

Gulf Area Potential Site # 6: Okaloosa County


Okaloosa County Project
Okaloosa County Project
USGS Topography Map
Gulf Power
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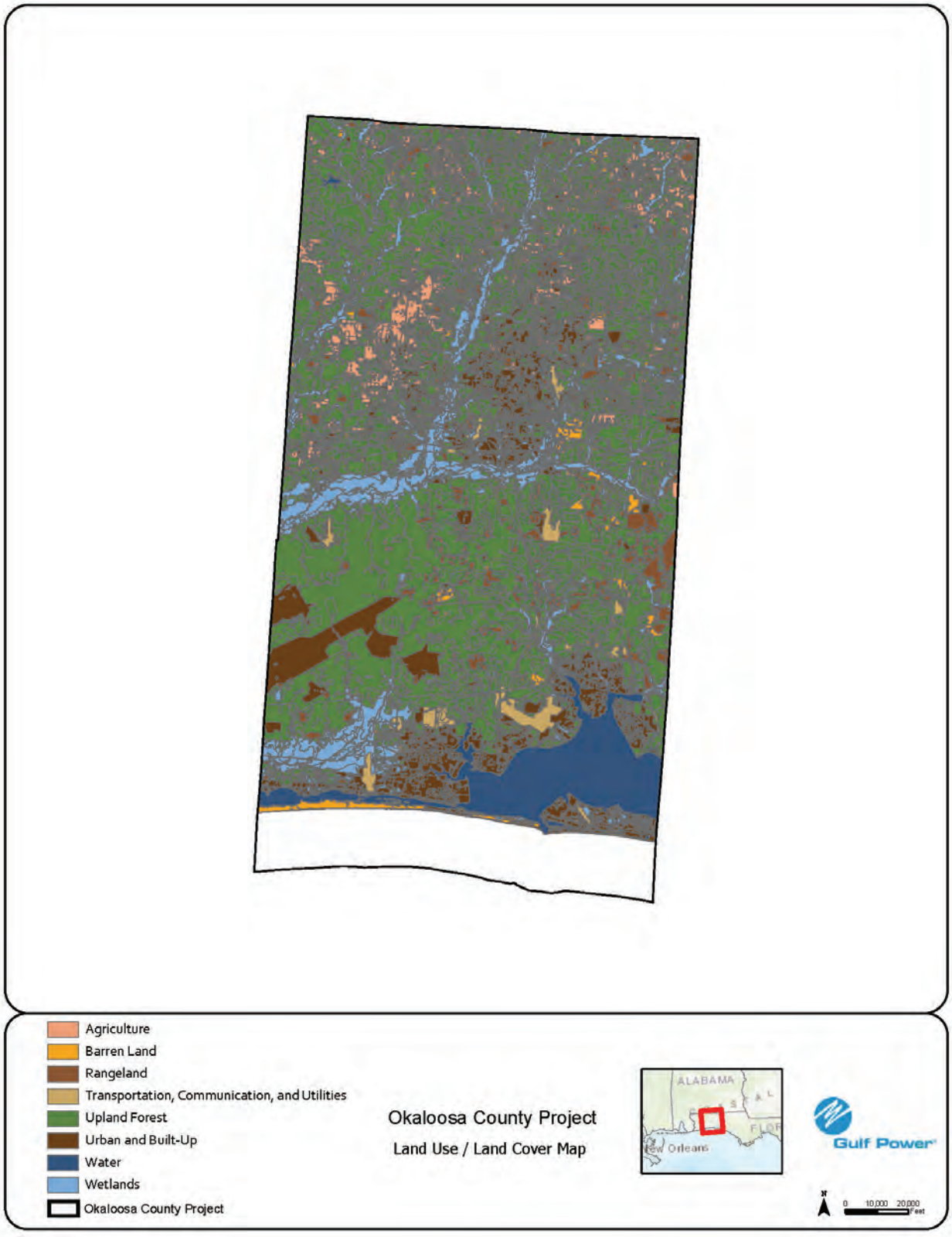
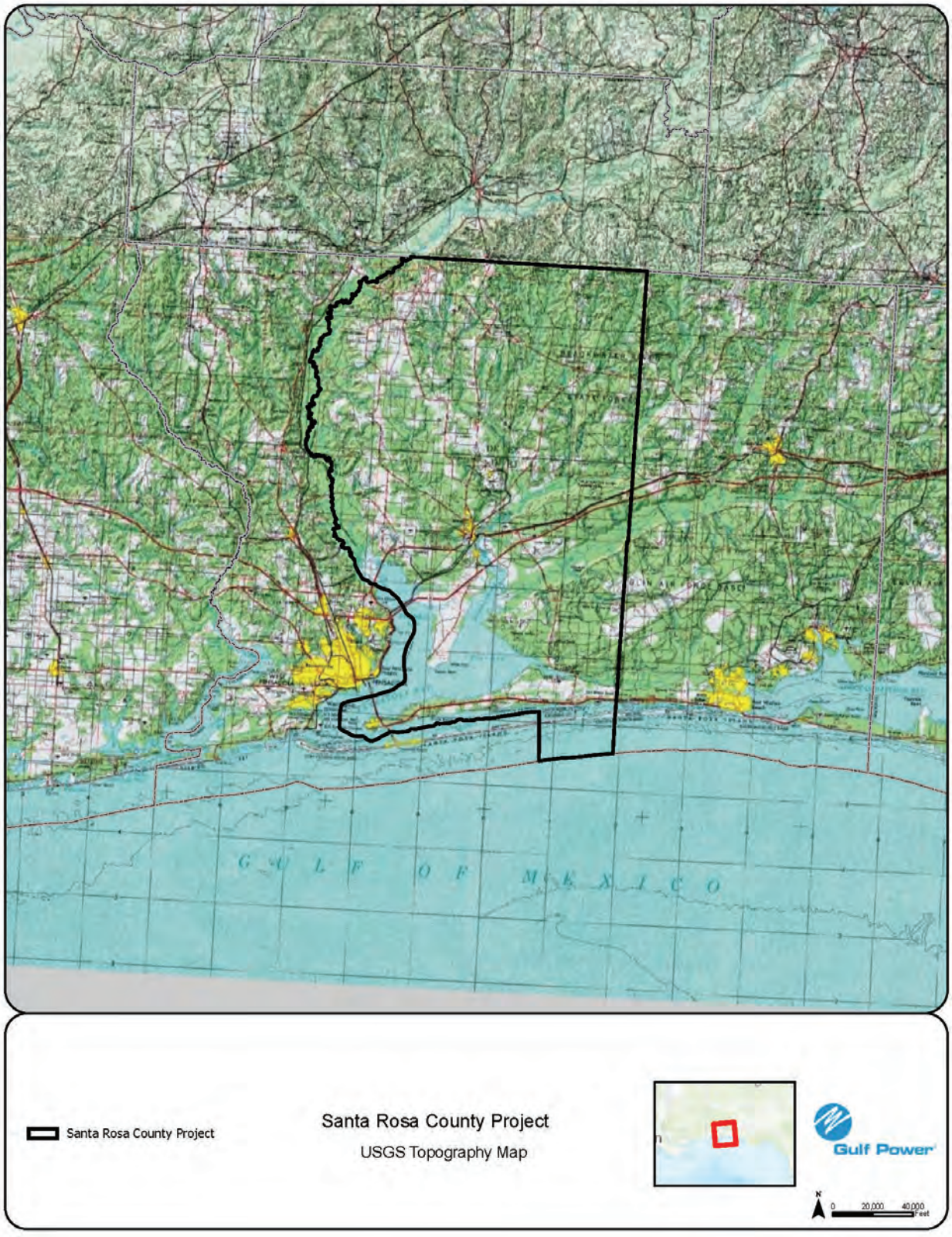
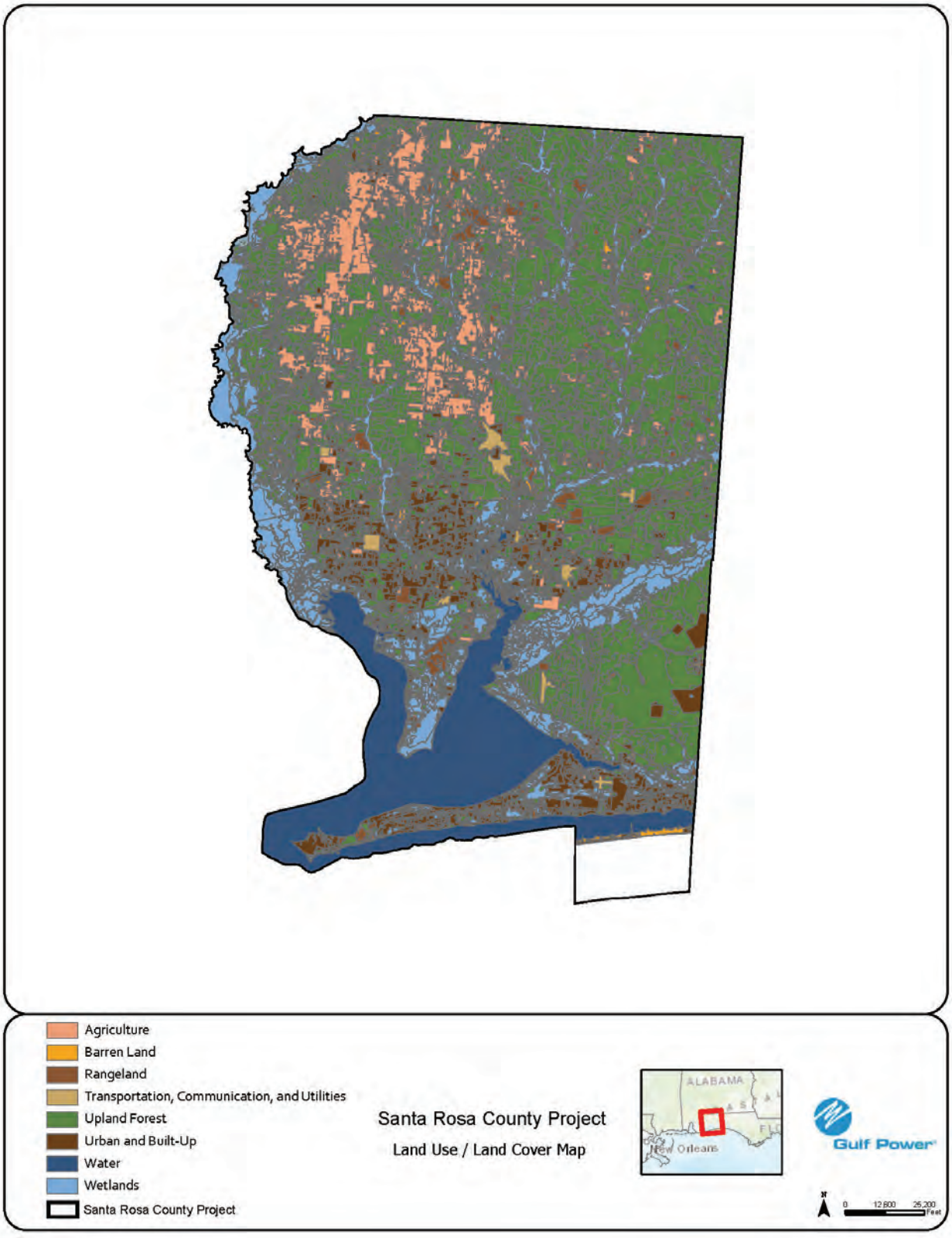
20,000
40,000
Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Okaloosa County Project
Okaloosa County Project
Land Use / Land Cover Map
ALABAMA
New Orleans
Gulf Power
0 10,000 20,000 Feet

Environmental and Land Use Information:
Supplemental Information

Gulf Area Potential Site # 7: Santa Rosa County


GULF OF MEXICO
Santa Rosa County Project
Santa Rosa County Project
USGS Topography Map
Gulf Power
N
0
20,000
40,000
Feet


Agriculture
Barren Land
Rangeland
Transportation, Communication, and Utilities
Upland Forest
Urban and Built-Up
Water
Wetlands
Santa Rosa County Project
Santa Rosa County Project
Land Use / Land Cover Map
ALABAMA
New Orleans
Gulf Power
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12,600
25,200
Feet

CHAPTER V
Other Planning Assumptions & Information

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Introduction

The Florida Public Service Commission (FPSC), in Docket No. 960111-EU, specified certain information to be included in an electric utility's Ten Year Power Plant Site Plan filing. This specified information includes 12 items listed under a heading entitled "Other Planning Assumptions and Information." These 12 items concern specific aspects of a utility's resource planning work. The FPSC requested a discussion or a description of each of these items.

These 12 items are addressed individually below as separate "Discussion Items".

Discussion Item # 1: Describe how any transmission constraints were modeled and explain the impacts on the plan. Discuss any plans for alleviating any transmission constraints.

FPL and Gulf Power Company's resource planning work considers two types of transmission limitations/constraints: external limitations and internal limitations. External limitations involve FPL's and Gulf's ties to its neighboring electric systems. Internal limitations involve the flow of electricity within the FPL system.

The external limitations are important because they affect the development of assumptions for the amount of external assistance that is available to the FPL and Gulf areas as well as the amount and price of economy energy purchases. Therefore, these external limitations are incorporated both in the reliability analysis and economic analysis aspects of resource planning. The amount of external assistance that is assumed to be available is based on the projected transfer capability to the FPL and Gulf areas from outside entities as well as historical levels of available assistance. In the loss of load probability (LOLP) portion of its reliability analyses, FPL's resource planning group models the amount of external assistance as an additional generator(s) within the system that provides capacity in all but the peak load months. The assumed amount and price of economy energy are based on historical values and projections from production costing models.

Internal transmission limitations are addressed in economic analyses by identifying potential geographic locations for potential new generating units that minimize adverse impacts to the flow of electricity within the system. The internal transmission limitations are also addressed by: 1) developing the direct costs for siting potential new units at different locations, 2) evaluating the cost impacts created by the new unit/unit location combination on the operation of existing generating units in the system, and/or 3) evaluating the costs of transmission and/or generation additions that may be needed to address regional concerns regarding an imbalance between load and generation in a given region. Costs for these site, region, and system factors are developed for use in economic analyses. These factors are also

considered in both system and regional reliability analyses. When analyzing DSM portfolios, such as for a DSM Goals docket, the potential to avoid or defer regional transmission additions that might otherwise be needed is typically analyzed. In addition, transfer limits for capacity and energy that can be imported into the Southeastern Florida region of FPL's area (Miami-Dade and Broward Counties), or transferred between FPL and Gulf once the two systems are interconnected by the planned North Florida Resiliency Connection transmission line project, are also developed, as applicable, for use in reliability analyses and production costing analyses. (The need to maintain a regional balance between generation and transmission in Southeastern Florida, is also discussed in the Executive Summary and in Chapter III.)

Annual transmission planning work determines transmission additions needed to address limitations and maintain/enhance system and regional reliability. Planned transmission facilities to interconnect and integrate generating units in the resource plan, including those transmission facilities that must be certified under the Transmission Line Siting Act, are presented in Chapter III.

Discussion Item # 2: Discuss the extent to which the overall economics of the plan were analyzed. Discuss how the plan is determined to be cost-effective. Discuss any changes in the generation expansion plan as a result of sensitivity tests to the base case load forecast.

FPL's resource planning group typically performs economic analyses of competing resource plans using levelized system average electric rates (*i.e.*, a Rate Impact Measure or RIM approach) as an economic criterion. In addition, for analyses in which DSM levels are not changed and only supply options are analyzed, the equivalent criterion of the cumulative present value of revenue requirements (CPVRR) may also be used.[16]

The only load forecast sensitivities analyzed during 2019 and/or early 2020 were developed in early 2019. These included extreme-weather sensitivity forecasts developed to analyze potential near-term operational scenarios and a higher load forecast scenario that was used to examine the projected future need for natural gas for the FPL system. These load forecast sensitivities and scenarios did not result in a change in the resource plan.

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

[16] FPL's basic approach in its resource planning work is to base decisions on a lowest electric rate basis. However, when DSM levels are considered a "given" in the analysis (*i.e.*, when only new generating options are considered), the lowest electric rate basis approach and the lowest system cumulative present value of revenue requirements (CPVRR) basis approach yield identical results in terms of which resource options are more economic. In such cases, resource options can be evaluated on the simpler-to-calculate (but equivalent) lowest CPVRR basis.

high and low fuel price scenarios. If high and low fuel price sensitivities were performed, explain the changes made to the base case fuel price forecast to generate the sensitivities. If high and low fuel price scenarios were performed as part of the planning process, discuss the resulting changes, if any, in the generation expansion plan under the high and low fuel price scenarios. If high and low fuel price sensitivities were not evaluated, describe how the base case plan is tested for sensitivity to varying fuel prices.

The basic assumptions used to derive fuel price forecasts are discussed in Chapter III of this document. FPL's resource planning group may use a single fuel cost forecast, or multiple fuel cost forecasts (Low, Medium, and High), in its analyses as appropriate.

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

The resource plan presented in this Site Plan is based on an updated fuel cost forecast developed in January 2020.

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 2019 and early 2020 resource planning work, a forecast scenario in which the differential between oil/gas and coal was held constant was not utilized. This is, in part, because FPL is currently using, and is projected to use, very little oil or coal. In addition, system improvements on the Gulf system are now being made that will result in significantly less coal usage both in the years before integrating the two systems and after that integration has been completed. These trends are shown on Schedules 5, 6.1, and 6.2 in Chapter III.

Discussion Item # 5: Describe how generating unit performance was modeled in the planning process.

The performance of existing generating units both the FPL and Gulf areas are modeled using current projections for scheduled outages, unplanned outages, capacity output ratings, and heat rate information.
Schedule 1 in Chapter I and Schedule 8 in Chapter III present the current and projected capacity output ratings of the existing generating units. The values used for outages and heat rates are generally consistent with the values that have been used in planning studies in recent years for both the FPL and Gulf areas.

In regard to new unit performance, FPL utilized current projections for the capital costs, fixed and variable operating and maintenance costs, capital replacement costs, construction schedules, heat rates, and capacity ratings for all construction options in its resource planning work. A summary of this information for the new capacity options that FPL currently projects to add over the reporting horizon for this document is presented on the Schedule 9 forms in Chapter III.

Discussion Item # 6: Describe and discuss the financial assumptions used in the planning process. Discuss how the sensitivity of the plan was tested with respect to varying financial assumptions.

The financial assumptions used in the 2019 resource planning analyses for FPL's area were: (i) an incremental capital structure of 40.40% debt and 59.60% equity; (ii) a 4.79% cost of debt; (iii) a 10.55% return on equity; and (iv) an after-tax discount rate of 7.73%. For Gulf's area, the values assumed in the vast majority of the resource planning work conducted during 2019 were: (i) an incremental capital structure of 46.50% debt and 53.50% equity; (ii) a 5.09% cost of debt; (iii) a 10.25% return on equity; and (iv) an after-tax discount rate of 7.25%.

The financial assumptions used in the resource planning analyses that led to the resource plan for a fully integrated FPL and Gulf system that is presented in this 2020 Ten Year Site Plan were: an incremental capital structure of 40.40% debt and 59.60% equity; (ii) a 4.10% cost of debt; (iii) a 10.55% return on equity; and (iv) an after-tax discount rate of 7.52%. No other financial assumptions were used in the 2019/early 2020 resource planning work.

Discussion Item # 7: Describe in detail the electric utility's Integrated Resource Planning process. Discuss whether the optimization was based on revenue requirements, rates, or total resource cost.

FPL's integrated resource planning (IRP) process is described in detail in Chapter III of this document.

The standard basis for comparing the economics of competing resource plans in FPL's basic IRP process is the impact of the plans on electricity rate levels, with the objective generally being to minimize the projected levelized system average electric rate (*i.e.*, a Rate Impact Measure or RIM approach). As discussed in response to Discussion Item # 2, both the electricity rate perspective and the cumulative present value of revenue requirement (CPVRR) perspective for the system yield identical results in terms of which resource options are more economical when DSM levels are unchanged between competing resource plans. Therefore, in planning work in which DSM levels were unchanged, FPL's resource planning group utilizes the equivalent, but simpler-to-calculate CPVRR perspective.

Discussion Item # 8: Define and discuss the electric utility's generation and transmission reliability criteria.

FPL's resource planning group uses three system reliability criteria in its resource planning work for both the FPL and Gulf areas that address various resource options including: utility generation, power purchases, and DSM options. One criterion is a minimum 20% Summer and Winter total reserve margin. Another reliability criterion is a maximum of 0.1 days per-year loss-of-load-probability (LOLP). The third criterion is a minimum 10% generation-only reserve margin (GRM). These three reliability criteria are discussed in Chapter III of this document.

In regard to transmission reliability analysis, transmission planning criteria have been adopted that are consistent with those established by the Florida Reliability Coordinating Council (FRCC) and the SERC Reliability Corporation (SERC). The FRCC and SERC have adopted transmission planning criteria that are consistent with the Reliability Standards established by the North American Electric Reliability Corporation (NERC). The *NERC Reliability Standards* are available on the NERC internet site (http://www.nerc.com/).

In addition, *Facility Interconnection Requirements* (FIR) documents for both FPL and Gulf systems/areas have been developed. The document for FPL is available on FPL's Open Access Same-time Information System (OASIS) website, https://www.oatioasis.com/FPL/index.html, under the "Interconnection Request Information" directory. The document for Gulf is available on Gulf's Open Access Same-time Information System (OASIS) website, https://www.oasis.oati.com/gulf/index.html, also under the "Interconnection Request Information" directory. Furthermore, all new transmission facilities within the FPL and Gulf service

territories that are used to meet FPL and Gulf load are planned to comply with Extreme Wind Loading Criteria as implemented in FPL and Gulf Design Guidelines.

FPL and Gulf Power Company's transmission planning group generally limits planned flows on its transmission facilities to no more than 100% of the applicable thermal rating. There may be isolated cases for which it is acceptable to deviate from the general criteria stated below. There are several factors that could influence these criteria, such as the overall number of potential customers that may be impacted, the probability of an outage actually occurring, transmission system performance, and other factors.

The normal and contingency voltage criteria for FPL stations are provided below:

Normal/Contingency[17]

Voltage Level (kV)	Vmin (p.u.)	Vmax (p.u.)
69, 115, 138	0.95/0.95	1.05/1.07
230	0.95/0.95	1.06/1.07
500	0.95/0.95	1.07/1.10
Turkey Point (*)	1.013/1.013	1.06/1.06
St. Lucie (*)	1.00/1.00	1.06/1.06

(*) Voltage range criteria for FPL's Nuclear Power Plants

In regards to the normal and contingency voltage criteria for Gulf Power Company stations, Gulf adopts the Southern Company Voltage Schedule Procedures as provided in the link below to the Southern Company OASIS document:

- Voltage Schedule Procedures

[17] Immediately following a contingency, steady-state voltages may deviate from the normal voltage range if there are known automatic or manual operating actions to adjust the voltage to within the contingency voltage range. However, the steady-state voltage must never exceed voltage System Operating Limits (SOLs), which have a lower limit of 0.88pu and a higher limit of 1.10pu for all transmission facilities, excluding nuclear plant switchyards for which the SOLS are equal to the normal/contingency limits.

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

FPL and Gulf periodically revise the projected impacts of its DSM programs on demand and energy consumption. Engineering models, calibrated with current field-metered data, are updated at regular intervals. Participation trends are tracked for all of FPL's and Gulf's DSM programs in order to adjust impacts each year for changes in the mix of efficiency measures being installed by program participants. For its load management programs, FPL conducts periodic tests of its load management equipment to ensure it is functioning correctly. These tests, plus actual load management events, also allow FPL to gauge the MW reduction capabilities of its load management programs on an ongoing basis.

Discussion Item # 10: Discuss how strategic concerns are incorporated in the planning process.

The Executive Summary and Chapter III provide a discussion of a variety of system concerns/issues that influence FPL's resource planning process. Please see those chapters for a discussion of those concerns/issues.

In addition to these system concerns/issues, there are other strategic factors that FPL's resource planning group typically considers when choosing among resource options. These include: (1) technology risk; (2) environmental risk, and (3) site feasibility. The consideration of these factors may include both economic and non-economic aspects. Technology risk is an assessment of the relative maturity of competing technologies. For example, a prototype technology that has not achieved general commercial acceptance has a higher risk than a technology in wide use and, therefore, assuming all else is equal, is less desirable.

Environmental risk is an assessment of the relative environmental acceptability of different generating technologies and their associated environmental impacts on the utility system, including projected environmental compliance costs. Technologies regarded as more acceptable from an environmental perspective for a prospective resource plan are those that minimize environmental impacts for the utility system as a whole through highly efficient fuel use, state-of-the-art environmental controls, and generating technologies that do not utilize fossil fuels (such as nuclear and solar).

Site feasibility assesses a wide range of economic, regulatory, and environmental factors related to successfully developing and operating the specified technology at the site in question. Projects that are more acceptable have sites with fewer barriers to successful development.

All of these factors play a part in resource planning and decision-making, including decisions to construct capacity or purchase power.

Discussion Item # 11: Describe the procurement process the electric utility intends to utilize to acquire the additional supply-side resources identified in the electric utility's ten-year site plan.

As shown in this 2020 Site Plan, the current resource plan reflects the following major supply-side or generation resource additions in FPL's area: combustion turbine (CT) component upgrades at various existing CCs, addition of new PV facilities, addition of new battery storage facilities, and addition of new CC capacity from the Dania Beach Energy Center Unit 7 through the modernization of FPL's existing Lauderdale plant site. The current resource plan also reflects the following major supply-side or generation resource additions and/or changes in Gulf's area: CT component upgrades at the existing CC, addition of new PV facilities, conversion of coal-fueled generation to gas-fueled generation, the addition of CT generation, and the addition of new battery storage facilities.

CT upgrades are planned to take place at various CC units throughout the FPL and Gulf areas. The original equipment manufacturer (OEM) of the CTs approached FPL and Gulf regarding the possibility of upgrading these units. Following negotiations with the OEM and economic analyses that showed upgrading was cost-effective for customers, FPL and Gulf decided to proceed with the CT upgrades and the supporting balance of plant modifications.

For new solar facilities for both FPL's and Gulf's areas, the selection of equipment and installation contractors has been, and will continue to be, done via competitive bidding. FPL's Engineering & Construction (E&C) group seek bids from multiple suppliers for major components such as PV panels, inverters, and step-up transformers. Where possible, this group aggregates and executes component purchases as a portfolio to achieve cost synergies. However, this must be balanced against rapid technology changes and potential future cost reductions. Therefore, any bundling of purchases over the planned construction horizon is strategically managed. The remaining balance-of-system (BOS) purchases, such as racking and cabling, as well as engineering and construction services, are typically bid out to a number of contractors to determine the best value.

The selection of equipment and installation contractors for the projected battery storage facilities is expected to be done in a manner similar to that described above for the projected solar facilities.

The modernization project at FPL's existing Lauderdale site received an FPSC waiver from the Bid Rule due to attributes specific to modernization projects (such as the ability to use existing gas and/or transmission infrastructure, ability to use land at an existing plant site, no incremental water

requirements, etc.). In addition to these attributes, the Lauderdale modernization project, which will result in the addition of a new combined cycle unit (FPL Dania Beach Clean Energy Center Unit 7) is also projected to result in significant economic benefits for FPL's customers. Additionally, the new unit is projected to lower natural gas usage in the FPL system, and lower system emissions of SO_2, NO_x, and CO_2 compared to continuing to operate the existing Lauderdale generating units. The waiver from the Bid Rule was granted in Consummating Order No. PSC-2017-0431-CO-EI. On March 19, 2018, the FPSC issued a final order granting an affirmative need determination for the planned new Dania Beach Unit 7 (Order No. PSC-2018-0150-FOF-EI). FPL utilized a competitive bidding process to select equipment suppliers and installation contractors based on its assessment of price and supplier capability to realize the best generation option for its customers.

The new CTs projected in the current resource plan for Gulf's area by late 2021 will be procured via competitive bidding.

Discussion Item # 12: Provide the transmission construction and upgrade plans for electric utility system lines that must be certified under the Transmission Line Siting Act (403.52 – 403.536, F. S.) during the planning horizon. Also, provide the rationale for any new or upgraded line.

In the current resource plan, there are no new transmission lines planned in the Gulf area that require certification under the Transmission Line Siting Act.

Although not projected to be added in the planning horizon (2020 through 2029) addressed by this document, FPL has a transmission line project planned for 2030 or later that will utilize the remaining portion of the Levee-Midway corridor to bring a second 500 kV line to feed Conservation substation in Broward County, Florida (as is shown on Table III.E.1 in Chapter III).

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