

## PMLevyCOLPEm Resource

---

**From:** Hambrick, Gordon A SAJ [Gordon.A.Hambrick@usace.army.mil]  
**Sent:** Friday, February 03, 2012 11:42 AM  
**To:** Bruner, Douglas  
**Cc:** LevyCOL Resource  
**Subject:** RE: wetland impacts in the FEIS (UNCLASSIFIED)  
**Attachments:** FDEP JD LNP 10-07-2011.pdf; Exhibit A.pdf

Classification: UNCLASSIFIED

Caveats: NONE

Attached is a copy of the FDEP's Notice of Agency Action with Final Report attached. Issued on October 7, 2011. It was sent to our Jax office, and I didn't get it until last month. Only for the 5,378-acre site, as defined by FDEP on page 3 and map (Exhibit A) on page 4 of the final report. The scan of the Notice and final report is in B&W due to file size. I separately scanned Exhibit A in color so you can see. My recollection is that Paul Sned said during one of our meetings/teleconferences sometime in the last several months, that only the facility site, as shown in the final report, would have a formal jurisdictional declaration from FDEP, and there would not be one for transmission lines. If you need more information in regard to FEDP's actions, you'll need to contact Paul or FDEP.  
Don

Gordon A. (Don) Hambrick, III  
Senior Project Manager  
Panama City Permits Section  
US Army Corps of Engineers  
Jacksonville District  
1002 West 23rd Street, Suite 350  
Panama City, Florida 32401

Office: 850-763-0717, ext. 25  
Fax: 850-872-0231

-----Original Message-----

From: Bruner, Douglas [<mailto:Douglas.Bruner@nrc.gov>]  
Sent: Wednesday, February 01, 2012 5:26 PM  
To: Hambrick, Gordon A SAJ  
Cc: LevyCOL Resource  
Subject: FW: wetland impacts in the FEIS

Don, answer Peyton's question (see below).

From: Doub, Peyton  
Sent: Wednesday, February 01, 2012 4:17 PM  
To: Bruner, Douglas  
Subject: FW: wetland impacts in the FEIS

Doug: Do you know if FDEP has concurred yet with PEF's wetland delineations?

-Peyton

From: Aston, Lara M [<mailto:lara.aston@pnnl.gov>]  
Sent: Wednesday, February 01, 2012 4:17 PM  
To: Doub, Peyton  
Subject: Re: wetland impacts in the FEIS

I have not heard whether or not FDEP has approved the delineations. would Don H. from the Corps know the answer to that question?

-L

From: "Doub, Peyton" <[Peyton.Doub@nrc.gov](mailto:Peyton.Doub@nrc.gov)>  
Date: Wed, 1 Feb 2012 12:59:24 -0800  
To: Lara Aston <[lara.aston@pnnl.gov](mailto:lara.aston@pnnl.gov)>  
Subject: RE: wetland impacts in the FEIS

Lara:

Do you know whether FDEP ever approved the Levy wetland delineations? Our FEIS says that FDEP approval is still needed. I just wanted to check. Thanks.

-Peyton

From: Aston, Lara M [<mailto:lara.aston@pnnl.gov>]  
Sent: Wednesday, February 01, 2012 12:19 PM  
To: Doub, Peyton  
Subject: wetland impacts in the FEIS

Peyton,

I'm sorry it's taken me so long to get back to you about the tables that we received a couple of weeks ago. I went ahead and calculated the totals from their tables and the numbers were

the same as what you and I had in Chapter 4 (in the wetland impacts table). If you have any questions, please don't hesitate to call or email me.

Hope all is well with you.

-Lara

---

Lara M. Aston  
Research Scientist  
Coastal Ecosystem Research

Pacific Northwest National Laboratory  
Marine Science Laboratory  
1529 West Sequim Bay Road  
Sequim, WA 98382 USA  
Tel: 360-681-4557  
Fax: 360-681-4559  
[lara.aston@pnl.gov](mailto:lara.aston@pnl.gov)  
[www.pnl.gov](http://www.pnl.gov)

Classification: UNCLASSIFIED  
Caveats: NONE

**Hearing Identifier:** Levy\_County\_COL\_Public  
**Email Number:** 982

**Mail Envelope Properties** (1FB790893E639745BAAAB98FB538B84318B87A)

**Subject:** RE: wetland impacts in the FEIS (UNCLASSIFIED)  
**Sent Date:** 2/3/2012 11:41:49 AM  
**Received Date:** 2/3/2012 11:42:48 AM  
**From:** Hambrick, Gordon A SAJ

**Created By:** Gordon.A.Hambrick@usace.army.mil

**Recipients:**  
"LevyCOL Resource" <LevyCOL.Resource@nrc.gov>  
Tracking Status: None  
"Bruner, Douglas" <Douglas.Bruner@nrc.gov>  
Tracking Status: None

**Post Office:** EIS-MB04CPC.eis.ds.usace.army.mil

Files	Size	Date & Time
MESSAGE	3234	2/3/2012 11:42:48 AM
FDEP JD LNP 10-07-2011.pdf		2716485
Exhibit A.pdf	502695	

**Options**  
**Priority:** Standard  
**Return Notification:** No  
**Reply Requested:** No  
**Sensitivity:** Normal  
**Expiration Date:**  
**Recipients Received:**

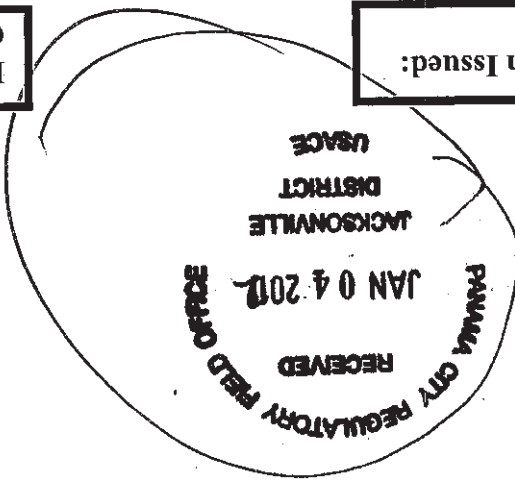
STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Levy Nuclear Plant  
DEP File Number FD-38-0292370-001  
Levy County

In the matter of a petition for a  
Formal Determination of the Landward  
Extent of Wetlands and Other Surface  
Waters of the State by:

Daniel Roderick  
Progress Energy Florida  
c/o Martha Klien  
CH2M Hill  
3011 SW Williston Road  
Gainesville, FL 32607



Expiration Date:  
October 07, 2016

Formal Determination Issued:  
October 07, 2011

NOTICE OF AGENCY ACTION

Enclosed is a Formal Determination of the Landward Extent of Wetlands and Other Surface

Waters of the State (File Number FD-38-0292370-001) to Daniel Roderick of Progress Energy  
Florida, c/o Martha Klien of CH2M Hill, for the property located in; Sections 13, 24, 25, 36,  
Township 16 South, Range 16 East; Sections 7, 17, 18, 19, 20, 29, 31, 32, Township 16 South,

Range 17 East; Section 1, Township 17 South, Range 16 East; Sections 5, 6, Township 17 South,

Range 17 East, Levy County. This action is authorized pursuant to Sections 373.414 and

373.421(2), Florida Statutes and Florida Administrative Code Rule 62-343.040. This

determination is strictly for purposes of establishing the landward extent of wetlands and other

File No. FD-38-0292370-001

Received in  
Jacksonville  
District Office  
Oct 2011  
on 11/14/2016  
to Don  
Humbert  
Panama City  
Sector

surface waters of the State and does not relieve you from the responsibility of obtaining a federal permit from the U.S. Army Corps of Engineers, where applicable, and any permits that may be required from your Water Management District or local government.

Any party to this Order has the right to seek judicial review of the application pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel of the Department at 900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida

**STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION**

*Eric Hickman*  
Eric Hickman, Environmental Administrator

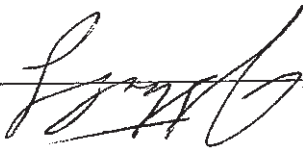
Wetland Evaluation and Delineation Section  
Office of Submerged Lands and Environmental Resources  
Division of Water Resource Management  
2600 Blair Stone Road, MS 2500  
Tallahassee, Florida 32399-2400  
(850) 245-8496

# CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF AGENCY ACTION and all copies were mailed before the close of business on October 7, 2011 to the persons listed below.

## FILING AND ACKNOWLEDGEMENT

FILED, on this date, pursuant to 120.52(9), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Clerk  Date 10/7/11

Copies furnished to:  
w/ enclosures

Jim Maher, FDEP, NE District, Jacksonville  
Clark Hull; SWFWMD; 2379 Broad St.; Brooksville, FL 34604-6899  
Beverlee Lawrence; USACOE; Atlantic Permits Branch Office; 701 San Marco Blvd. Room 372  
Jacksonville, Florida 32207

File No. FD-38-0292370-001





DEPARTMENT OF ENVIRONMENTAL PROTECTION  
FORMAL DETERMINATION OF THE LANDWARD EXTENT OF  
WETLANDS AND OTHER SURFACE WATERS OF THE STATE

APPLICATION NUMBER FD-38-0292370-001

Levy Nuclear Plant

Daniel Roderick of Progress Energy Florida, 299 First Avenue North, St. Petersburg, Florida 33701, has filed an application (FD-38-0292370-001) pursuant to Sections 373.414 and 373.421(2), Florida Statutes, and Rule 62-343.040, Florida Administrative Code for a Formal Determination of the Landward Extent of Wetlands and Other Surface Waters of the State. The applicant seeks the determination for a 5,378 acre property located in; Sections 13, 24, 25, 36, Township 16 South, Range 16 East; Sections 7, 17, 18, 19, 20, 29, 31, 32, Township 16 South, Range 17 East; Section 1, Township 17 South, Range 16 East; Sections 5, 6, Township 17 South, Range 17 East, Levy County. The application was received on March 05, 2008. The Department, via a letter dated August 08, 2011 advised the applicant that the application was complete pending receipt of five copies of maps delineating the wetlands and other surface waters of the State as determined by the Department on May 03, 2011.

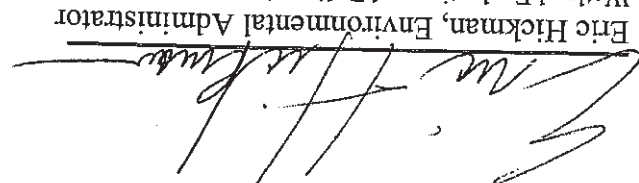
Upon review of information submitted by the applicant and a detailed site evaluation performed by the Department's staff (report enclosed), the landward extent of wetlands and other surface waters of the State subject to the Department's environmental resource permitting procedures at the property has been determined. The Formal Determination of the Landward Extent of Wetlands and Other Surface Waters of the State is shown on **Attachment A** of the final report. The bold black line delineates the boundaries of the area inspected. The red hatched areas on **Attachment A** delineate the wetlands and other surface

waters. The applicant elected to have the formal determination line surveyed, and has provided the Department with five copies of the survey properly certified in accordance with Chapter 472, Florida Statutes.

Notice of the Agency's intent to grant a Formal Determination of the Landward Extent of Wetlands and Other Surface Waters of the State for the Levy Nuclear Plant (FD-38-0292370-001) was published on September 01, 2011 in the Levy County Journal daily newspaper in Levy County, Florida. No petition for hearing has been filed concerning this matter.

The Formal Determination of the Landward Extent of Wetlands and Other Surface Waters of the State is binding for a period of five (5) years from the date of this determination provided physical conditions on the property do not change so as to alter wetland boundaries during this time. The Department may revoke this formal determination if it finds that the applicant has submitted inaccurate information in the application.

**STATE OF FLORIDA DEPARTMENT OF  
ENVIRONMENTAL PROTECTION**



Eric Hickman, Environmental Administrator

Wetland Evaluation and Delineation Section

Office of Submerged Lands and Environmental Resources

Division of Water Resource Management

2600 Blair Stone Road, MS 2500

Tallahassee, Florida 32399-2400

(850) 245-8496

# FINAL REPORT

For

LEVY NUCLEAR PLANT  
FD-38-0292370-001

FORMAL DETERMINATION OF THE LANDWARD EXTENT OF WETLANDS AND  
OTHER SURFACE WATERS

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Division of Water Resource Management

Office of Submerged Lands and Environmental Resources

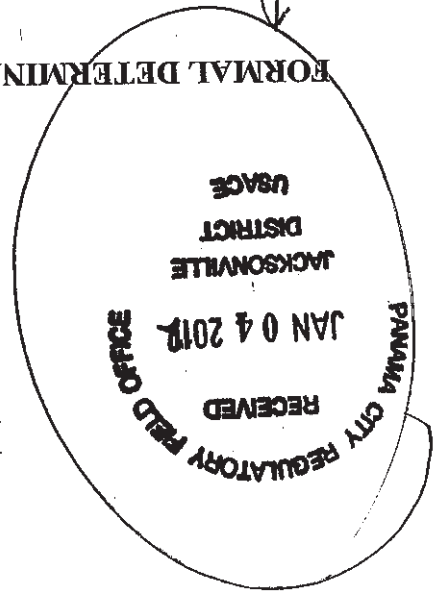
Wetland Evaluation and Delineation Section

Prepared by

John Humphreys, Ecologist

Wetland Evaluation and Delineation Section  
Florida Department of Environmental Protection  
2600 Blairstone Road, MS 2500  
Tallahassee, Florida 32399  
(850) 245-8487

FD-38-0292370-001  
- 1 -



*Handwritten notes and signatures:*  
- "Panama City" (written vertically)  
- "1/4/2012" (written vertically)  
- "John Humphreys" (signature)  
- "Wetland Evaluation and Delineation Section" (written vertically)  
- "Florida Department of Environmental Protection" (written vertically)  
- "2600 Blairstone Road, MS 2500" (written vertically)  
- "Tallahassee, Florida 32399" (written vertically)  
- "(850) 245-8487" (written vertically)  
- "Prepared by" (written vertically)  
- "John Humphreys, Ecologist" (written vertically)  
- "Wetland Evaluation and Delineation Section" (written vertically)  
- "Office of Submerged Lands and Environmental Resources" (written vertically)  
- "Division of Water Resource Management" (written vertically)  
- "STATE OF FLORIDA" (written vertically)  
- "DEPARTMENT OF ENVIRONMENTAL PROTECTION" (written vertically)  
- "FORMAL DETERMINATION OF THE LANDWARD EXTENT OF WETLANDS AND OTHER SURFACE WATERS" (written vertically)  
- "LEVY NUCLEAR PLANT" (written vertically)  
- "FD-38-0292370-001" (written vertically)  
- "For" (written vertically)  
- "FINAL REPORT" (written vertically)

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## EXHIBITS

Exhibit A: Location of Levy Nuclear Plant Project Area	
Exhibit B: Soils Map for Levy Nuclear Plant Project Area	
Exhibit C: Hydrological Features for Levy Nuclear Plant Project Area	

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## ATTACHMENTS

Attachment A: Aerial Photograph and Certified Survey Delineating Boundaries of Area Inspected and Landward Extent of Wetlands and Other Surface Waters of the State .....	Attached
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LEVY NUCLEAR PLANT  
FD-38-0292370-001  
Formal Determination of the Landward Extent of Waters of the State

Formal Determination

The Department of Environmental Protection's Wetland Evaluation and Delineation Section conducted multiple field inspections of the Levy Nuclear Plant project area between March 25, 2008 and May 03, 2011.

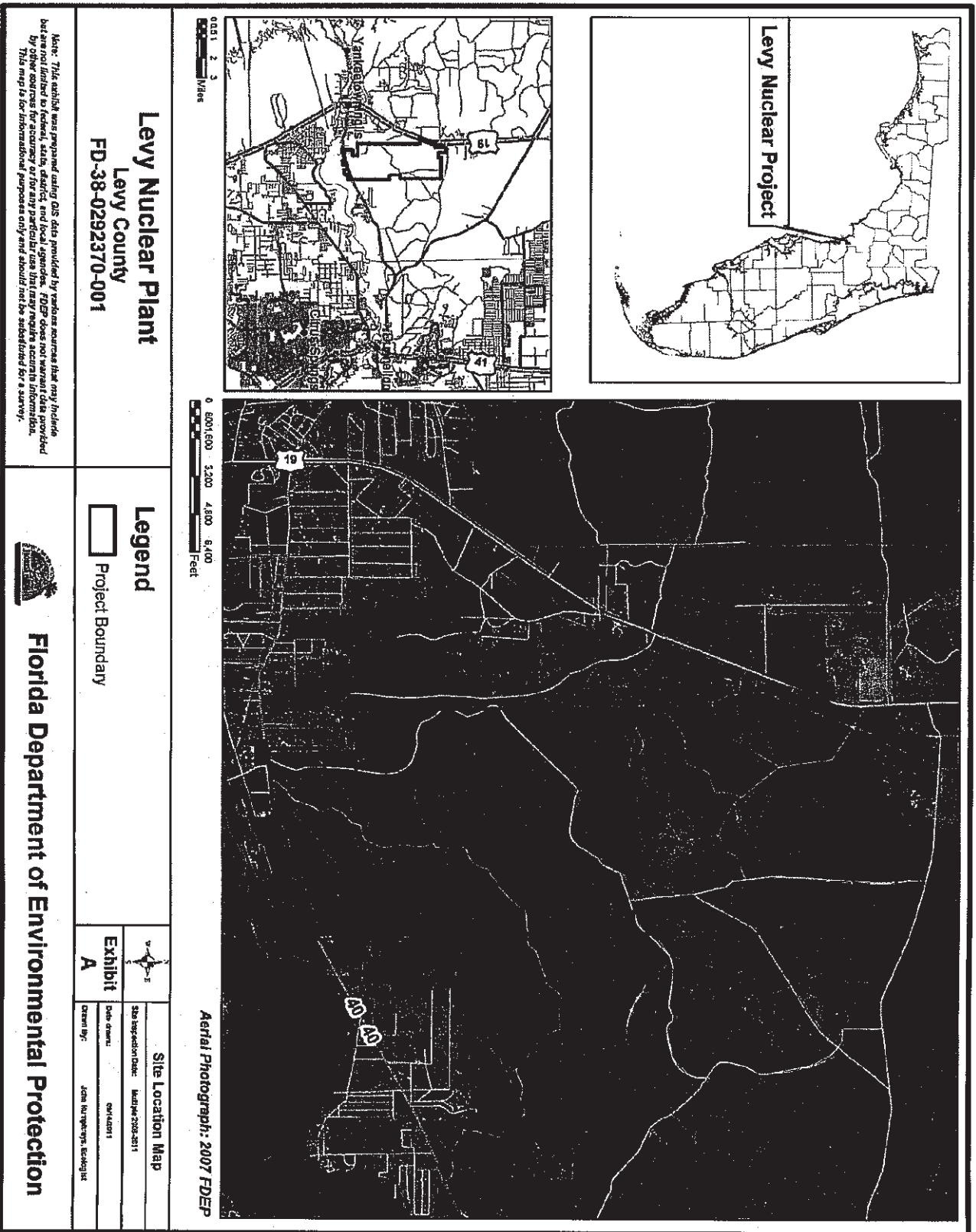
Wetland Evaluation and Delineation Section (WEDS) staff members assisting with field inspections included Eric Hickman, Maynard Sweeley, Charles Bidwell, Jay Kamke, Matthew Harris, Lisl Hintichs, Guy Anglin (co-author) and John Humphreys (co-author). In addition to WEDS staff, Martha Klein, Gabriel Dupree, Darren Bishop, Tony Davanzo, and Hugo Thouverez of CH2MHILL Incorporated assisted with field inspections as representatives of the petitioner.

The landward extent of waters of the State subject to the wetland resources jurisdiction of the Florida Department of Environmental Protection (FDEP) for the Levy Nuclear Plant project is delineated on the aerial photocopy and certified survey appended as **Attachment A**. The bold black line demarcates the boundary of the area inspected. The red hatched area represents the landward extent of wetlands and other surface waters of the State subject to the wetland resources jurisdiction of the FDEP in accordance with Rule 62-340, Florida Administrative Code (Table 2). The remaining portions of the area inspected are not wetlands or other surface waters of the State within the wetland resources jurisdiction of the FDEP. The wetland boundary line was flagged by the Department and subsequently surveyed by the petitioner.

Site Location

The Levy Nuclear Plant project area occupies approximately 5,378 acres and is located in Sections 13, 24, 25, 36, Township 16 South, Range 16 East; Sections 7, 17, 18, 19, 20, 29, 31, 32, Township 16 South, Range 17 East; Section 1, Township 17 South, Range 16 East; Sections 5, 6, Township 17 South, Range 17 East, Levy County (Exhibit A).

**Exhibit A**  
**Location of Levy Nuclear Plant property, Levy County, Florida**



## Project Area Description

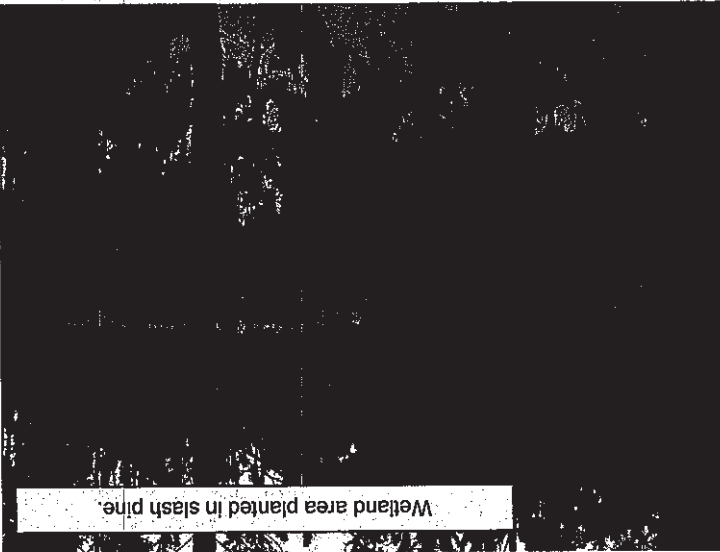
The Levy Nuclear Plant project area is located within the Gulf Coastal Lowlands Physiographic Province and both the Smyrna-Placid-Samsula and Ocala-Candler-Tavares general soil associations of Levy County.

Several wetland and community types were identified during field inspection of the Levy Nuclear Plant project area. These wetland communities were geographically positioned within a larger matrix of pine-saw palmetto-wiregrass

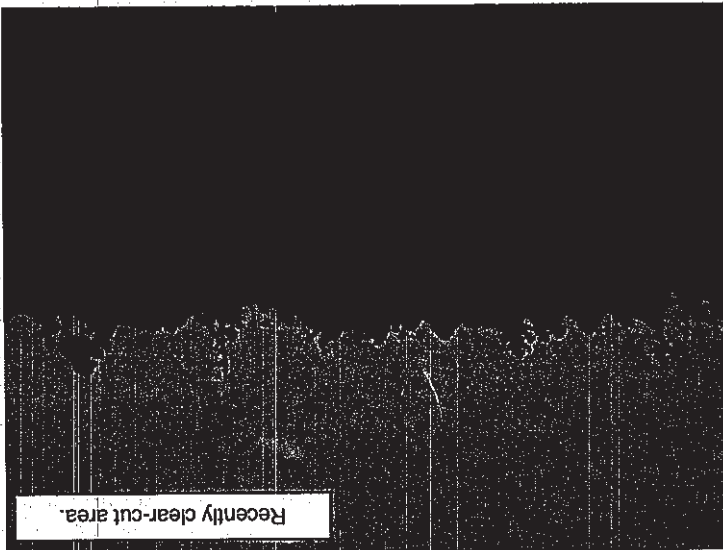
flatwoods. Historically, the project area's flatwoods were dominated by longleaf pine (*Pinus palustris*), saw palmetto (*Serenoa repens*), and wiregrass (*Arctostaphylos*). Plants

such as muhlenbergia (*Muhlenbergia capillaris*), winged sumac (*Rhus copallina*), pawpaw (*Asimina reticulata*), dwarf liveoak (*Quercus*

*pumila*), bushy bluestem (*Andropogon glomeratus*), brackenfern (*Pteridium aquilinum*), broom-sedge (*Andropogon virginicus*), gallberry (*Ilex glabra*), vanilla plant (*Carphephorus odoratissimus*), orange milkwort (*Polypogon monspeliensis*), yellow-eye grass (*Xyris caroliniana*) and blackroot (*Pterocaulon virgatum*) would have served as subordinate species within these areas. However, like most of the State of Florida, and the Southeastern United States as a whole, the vast majority of longleaf pine flatwoods were harvested and replaced by other pine species. In fact, only a few relic longleaf were noted during site inspection.



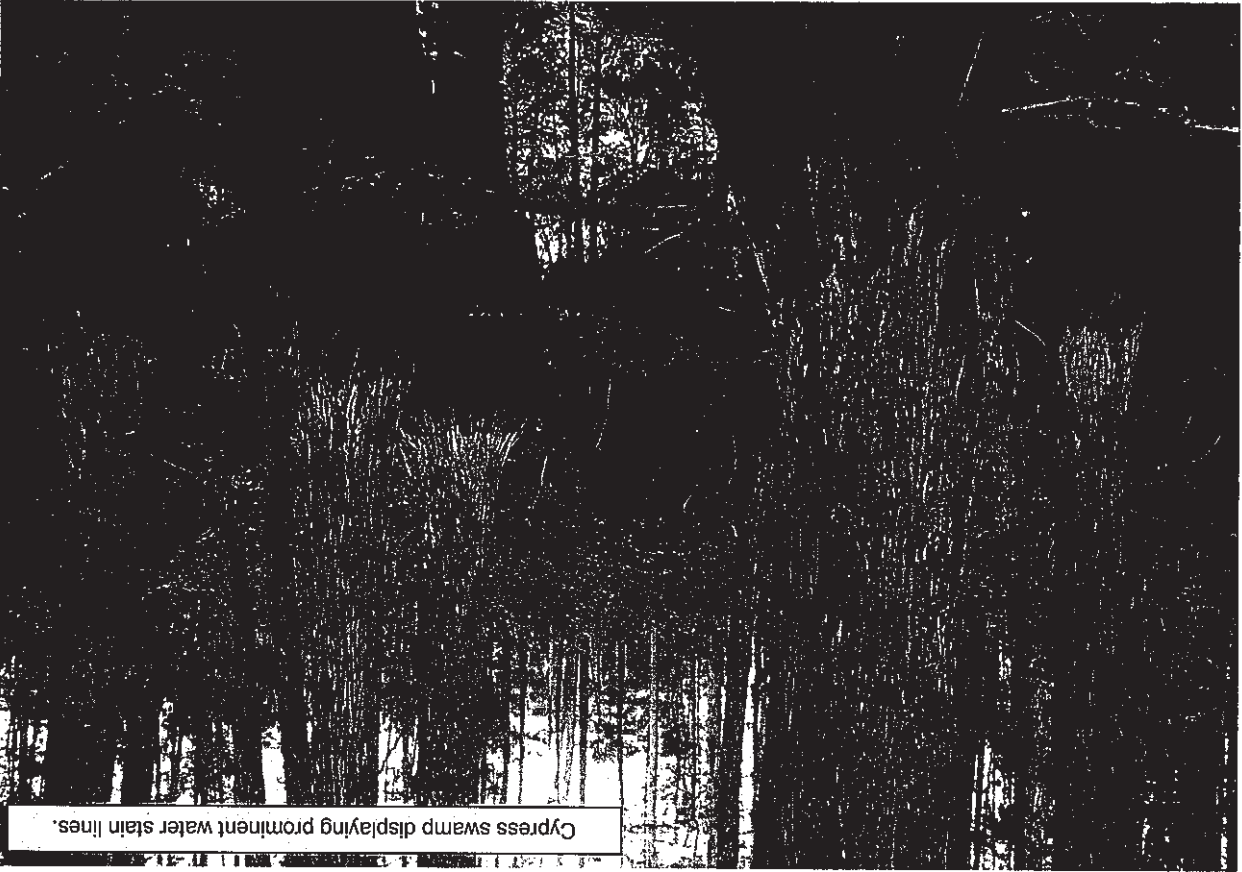
Following past removal of longleaf pine from upland and shallow wetland portions of the Levy Nuclear Plant project area, the site was first mechanically prepared by roller chopping and then bedded and planted with slash pine (*Pinus elliotii*). Although most of the site's uplands were bedded, some areas were prepared and planted without the more intrusive disturbance associated with bedding. These areas retained a character more similar to that of the original longleaf pine flatwoods that dominated the area.





Past mechanical disturbance, compounded by fire exclusion, consequently eliminated most of the site's long-lived perennial grasses such as wiregrass and Muhlenbergia. These grasses are highly sensitive to mechanical disturbance and had undergone adaptation as to seldom produce seed without seasonal fires; as a result, these groundcover species were the most adversely affected by silvicultural treatments. Most other groundcover components persisted at the project area, although their relative abundance has been altered. The net result has been a greater abundance of early successional species such as gallberry, bushy bluestem, and broom-sedge in both the site's uplands and shallow wetlands.

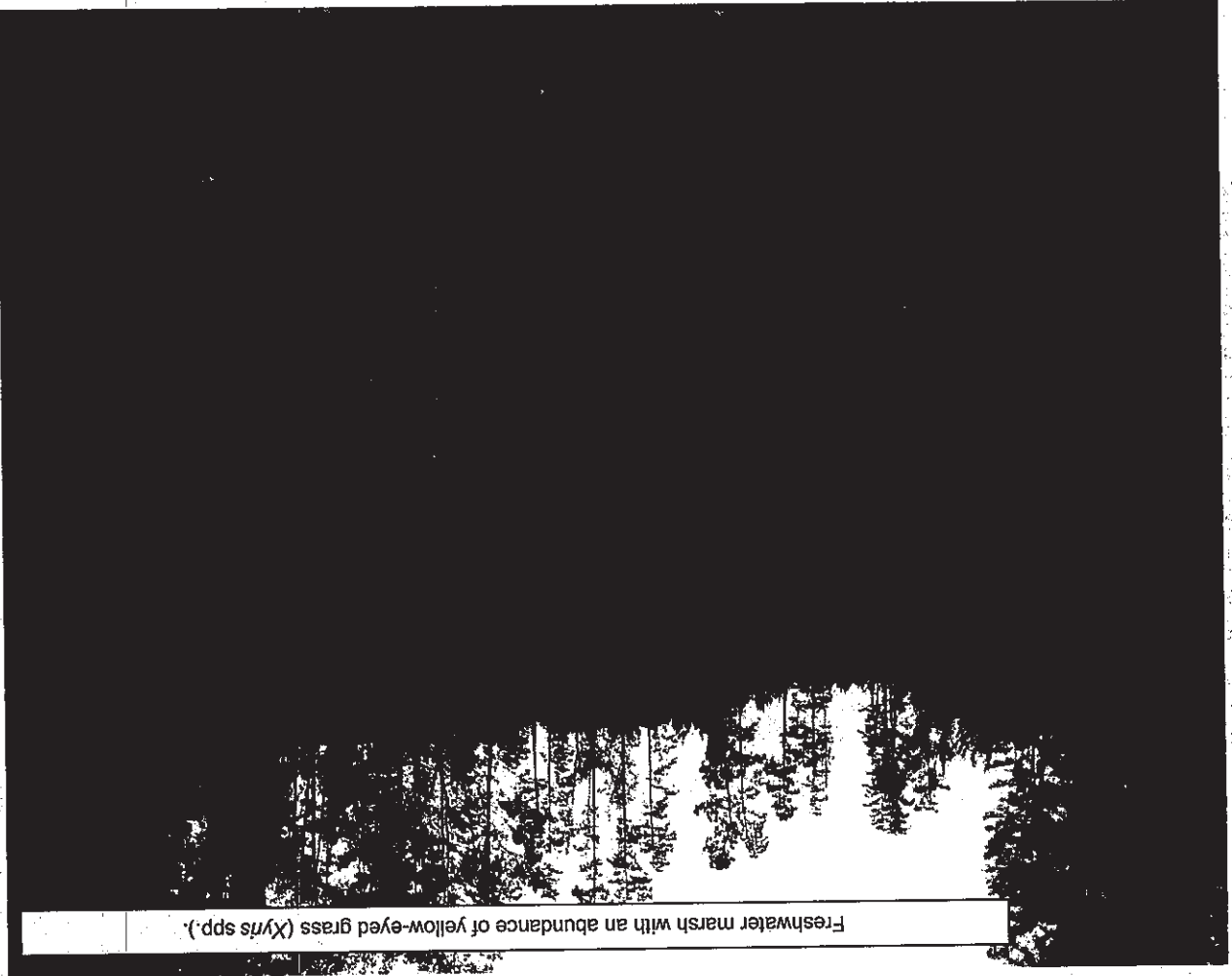
Wetlands occupied a large portion of the project area. Because most were not associated with well-defined streams, many of these irregularly shaped, canopied communities would best be classified as basin swamps. Shallow wetlands along the edges of these swamps were mostly bedded and planted with slash pine. Historically, edge areas were wet prairies or, when proximal to greater topographical relief, seepage slopes. In their natural condition, wet prairies and ecotonal seeps would have been dominated by graminoids such as wiregrass, Muhlenbergia, beakrushes (*Rhynchospora* spp.), yellow-eyed grass (*Xyris* spp.), and white nutsedge (*Scleria* spp.), as well as many forbes such as yellow milkwort (*Polygala rugelii*), meadowbeauty (*Rhexia* spp.), bog button (*Eriocaulon* spp.) and pink sundew (*Drosera capillaris*). Observational evidence demonstrated that these areas remained as the most botanically diverse communities on the site. However, most have become dominated by bushy bluestem (*Andropogon glomeratus* var. *glaucoptis*), as has a large portion of the site's pine flatwoods.



Cypress swamp displaying prominent water stain lines.



Deeper canopied wetlands were typically dominated by pond cypress (*Taxodium ascendens*), slash pine (*Pinus elliotii*), swamp tupelo (*Nyssa biflora*), dahoon holly (*Ilex cassine*), and sometimes red maple (*Acer rubrum*). The subcanopy was composed primarily of smaller trees of the same species; though, slash pine was not as frequently observed in this vegetative strata. Typical to the hummock restricted groundcover were shrubs such as wax myrtle (*Myrica cerifera*), buttonbush (*Cephalanthus occidentalis*), doghobble (*Leucothoe racemosa*), and highbush blueberry (*Vaccinium corymbosum*). Herbaceous species such as sawgrass (*Cladium jamaicense*), Virginia chainfern (*Woodwardia virginica*), greenbriar (*Smilax laurifolia*), bugleweed (*Lycopus rubellus*), sedge (*Carex glaucescens*), arrowhead (*Sagittaria latifolia*), maidencane (*Panicum hemitomon*), blackberry (*Rubus argutus*), and marsh thoroughwort (*Eupatorium leptophyllum*) were common to both hummocks and the frequently inundated substrate between hummocks. Evidence of past and recent selective harvest, such as cut cypress stumps, was noted in many of the deeper canopied systems.



Freshwater marsh with an abundance of yellow-eyed grass (*Xyris* spp.).

## Soils

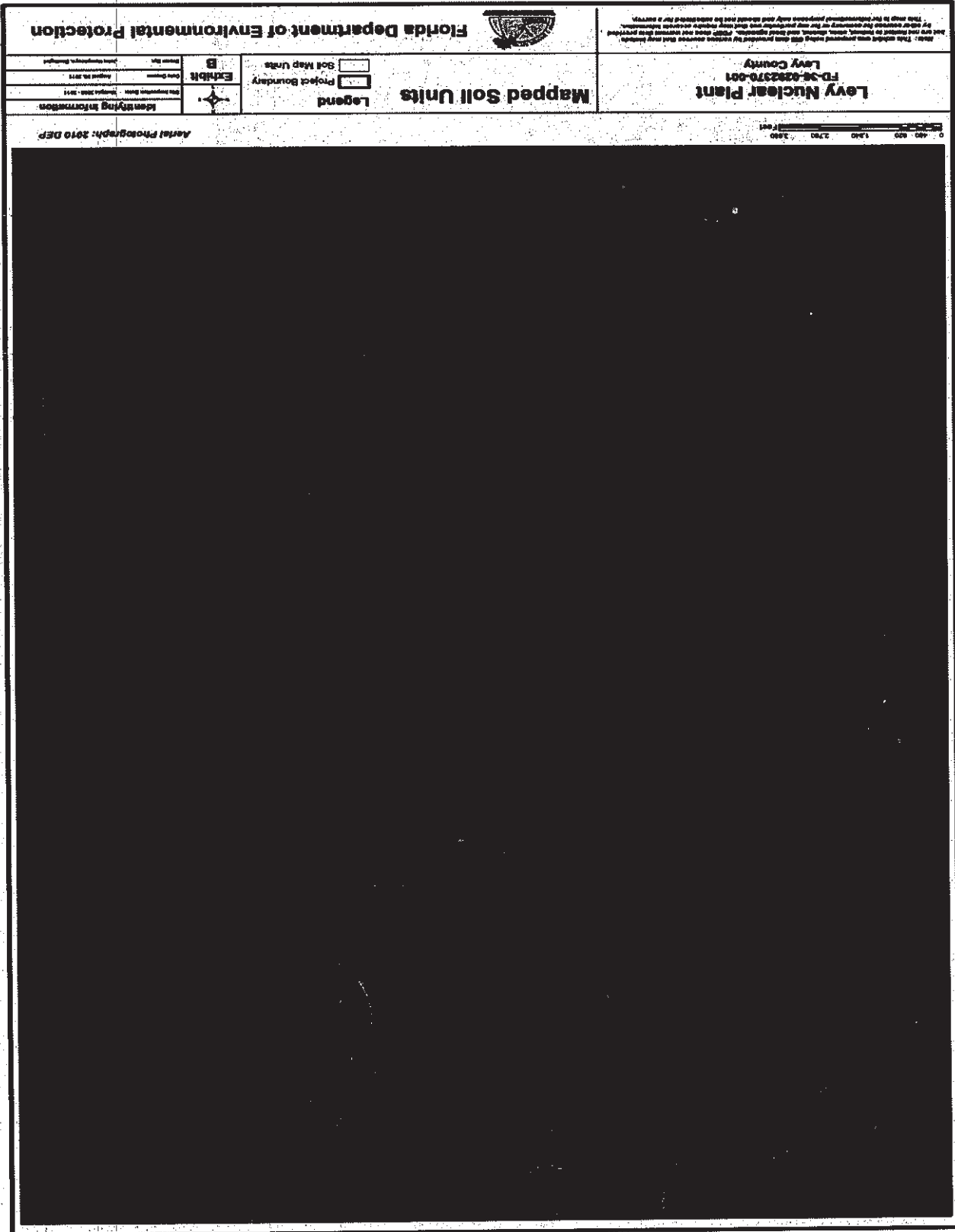
During inspection of the project area, numerous soil profiles were examined in effort to identify the presence or absence of hydric soil indicators.

Beyond the physical sampling of soils, a soil survey of Levy County (1996) produced by the United States Department of Agriculture's Natural Resources Conservation Service (NRCS) was utilized as a reference for the project area's soil mapping units.

The NRCS soil survey delineated thirteen map units within the project area's boundaries; these soil units are listed with their hydric status in **Table 1**, and they are graphically depicted in **Exhibit B** below.

**Table 1**  
NRCS Soil Map Units on Site

Symbol	Unit Name	Hydric	Drainage	Texture
2	Tavares fine sand, 1 to 5 percent slopes	No	Moderately well drained	fine sand
8	Smyrna fine sand	No	Poorly drained	fine sand
9	Pomona fine sand	No	Poorly drained	fine sand
11	Placid and Samsula soils, depressional	Yes	Very poorly drained	muck
13	Wekiva fine sand	Yes	Poorly drained	fine sand
16	Chobee-Gator complex, frequently flooded	Yes	Very poorly drained	muck
17	Adamsville fine sand, 0 to 5 percent slopes	No	Poorly drained	fine sand
18	Wauchula fine sand	No	Poorly drained	fine sand
23	Zolfo sand	No	Somewhat poorly drained	sand
27	Placid and Popash soils, depressional	Yes	Very poorly drained	fine sand
34	Cassia-Pomello complex	No	Somewhat poorly drained	fine sand
38	Myakka sand	No	Poorly drained	sand
74	Arents, 0 to 5 percent slopes	No	Moderately well drained	sand

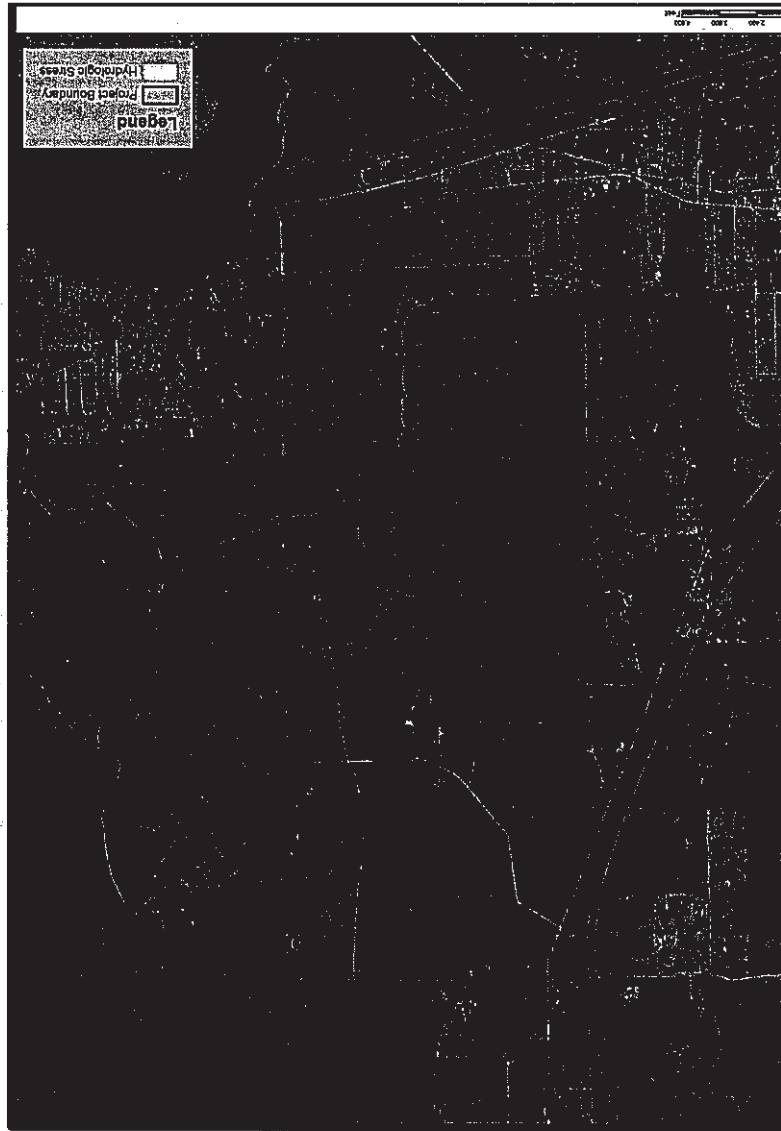


**Exhibit B**  
**Mapped Soil Units Levy Nuclear Project Area**

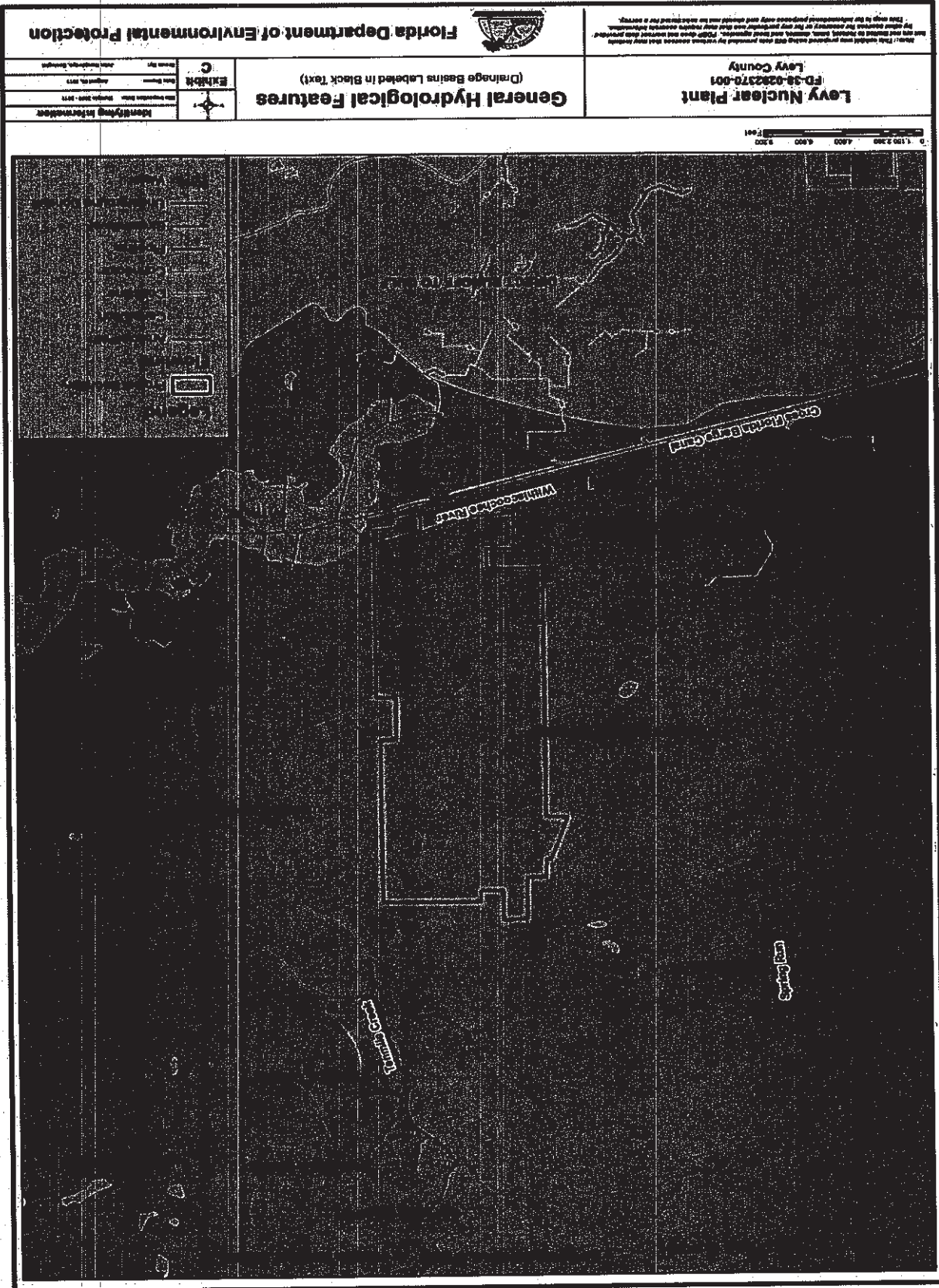
**Hydrology**  
 Generally, hydrological conveyance from the site was south and west to the Gulf of Mexico via direct runoff; however, the southern portion of the site is located within the Withlacoochee Drainage Basin (Exhibit C).

The wetland vegetative communities in the southernmost portion of the Levy Nuclear Plant project area, an area from approximately one-half mile north of Highway 40, southward to the Cross Florida barge Canal, exhibited evidence of hydrological stress (see figure below). The canopy strata in this area displayed wetland plant species in poor qualitative condition. The subcanopy and groundcover layers showed evidence of increased migration by upland plant species.

**Location of Observed Hydrologic Stress**



**Exhibit C**  
Hydrological Features of the Levy Nuclear Project Area





## **Wetland Boundary Delineation**

The landward extent of wetlands and other surface waters of the State was established through photographic interpretation and onsite ground reconnaissance. The landward extent of wetlands and other surface waters subject to the wetlands resources jurisdiction of the Florida Department of Environmental Protection for the Levy Nuclear Plant project area is delineated on the aerial photocopy appended as **Attachment A** (Map Pocket). The bold black line shown on the aerial demarcates the surveyed boundary of the area inspected; the red hatched area represents the landward extent of wetlands and other surface waters.

The applicant elected to have the formal determination line surveyed, and has provided the Department with five copies of the survey properly certified in accordance with Chapter 472, Florida Statutes.

[Point Description Data Begins on Next Page]

# Point Description Data

SITE 1A --Flag no. TCW 001-14

Plant Community: Pine Flatwoods (cleared)

## CANOPY

Scientific Name	Common Name	Indicator status
none		

## SUBCANOPY

Scientific Name	Common Name	Indicator status
<i>Pinus elliotii</i> var. <i>elliotii</i>	slash pine (planted)	UPL

## GROUND COVER

Scientific Name	Common Name	Indicator status
<i>Andropogon glomeratus</i> var. <i>glaucopis</i>	purple bluestem	FACW
<i>Baccharis halimifolia</i>	eastern false-willow	FAC
<i>Centella asiatica</i>	coinwort	FACW
<i>Eupatorium leptophyllum</i>	marsh thoroughwort	OBL
<i>Gratiola ramosa</i>	branched hedgehyssop	FACW
<i>Hypericum cistifolium</i>	roundpod St. Johnswort	FACW
<i>Ilex glabra</i>	gallberry	UPL
<i>Lachnanthes carolina</i>	redroot	FAC
<i>Myrica cerifera</i>	southern bayberry	FAC
<i>Rhynchospora fascicularis</i> var. <i>fascicularis</i>	fascicled beaksedge	FACW
<i>Rubus cuneifolius</i>	sand blackberry	FAC
<i>Scleria triglomerata</i>	whip nutrush	FACW
<i>Serenoa repens</i>	saw palmetto	UPL

## Soil Profile Description\*

Horizon	Depth	Description
1	0-4	10YR 6/1
2	4-8	10YR 7/1
3	8-12	10YR 6/4
Observed water table depth: None		
Hydric: No		

\* All depths are in inches and all colors were determined on moist soil.

Jurisdiction  
Wetland: No

Comments: Soils non-hydric, upland plant species > 20%, no evidence of hydrology



SITE 1B -- Flag no. TCW 001-14  
Plant Community: Wet Prairie

CANOPY

Scientific Name

None

SUBCANOPY

Scientific Name

*Pinus elliotii* var. *elliotii*

GROUND COVER

Scientific Name

*Ager rubrum*

*Centella asiatica*

*Eleocharis* sp.

*Eriogonum giganteum*

*Eryngium baldwinii*

*Eupatorium leptophyllum*

*Linnaria canadensis*

*Myrica cerifera*

*Panicum rigidulum*

*Rhynchospora elliotii*

*Rhynchospora fascicularis* var. *fascicularis*

*Rubus argutus*

*Sagittaria graminea* var. *graminea*

*Solidago fistulosa*

*Viola lanceolata* ssp. *vittata*

*Woodwardia virginica*

Common Name

Indicator status

Common Name

Indicator status

slash pine

UPL

Common Name

Indicator status

red maple

FACW

purple bluestem

FACW

cornwort

FACW

spikerush

OBL

sugarcane plumegrass

OBL

Baldwin's coyote-thistle

FAC

marsh thoroughwort

OBL

Canada toadflax

UPL

southern bayberry

FAC

red-top panicum

FACW

Elliott's beaksedge

FACW

fasciated beaksedge

FACW

sawtooth blackberry

FAC

grassy arrowhead

OBL

marsh goldenrod

FACW

bog white violet

OBL

chainfern

FACW

Soil Profile Description

Horizon Depth Description

1

0-4

10YR 2/1 (Mucky Mineral)

2

4-8

10YR 2/1

3

8-12+

10YR 7/1

Observed water table depth: Not observed

Hydric: Yes

\* All depths are in inches and all colors were determined on moist soil.

Jurisdiction

Wetland: Yes

Comments: Passes the A-test, Hydrologic indicators observed: algal mats

CANOPY	Scientific Name	Common Name	Indicator status
	<i>Acer rubrum</i>	red maple	FACW
	<i>Pinus elliotii</i> var. <i>elliotii</i>	slash pine	UPL
	<i>Taxodium ascendens</i>	pond cypress	OBL

SUBCANOPY	Scientific Name	Common Name	Indicator status
	<i>Myrica cerifera</i>	southern bayberry	FAC
	<i>Persea palustris</i>	swamp bay	OBL
	<i>Pinus elliotii</i> var. <i>elliotii</i>	slash pine	UPL
	<i>Taxodium ascendens</i>	pond cypress	OBL

GROUND COVER	Scientific Name	Common Name	Indicator status
	<i>Andropogon glomeratus</i> var. <i>glaucoptis</i>	purple bluestem	FACW
	<i>Carex glaucescens</i>	clustered sedge	FACW
	<i>Centella asiatica</i>	coinwort	FACW
	<i>Hypericum myrtifolium</i>	myrtleleaf St. Johnswort	FACW
	<i>Juncus</i> sp.	rush	FAC
	<i>Lachnanthes carolina</i>	redroot	FAC
	<i>Ludwigia</i> sp.	ludwigia; water-primrose	OBL
	<i>Panicum hemitomon</i>	maidencane	OBL
	<i>Rhynchospora cephalantha</i>	clustered beakrush	OBL
	<i>Rhynchospora fascicularis</i>	fascicled beaksedge	FACW
	<i>Smilax laurifolia</i>	laurel greenbrier	vine
	<i>Woodwardia virginica</i>	chainfern	FACW

### Soil Profile Description \*

Horizon	Depth	Description
1	0-6	10YR 2/1 Dark Surface
2	4-8	10YR 7/1 sand
3	8-22+	10YR 8/1

Observed water table depth: Not observed  
Hydric: Yes

\* All depths are in inches and all colors were determined on moist soil.

### Jurisdiction

Wetland: Yes, passes the A-test

Comments: Hydrologic indicators observed: algal mats

**SITE 3A -- Flag no. URW-009-38**  
**Plant Community: Pine Flatwoods**

**CANOPY**

**Scientific Name** *Pinus elliotii* var. *elliottii*  
**Common Name** slash pine (planted)

**Indicator status** UPL

**SUBCANOPY**

**Scientific Name** *Pinus elliotii* var. *elliottii*  
**Common Name** slash pine (planted)

**Indicator status** UPL

**GROUND COVER**

**Scientific Name** *Gaylussacia frondosa* var. *nana*  
**Common Name** blue huckleberry

**Indicator status** UPL

**Scientific Name** *Ilex glabra*  
**Common Name** gallberry

**Indicator status** UPL

**Scientific Name** *Lyonia lucida*  
**Common Name** fetterbush

**Indicator status** UPL

**Scientific Name** *Myrica cerifera*  
**Common Name** southern bayberry

**Indicator status** UPL

**Scientific Name** *Pteridium aquilinum*  
**Common Name** western brackenfern

**Indicator status** UPL

**Scientific Name** *Serenia repens*  
**Common Name** saw palmetto

**Indicator status** UPL

**Scientific Name** *Vaccinium stamineum*  
**Common Name** deerberry

**Indicator status** UPL

**Soil Profile Description\***

Observed water table depth: Not observed

Hydric: No soil pit, soils disturbed by silvicultural treatments

**Jurisdiction**

Wetland: No, vegetation dominated by upland species

**Comments: None**

**SITE 3B -- Flag no. URW009-38**

**Plant Community:** Wet prairie (between pine flatwoods and Cypress dome)

CANOPY	
<u>Scientific Name</u>	<u>Common Name</u>
<i>Pinus elliotii</i> var. <i>elliotii</i>	slash pine (planted)
<u>Indicator status</u>	<u>UPL</u>
SUBCANOPY	
<u>Scientific Name</u>	<u>Common Name</u>
<i>Pinus elliotii</i> var. <i>elliotii</i>	slash pine (planted)
<u>Indicator status</u>	<u>UPL</u>
GROUND COVER	
<u>Scientific Name</u>	<u>Common Name</u>
<i>Ilex glabra</i>	gallberry
<i>Myrica cerifera</i>	southern bayberry
<i>Osmunda cinnamomea</i>	cinnamon fern
<i>Woodwardia virginica</i>	chainfern
<i>Scleria triglomerata</i>	whip nutrush
<i>Andropogon glomeratus</i> var. <i>glaucopestis</i>	purple bluestem
<i>Toxicodendron radicans</i>	eastern poison ivy
<i>Vaccinium myrsinites</i>	shiny blueberry
<i>Panicum dichotomum</i>	panicum
<i>Gaylussacia frondosa</i> var. <i>nana</i>	blue huckleberry
<i>Lyonia lucida</i>	tetterbush
<u>Indicator status</u>	<u>FACW</u>

**Soil Profile Description\***

Observed water table depth: Not observed  
Hydric: No soil pit, soils disturbed by silvicultural treatments

**Jurisdiction**

Wetland: Yes

**Comments:**

FACW species dominant, >80%. Hydrolologic indicator noted (algal mats). This site is below a topographic break that appears to separate uplands from wetlands. Considering topography and dominance by FACW vegetation, both parties conducting the inspection agree that reasonable scientific judgment places this site within the wetland boundary.



**Soil Profile Description\***  
Observed water table depth: Not observed  
Hydric: No soil data recorded.

**Jurisdiction**  
Wetland: Yes

**Comments:** Passes A-test vegetation with Well-defined hydrologic indicators: buttressed trees, hummocks, and stain lines.

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**SITE 4A-Flag no. TCW-21-24**  
**Plant Community: Pine flatwoods**

Scientific Name	Common Name	Indicator status
None		

Scientific Name	Common Name	Indicator status
<i>Persea palustris</i>	swamp bay	OBI
<i>Pinus elliotii</i> var. <i>elliottii</i>	slash pine (planted)	UPL

**GROUND COVER**

Scientific Name	Common Name	Indicator status
<i>Serenoa repens</i>	saw palmetto	UPL
<i>Illex glabra</i>	gallberry	UPL
<i>Woodwardia virginica</i>	chainfern	FAQW
<i>Andropogon glomeratus</i> var. <i>glaucopsis</i>	purple bluestem	FAQW
<i>Lyonia lucida</i>	fetterbush	FAQW
<i>Eupatorium rotundifolium</i>	roundleaf thoroughwort	FAQ
<i>Dichanthelium</i> sp.	rosette grass	UPL

Soil Profile Description*	Horizon	Depth	Description
	W1A1	0-2	10YR 2/2 fibric
	2A1	2-6.5	10 YR 3/1 sand
	W3A1	6.5-8	10 YR 4/1 sand
	W4A1	8-12+	10 YR 6/1 sand, with [redox] 10 YR 3/3 at 8"
Observed water table depth: No			
Hydric No			

\* All depths are in inches and all colors were determined on moist soil.

**Jurisdiction**  
 Wetland: No

**Comments:** Dominated by upland vegetation, soils not hydric

**SITE 4B--Flag no. TCW-21-24**

**Plant Community: Wet Prairie (planted to slash pine)**

<u>Scientific Name</u>	<u>Common Name</u>	<u>Indicator status</u>
None		

**CANOPY**

<u>Scientific Name</u>	<u>Common Name</u>	<u>Indicator status</u>
<i>Acer rubrum</i>	red maple	FACW
<i>Pinus elliotii</i> var. <i>elliotii</i>	slash pine	UPL

**SUBCANOPY**

<u>Scientific Name</u>	<u>Common Name</u>	<u>Indicator status</u>
<i>Acer rubrum</i> var. <i>drummondii</i>	Drummond's maple	UPL
<i>Andropogon glomeratus</i> var. <i>glaucopsis</i>	purple bluestem	FACW
<i>Centella asiatica</i>	coinwort	FACW
<i>Eupatorium leptophyllum</i>	marsh thoroughwort	OBL
<i>Eupatorium mohrii</i>	Mohr's thoroughwort	FAC
<i>Gratiola ramosa</i>	branched hedgehyssop	FACW
<i>Hypericum fasciculatum</i>	marsh St. John's-wort	OBL
<i>Ilex glabra</i>	gallberry	UPL
<i>Lachnanthes carolina</i>	redroot	FAC
<i>Lachnocaulon anceps</i>	white-head bogbutton	FACW
<i>Rhexia virginica</i>	handsome Harry	FACW
<i>Rhynchospora gracilentia</i>	slender beaksedge	FACW
<i>Rhynchospora microcephala</i>	bunched beaksedge	FACW
<i>Rubus argutus</i>	sawtooth blackberry	FAC
<i>Solidago fistulosa</i>	marsh goldenrod	FACW
<i>Vaccinium corymbosum</i>	highbush blueberry	FACW
<i>Woodwardia virginica</i>	chainfern	FACW
<i>Xyris elliotii</i>	Elliot's yelloweyed grass	OBL
<i>Xyris platylepis</i>	tall yelloweyed grass	OBL

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# Soil Profile Description\*

Horizon	Depth	Description
1	0-2	10YR 2/2 sand, dark surface, 75% coated
2	2-9	10YR 2/1 sand, dark surface, 75% coated
3	9-12+	10YR 5/1

Observed water table depth: No water observed in this pit  
 Hydric: Yes, >4" dark surface

\* All depths are in inches and all colors were determined on moist soil.

## Jurisdiction

Wetland: Yes

Comments: Passes A-test

## SITE 5 - Flag no. URW-011-3

Plant Community: Basin swamp

## CANOPY

Scientific Name

*Acer rubrum*  
*Nyssa sylvatica* var. *biflora*  
*Pinus elliotii* var. *elliotii*  
*Quercus laurifolia*  
*Taxodium ascendens*

## SUBCANOPY

Scientific Name

*Acer rubrum*  
*Nyssa sylvatica* var. *biflora*  
*Persea palustris*  
*Quercus laurifolia*  
*Taxodium ascendens*

Common Name

red maple  
 swamp tupelo  
 slash pine  
 laurel oak  
 pond cypress

Indicator status

FACW  
 OBL  
 UPL  
 FACW  
 OBL

Common Name

red maple  
 swamp tupelo  
 swamp bay  
 laurel oak  
 pond cypress

Indicator status

FACW  
 OBL  
 OBL  
 FACW  
 OBL

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# GROUND COVER

Scientific Name	Common Name	Indicator status
<i>Lyonia lucida</i>	fetterbush	FACW
<i>Myrica cerifera</i>	southern bayberry	FAC
<i>Smilax bona-nox</i>	saw greenbrier	vine
<i>Toxicodendron radicans</i>	eastern poison ivy	UPL
<i>Rubus argutus</i>	sawtooth blackberry	FAC
<i>Woodwardia virginica</i>	chainfern	FACW
<i>Rhynchospora miliacea</i>	millet beakrush	OBL
<i>Cladium jamaicense</i>	sawgrass	OBL
<i>Smilax walteri</i>	coral greenbrier	vine
<i>Acer rubrum</i> var. <i>drummondii</i>	Drummond's maple	UPL
<i>Cephalanthus</i> sp.	buttonbush	OBL
<i>Eriocaulon decangulare</i>	tenangle pipewort	OBL
<i>Eriocaulon compressum</i>	flattened pipewort	OBL
<i>Galium tinctorium</i>	stiff marsh bedstraw	FACW
<i>Mikania scandens</i>	climbing hempvine	UPL
<i>Hydrocotyle umbellata</i>	manyflower marshpennywort	FACW
<i>Parthenocissus quinquefolia</i>	Virginia creeper	vine
<i>Lycopodium obscurum</i>	taperleaf waterhorehound	OBL
<i>Pluchea</i> sp.	campbor-weed	FACW
<i>Centella asiatica</i>	coinwort	FACW
<i>Hypericum mutilum</i>	dwarf St. Johnswort	FACW
<i>Bacopa monnieri</i>	herb of grace	OBL

## Soil Profile Description\*

No soils data taken

Observed water table depth : Not observed  
Hydric : NA

## Jurisdiction

Wetland: Yes

**Comments:** Passes A-test with hydrologic indicators: lichen lines, large hummocks, buttressed tree trunks

**SITE 6A-Flag no. W2U2-9**  
**Plant Community: Pine flatwoods**

<b>CANOPY</b>	Scientific Name	Common Name	Indicator status
	None		

<b>SUBCANOPY</b>	Scientific Name	Common Name	Indicator status
	<i>Pinus elliotii</i> var. <i>elliottii</i>	slash pine (planted)	UPL

<b>GROUND COVER</b>	Scientific Name	Common Name	Indicator status
	<i>Ilex glabra</i>	gallberry	UPL
	<i>Serenoa repens</i>	saw palmetto	UPL
	<i>Asimina reticulata</i>	netted pawpaw	UPL
	<i>Myrica cerifera</i>	southern bayberry	FAC
	<i>Amphicarpum muhlenbergianum</i>	blue maidencane	FACW
	<i>Quercus hemisphaerica</i> var. <i>hemisphaerica</i> oak		UPL
	<i>Pterocaulon virgatum</i>	pterocaulon	UPL

**Soil Profile Description \***

Horizon	Depth	Description
100	0-2	10YR 3/2
200	2-5	10 YR 3/1 sand 65% coated
300	5-12+	10 YR 4/1 sand 55% coated
Observed water table depth: None		
Hydric: No		

\* All depths are in inches and all colors were determined on moist soil.

**Jurisdiction**  
**Wetland: No**

**Comments:** Dominated by upland vegetation and soil is non-hydric

**SITE 6B--Flag no. W2U2-9**  
**Plant Community: Basin swamp (ecotone)**

<u>Scientific Name</u>	<u>Common Name</u>	<u>Indicator status</u>
None		

**SUBCANOPY**

<u>Scientific Name</u>	<u>Common Name</u>	<u>Indicator status</u>
<i>Pinus elliotii</i>	slash pine (planted)	UPL

**GROUND COVER**

<u>Scientific Name</u>	<u>Common Name</u>	<u>Indicator status</u>
<i>Aletris obovata</i>	southern colicroot	FAC
<i>Amphicarpum muhlenbergianum</i>	blue maidencane	FACW
<i>Andropogon glomeratus</i> var. <i>glaucopsis</i>	purple bluestem	FACW
<i>Aristida stricta</i>	wiregrass	FAC
<i>Berchemia scandens</i>	Alabama supplejack	vine
<i>Bumelia recclinata</i>	bumelia	FAC
<i>Centella asiatica</i>	coinwort	FACW
<i>Cirsium lecontei</i>	Leconte's thistle	FACW
<i>Coreopsis gladiata</i>	southeastern tickseed	FACW
<i>Diospyros virginiana</i>	common persimmon	FAC
<i>Eleocharis</i> sp.	spikerush	OBL
<i>Eriogonon vernus</i>	early whitetop fleabane	FACW
<i>Eriocaulon decangulare</i>	tenangle pipewort	OBL
<i>Eryngium baldwinii</i>	Baldwin's coyote-thistle	FAC
<i>Eryngium yuccifolium</i>	rattlesnake master	FACW
<i>Gratiola ramosa</i>	branched hedgehyssop	FACW
<i>Helianthus heterophyllus</i>	wetland sunflower	FACW
<i>Hypericum fasciculatum</i>	marsh St. John's-wort	OBL
<i>Liatris spicata</i>	spiked gayfeather	FAC
<i>Lobelia</i> sp.	lobelia	FAC
<i>Myrica cerifera</i>	southern bayberry	FAC
<i>Panicum ensifolium</i>	panic grass	OBL
<i>Phytalis</i> sp.	groundcherry	UPL
<i>Pluchea</i> sp.	campbor-weed	FACW
<i>Pluchea</i> sp.	campbor-weed	FACW
<i>Rhynchospora</i> sp.	beakrush	FAC
<i>Sabal palmetto</i>	cabbage palm	FAC
<i>Scleria</i> sp.	nutrush	FACW
<i>Serenoa repens</i>	saw palmetto	UPL
<i>Viola lanceolata</i>	lance-leaf violet	OBL
<i>Xyris elliotii</i>	Elliot's yelloweyed grass	OBL

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**Soil Profile Description\***

Horizon	Depth	Description
1	0-2	10 YR 3/1 sand
2	2-4	10YR 4/1 sand
3	4-8	10 YR4/2 sand, [redox] at 4.5 10YR 5/6 ">2%
4	8-12+	10 YR5/3 sand
Observed water table depth: Not observed		
Hydric: Yes, sandy redox		

\* All depths are in inches and all colors were determined on moist soil.

**Jurisdiction**

Wetland: Yes

Comments: Passes the A-test; bedded and planted to slash pine

**SITE 6C-Flag no. W2U2-9**

**Plant Community: Basin swamp**

**CANOPY**

Scientific Name  
*Pinus elliotii* var. *elliottii*  
*Taxodium ascendens*

**SUBCANOPY**

Scientific Name  
*Acer rubrum*

**GROUND COVER**

Scientific Name  
*Ilex cassine* var. *cassine*  
*Pinus elliotii* var. *elliottii*  
*Myrica cerifera*  
*Lyonia lucida*  
*Cladium jamaicense*  
*Osmunda regalis*  
*Toxicodendron radicans*  
*Smilax walteri*  
*Smilax laurifolia*  
*Woodwardia virginica*  
*Ipomoea* sp.  
*Eriocaulon decangulare*  
*Eriocaulon compressum*

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**Soil Profile Description\***

No soil profile recorded

Observed water table depth : Not observed

Hydric : NA

**Jurisdiction**

Wetland: Yes

**Comments:** Passes the A-test; pristine wetland, little evidence of disturbance

**SITE 7A --Flag no. W007-8**

**Plant Community:** Pine flatwoods

**CANOPY**

Scientific Name

None

**SUBCANOPY**

Scientific Name

*Pinus elliotii* var. *elliottii*

**GROUND COVER**

Scientific Name

*Andropogon glomeratus* var. *glaucopsis*

*Leucothoe racemosa*

*Pteridium aquilinum*

*Eupatorium mohrii*

*Lachnanthes carolianna*

Common Name

purple bluestem

swamp doghobble

western brackenfern

Mohr's thoroughwort

redroot

Indicator status

FACW

FACW

UPL

FAC

FAC



**SITE 7B--Flag no. W007-8**  
**Plant Community:** Basin swamp

**CANOPY**

Scientific Name	Common Name	Indicator status
<i>Ilex cassine</i> var. <i>cassine</i>	dahoon	OBL
<i>Nyssa sylvatica</i> var. <i>biflora</i>	swamp tupelo	OBL
<i>Pinus elliotii</i> var. <i>elliotii</i>	slash pine	OBL
<i>Taxodium ascendens</i>	pond cypress	OBL

**SUBCANOPY**

Scientific Name	Common Name	Indicator status
<i>Ilex cassine</i> var. <i>cassine</i>	dahoon	OBL
<i>Nyssa sylvatica</i> var. <i>biflora</i>	swamp tupelo	OBL
<i>Pinus elliotii</i> var. <i>elliotii</i>	slash pine	OBL
<i>Taxodium ascendens</i>	pond cypress	OBL

**Soil Profile Description\***

Horizon	Depth	Description
1B0	0-.5	fibric
2B0	.5-4.5	10YR 3/1 sand 65% coated
3A1	4.5-7.5	10YR 5/2 sand [redox] 7.5 YR at 2.5W to >12W
4B0	7.5-12+	10YR 4/2 sand

Observed water table depth: Not observed  
Hydric: Yes, sandy redox

\* All depths are in inches and all colors were determined on moist soil.

**Jurisdiction**  
Wetland: No  
Comments: Upland vegetation >20%; Soil disturbed by silvicultural treatments; hydric indicators re-established

# GROUND COVER

Scientific Name	Common Name	Indicator status
<i>Carex glaucescens</i>	clustered sedge	FACW
<i>Cephalanthus occidentalis</i>	buttonbush	OBL
<i>Cladium jamaicense</i>	sawgrass	OBL
<i>Eupatorium leptophyllum</i>	marsh thoroughwort	OBL
<i>Leucothoe racemosa</i>	swamp doghobble	FACW
<i>Lycopus rubellus</i>	taperleaf waterhorehound	OBL
<i>Lyonia lucida</i>	fetterbush	FACW
<i>Myrica cerifera</i>	southern bayberry	FAC
<i>Panicum hemitomom</i>	maiden cane	OBL
<i>Pinus elliotii</i> var. <i>elliottii</i>	slash pine	UPL
<i>Rubus argutus</i>	sawtooth blackberry	FAC
<i>Sagittaria lancifolia</i>	bulltongue arrowhead	OBL
<i>Smilax laurifolia</i>	laurel greenbrier	vine
<i>Woodwardia virginica</i>	chainfern	FACW

## Soil Profile Description \*

Site inundated approximately 15 inches at time of inspection

Observed water table depth: NA

Hydric: NA

\* All depths are in inches and all colors were determined on moist soil.

## Jurisdiction

Wetland: Yes

**Comments:** Passes the A-test; in addition to inundation, strong hydrologic indicators: butressing, hummocks, cypress knees.



SITE 7C -Flag no. W007-8  
Plant Community: Basin swamp

CANOPY

Scientific Name  
None

SUBCANOPY

Scientific Name  
None

GROUND COVER

Scientific Name

*Andropogon glomeratus* var. *glaucoptis*

*Baccharis halimifolia*

*Bidens nitida*

*Centella asiatica*

*Dichromena latifolia*

*Drosera capillaris*

*Eleocharis vivipara*

*Eriocaulon decangulare*

*Gratiola hispida*

*Gratiola uniflora*

*Hypericum fasciculatum*

*Hypericum mutilum*

*Juncus* sp.

*Juncus trigonocarpus*

*Lachnanthes caroliniana*

*Lachnocaulon anceps*

*Lindernia grandiflora*

*Ludwigia linifolia*

*Lycopus rubellus*

*Lyonia lucida*

*Myrica cerifera*

*Osmunda cinnamomea*

*Pluchea* sp.

*Polygonum* sp.

*Rhexia marshallii*

*Rhynchospora fascicularis*

*Spartina bakeri*

*Viola lanceolata*

*Xyris platylepis*

Common Name

Indicator status

Common Name

Indicator status

Common Name

Indicator status

purple bluestem

FACW

eastern false-willow

FAC

smallfruit beggar-ticks

OBL

coinwort

FACW

sandswamp whitetop

OBL

pink sundew

FACW

viviparous spikeweed

OBL

tenangle pipewort

OBL

hispid hyssop

FAC

hedgelyssop

FACW

marsh St. John's-wort

OBL

dwarf St. Johnswort

FACW

rush

OBL

redpod rush

FAC

redroot

FACW

white-head bogbutton

FACW

savannah false pimpernel

OBL

southeastern primrosewillow

OBL

taperleaf waterhorehound

FACW

fetterbush

FAC

southern bayberry

FACW

cinnamon fern

FACW

camphor-weed

OBL

smartweed

FACW

maid Marian

FACW

fascicled beaksedge

FACW

sand cordgrass

OBL

lance-leaf violet

OBL

tall yelloweyed grass

OBL

# Soil Profile Description\*

Horizon	Depth	Description
1	0-4.5	10YR 2/2 mucky fine sand (mixed by hogs)
2	4.5-7.5	10YR 4/4 sand [redox] 10YR 4/6>2%, 5"-12"
3	7.5->12	10YR 5/3

Observed water table depth: Soil saturated to surface, filled soil pit in approximately 10 minutes

Hydric: Inconclusive due to mixing by hogs.

\* All depths are in inches and all colors were determined on moist soil.

**Jurisdiction**  
Wetland: Yes

**Comments:** Passes the A-test

[INTENTIONALLY BLANK]

**SITE 8A --Flag no. LRW-005-03C**  
**Plant Community: Pine flatwoods**

**CANOPY**

Scientific Name	Common Name	Indicator Status
None		
<b>SUBCANOPY</b>		
Scientific Name	Common Name	Indicator Status
None		
<b>GROUND COVER</b>		
Scientific Name	Common Name	Indicator Status
<i>Amphicarpum muhlenbergianum</i>	blue maidencane	FACW
<i>Andropogon glomeratus</i> var. <i>glaucocephalus</i>	purple bluestem	FACW
<i>Carex longii</i>	Long's sedge	FACW
<i>Erechtites hieracifolia</i>	fireweed	FACW
<i>Eupatorium compositifolium</i>	yankee weed	FACW
<i>Gaylussacia frondosa</i> var. <i>nana</i>	blue huckleberry	FACW
<i>Hypericum cistifolium</i>	roundpod St. Johnswort	FACW
<i>Ilex cassine</i> var. <i>cassine</i>	dahoon	OBL
<i>Lachnanthes caroliniana</i>	redroot	FACW
<i>Lyonia lucida</i>	fetterbush	FACW
<i>Panicum ensifolium</i>	panic grass	OBL
<i>Rhyolacca americana</i>	American pokeweed	UPL
<i>Rhexia petiolata</i>	fringed meadow beauty	FACW
<i>Serenia repens</i>	saw palmetto	UPL
<i>Vicia acutifolia</i>	four-leaf vetch	FACW

**Soil Profile Description\***

Horizon	Depth	Description
1	0-7	10 YR 2/2; sand (recently mixed)
2	7-12+	10 YR 6/1; sand
Observed water table depth: Not observed		
Hydric: Inconclusive due to mixing		

\* All depths are in inches and all colors were determined on moist soil.

**Jurisdiction**

Wetland: No, upland species >20%

**Comments:** Area appears to have been recently mechanically prepared and bedded in preparation for planting pines

CANOPY

Scientific Name	Common Name	Indicator status
<i>Ilex cassine</i> var. <i>cassine</i>	dahoon	OBL
<i>Nyssa sylvatica</i> var. <i>biflora</i>	swamp tupelo	OBL
<i>Pinus elliotii</i>	slash pine	UPL
<i>Taxodium ascendens</i>	pond cypress	OBL

SUBCANOPY

Scientific Name	Common Name	Indicator status
<i>Fraxinus caroliniana</i>	Carolina ash	OBL
<i>Ilex cassine</i> var. <i>cassine</i>	dahoon	OBL
<i>Nyssa sylvatica</i> var. <i>biflora</i>	swamp tupelo	OBL

GROUND COVER

Scientific Name	Common Name	Indicator status
<i>Aronia arbutifolia</i>	red chokeberry	FACW
<i>Boehmeria cylindrica</i>	small-spoke false-nettle	OBL
<i>Carex glaucescens</i>	clustered sedge	FACW
<i>Carex longii</i>	Long's sedge	FACW
<i>Cephalanthus occidentalis</i>	buttonbush	OBL
<i>Leucothoe racemosa</i>	swamp doghobble	FACW
<i>Lycopodium obscurum</i>	taperleaf waterhorehound	OBL
<i>Lyonia lucida</i>	fetterbush	FACW
<i>Myrica cerifera</i>	southern bayberry	FAC
<i>Triadenum virginicum</i>	Virginia marsh St. Johnswort	OBL
<i>Vaccinium corymbosum</i>	highbush blueberry	FACW
<i>Woodwardia virginica</i>	chainfern	FACW

Soil Profile Description\*

Horizon	Depth	Description
1	0-4	10YR3/2 sand
2	4-6	10YR 4/1 sand
3	6-12+	10YR 5/1 sand

Observed water table depth: 7 inches below surface in soil pit after 5 minutes.  
Hydric: Inconclusive due to disturbance by hogs.

\* All depths are in inches and all colors were determined on moist soil.

Jurisdiction

Wetland: Yes

**Comments:** Passes the A-test; canopied wetland inundated approximately 2 feet at time of inspection. Hydrologic indicators: hummocks, looped roots, buttressed trees

**SITE 9A --Flag no. LRW-6-U16**  
**Plant Community: Pine flatwoods.**

Scientific Name	Common Name
None	

Scientific Name	Common Name
<i>Pinus elliotii</i> var. <i>elliotii</i>	slash pine (planted)

**SUBCANOPY**

Scientific Name	Common Name
<i>Acen. rubrum</i>	red maple
<i>Amphicarpum muhlenbergianum</i>	blue maidencane
<i>Andropogon glomeratus</i> var. <i>glaucopsis</i>	purple bluestem
<i>Centella asiatica</i>	coinwort
<i>Gratiola hispida</i>	hispid hyssop
<i>Ilex glabra</i>	gallberry
<i>Lyonia lucida</i>	fetterbush
<i>Osunda cinnamomea</i>	cinnamon fern
<i>Quercus punctata</i>	running oak
<i>Rhixia virginica</i>	handsome Harry
<i>Serenoa repens</i>	saw palmetto
<i>Xyris brevifolia</i>	shortleaf yelloweyed grass

Soil Profile Description *	Horizon	Depth	Description
	1	0-3	10YR 3/2 mucky fine sand (mixed)
	2	3-5.5	10YR 3/1
	3	5.5-12	10YR 5/2 matrix with 10YR 7/1 stripping
Observed water table depth: Not observed			
Hydric: Yes			

\* All depths are in inches and all colors were determined on moist soil.

**Jurisdiction**  
Wetland: No

**Comments:** More than 20% upland plants in groundcover

SITE 9B --Flag no. LRW-6-U16  
Plant Community: Basin swamp

CANOPY	Scientific Name	Common Name	Indicator status
	None		

SUBCANOPY	Scientific Name	Common Name	Indicator status
	<i>Pinus elliotii</i>	slash pine (planted)	UPL

GROUND COVER

Scientific Name	Common Name	Indicator status
<i>Acer rubrum</i>	red maple	FACW
<i>Andropogon glomeratus</i> var. <i>glaucopsis</i>	purple bluestem	FACW
<i>Aronia arbutifolia</i>	red chokeberry	FACW
<i>Centella asiatica</i>	coinwort	FACW
<i>Cephalanthus occidentalis</i>	buttonbush	OBL
<i>Eupatorium capillifolium</i>	dogfennel	FAC
<i>Gratiola hispida</i>	hispid hyssop	FAC
<i>Hypericum cistifolium</i>	roundpod St. Johnswort	FACW
<i>Hypericum tetrapetalum</i>	fourpetal St. Johnswort	FAC
<i>Juncus marginatus</i>	shore rush	FACW
<i>Lachnanthes caroliniana</i>	redroot	FAC
<i>Lachnocaulon anceps</i>	white-head bogbutton	FACW
<i>Myrica cerifera</i>	southern bayberry	FAC
<i>Nyssa sylvatica</i> var. <i>biflora</i>	swamp tupelo	OBL
<i>Osmunda cinnamomea</i>	cinnamon fern	FACW
<i>Pluchea foetida</i>	stinking camphorweed	FACW
<i>Rhexia virginica</i>	handsome Harry	FACW
<i>Serenoa repens</i>	saw palmetto	UPL
<i>Vaccinium corymbosum</i>	highbush blueberry	FACW
<i>Woodwardia virginica</i>	chainfern	FACW

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# Soil Profile Description\*

Horizon	Depth	Description
1.0	0-2	10YR 2/2
2.0	3-9.5	10YR 6/1 sand [redox] 10YR 4/4>2%, 5"-12"
Observed water table depth: Not Observed		
Hydric: Yes, [redox] .2% beginning in 6", >4" thick		

\* All depths are in inches and all colors were determined on moist soil.

## Jurisdiction

Wetland: Yes

Comments: Passes the B-test

SITE 9C--Flag no. LRW-6-U16

Plant Community: Basin swamp

## CANOPY

Scientific Name  
*Ilex cassine* var. *cassine*  
*Nyssa sylvatica* var. *bifloraswamp*  
*Pinus elliotii* var. *elliotii*  
*Taxodium ascendens*  
*Taxodium distichum*

## SUBCANOPY

Scientific Name  
*Pinus elliotii* var. *elliotii*  
*Ilex cassine* var. *cassine*  
*Nyssa sylvatica* var. *bifloraswamp*  
*Taxodium ascendens*  
*Taxodium distichum*

Common Name  
 dahoon  
 tupelo  
 slash pine  
 pond cypress  
 bald cypress  
 Indicator status  
 OBL  
 OBL  
 UPL  
 OBL  
 OBL  
 OBL  
 OBL  
 OBL

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# GROUND COVER

Scientific Name	Common Name	Indicator status
<i>Acer rubrum</i>	red maple	FACW
<i>Cephalanthus occidentalis</i>	buttonbush	OBL
<i>Cladium jamaicense</i>	sawgrass	OBL
<i>Itea virginica</i>	virginia willow	OBL
<i>Leucothoe racemosa</i>	swamp doghobble	FACW
<i>Lycopus rubellus</i>	taperleaf waterhorehound	OBL
<i>Lycopus rubellus</i>	taperleaf waterhorehound	OBL
<i>Lyonia ligustrina</i> var. <i>foliosiflora</i>	maleberry	FAC
<i>Lyonia lucida</i>	fetterbush	FACW
<i>Myrica cerifera</i>	southern bayberry	FAC
<i>Osmunda cinnamomea</i>	cinnamon fern	FACW
<i>Persea palustris</i>	swamp bay	OBL
<i>Rosa palustris</i>	swamp rose	OBL
<i>Saururus cernuus</i>	lizard's tail	OBL
<i>Smilax laurifolia</i>	laurel greenbrier	vine
<i>Smilax walteri</i>	coral greenbrier	vine
<i>Toxicodendron radicans</i>	eastern poison ivy	UPL
<i>Triadenum virginicum</i>	Virginia marsh St. Johnswort	OBL
<i>Vaccinium corymbosum</i>	highbush blueberry	FACW
<i>Woodwardia virginica</i>	chainfern	FACW

## Soil Profile Description\*

No soils data collected; inundated to approximate 18"

Observed water table depth: NA

Hydric: NA

\* All depths are in inches and all colors were determined on moist soil.

## Jurisdiction

Wetland: Yes

**Comments:** Passes the A-test; high quality wetland. No evidence of recent disturbance or alteration of vegetation or hydrology. Selected cypress removal occurred early in the 19<sup>th</sup> century as evidenced by occasional cypress stumps. Three to four foot long cypress slabs are occasionally encountered, suggesting that these logs were hand squared into railroad cross-ties. Cross-ties were likely removed using mules or oxen, resulting in little soil disturbance.



**SITE 10A -Flag no. TCW-30-108**  
**Plant Community: Cypress dome**

**CANOPY (sparse)**

Scientific Name  
*Taxodium ascendens*

**SUBCANOPY**

Scientific Name  
*Taxodium ascendens*

**GROUND COVER**

Scientific Name

*Canna flaccida*

*Carex glaucescens*

*Centella asiatica*

*Cephalanthus occidentalis*

*Cyperus lecontei*

*Eupatorium mohrii*

*Gratiola pilosa*

*Ludwigia linifolia*

*Lycopus rubellus*

*Lyonia lucida*

*Panicum ensifolium*

*Panicum hemitomon*

*Pluchea odorata* var. *odorata*

*Proserpinaca pectinata*

*Rhynchospora inundata*

*Rhynchospora mixta*

*Sagittaria graminea*

*Smilax auriculata*

*Utricularia* sp.

*Woodwardia areolata*

*Xyris platylepis*

Common Name  
 pond cypress

Indicator status  
 OBL

Common Name  
 pond cypress

Indicator status  
 OBL

Common Name  
 bandanna of the Everglades

Indicator status  
 OBL

clustered sedge

coinwort

buttonbush

Le Conte's flatsedge

Mohr's thoroughwort

shaggy hedgehyssop

southeastern primrosewillow

taperleaf waterhorehound

fetterbush

panic grass

maidencane

sweet scent

comb leaf mermaid weed

horned beakrush

mingled beakrush

grassy arrowhead

earleaf greenbrier

bladderwort

chain fern

tall yellow eyed grass

Indicator status

OBL

OBL

OBL

OBL

OBL

OBL

OBL

OBL

OBL

OBL

OBL

OBL

OBL

OBL

OBL

OBL

# Soil Profile Description\*

Horizon	Depth	Description
1	0-2	Fibric
2	2-3	10YR 2/2, Muck/Mucky texture
3	3-4	10YR 2/1

Observed water table depth: Not observed  
Hydric: Yes, muck presence

\* All depths are in inches and all colors were determined on moist soil.

## Jurisdiction

Wetland: Yes

**Comments:** Passes the A-test and D-test; Recently burned wetland. *Panicum hemitomon* flowering profusely.

**SITE 10B --Flag no. TCW-30-108**  
**Plant Community:** Pine flatwoods

## CANOPY

Scientific Name	Common Name	Indicator status
None		

## SUBCANOPY

Scientific Name	Common Name	Indicator status
<i>Pinus elliotii</i>		
	slash pine (planted, dead from fire)	UPL

## GROUND COVER

Scientific Name	Common Name	Indicator status
<i>Andropogon glomeratus</i> var. <i>glaucoopsis</i>	purple bluestem	FACW
<i>Asimina reticulata</i>	netted pawpaw	UPL
<i>Centella asiatica</i>	coinwort	FACW
<i>Gaylussacia frondosa</i> var. <i>nana</i>	blue huckleberry	FAC
<i>Ilex glabra</i>	gallberry	UPL
<i>Myrica cerifera</i>	southern bayberry	FAC
<i>Osmunda cinnamomea</i>	cinnamon fern	FACW
<i>Panicum</i> sp.	panicum	FACW
<i>Polygala rugelii</i>	yellow milkwort	FACW
<i>Rhexia nashii</i>	maid Marian	FACW
<i>Serenoa repens</i>	saw plametto	UPL

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**Soil Profile Description\***

Horizon	Depth	Description
1	0-3	10YR 2/2 mucky fine sand, 65 % coated
2	3-7.5	10YR 5/2 sandy
3	7.5->12+	10YR 5/2 depletions 10YR 6/1 at 7"

Observed water table depth: Not observed  
Hydric: Inconclusive due to mixing.

\* All depths are in inches and all colors were determined on moist soil.

**Jurisdiction**  
Wetland: No

**Comments:** More than 20% upland species in groundcover

**SITE 11A --Flag no. W2-25A**  
**Plant Community:** Basin swamp

**CANOPY**

**Scientific Name**  
*Pinus elliotii* var. *elliottii*

**Common Name**  
slash pine (planted)

**Indicator status**  
UPL

**SUBCANOPY**

**Scientific Name**  
*Quercus nigra*

**Common Name**  
water oak

**Indicator status**  
FACW

COMMON

RELATIVE  
ON HORIZON

# GROUND COVER

Scientific Name	Common Name	Indicator status
<i>Acer rubrum</i>	red maple	FACW
<i>Asimina reticulata</i>	netted pawpaw	UPL
<i>Dichanthelium</i> sp.	rosette grass	UPL
<i>Eupatorium mohrri</i>	Mohr's thoroughwort	FAC
<i>Gaylussacia frondosa</i> var. <i>nana</i>	blue huckleberry	FAC
<i>Ilex glabra</i>	gallberry	UPL
<i>Lyonia lucida</i>	fetterbush	FACW
<i>Pteridium aquilinum</i>	western brackenfern	UPL
<i>Rhus copallinum</i>	flameleaf sumac	UPL
<i>Rhynchospora</i> sp.	beakrush	FAC
<i>Rubus cuneifolius</i>	sand blackberry	UPL
<i>Serenoa repens</i>	saw palmetto	UPL
<i>Vaccinium myrsinites</i>	shiny blueberry	UPL
<i>Vitis rotundifolia</i>	muscadine	vine
<i>Xyris platylepis</i>	tall yelloweyed grass	OBL

## Soil Profile Description\*

Horizon	Depth	Description
1	2.5-0	duff
2	0-6.5	10YR 4/1 <70 % coated
3	6.5-12+	10YR 5/1

Observed water table: Not observed  
Hydric: Inconclusive due to mixing

\* All depths are in inches and all colors were determined on moist soil.

Jurisdiction  
Wetland: No.

Comments: More than 20% upland species in the groundcover

SITE 11B --Flag no. W2-25A  
Plant Community:

CANOPY

Scientific Name  
*Acer rubrum*  
*Taxodium ascendens*

SUBCANOPY

Scientific Name  
*Acer rubrum*  
*Ilex cassine* var. *cassine*  
*Salix caroliniana*  
*Taxodium ascendens*

GROUND COVER

Scientific Name  
*Ampelopsis arborea*  
*Andropogon glomeratus* var. *glaucopsis*  
*Baccharis halimifolia*  
*Bidens mitis*  
*Carex glaucescens*  
*Centella asiatica*  
*Cephalanthus occidentalis*  
*Chloris* sp.  
*Conoclinium coelestinum*  
*Erianthus giganteus*  
*Eriocaulon decangulare*  
*Eupatorium capillifolium*  
*Hypericum fasciculatum*  
*Hypericum galioides*  
*Hypoxis alata*  
*Juncus* sp.  
*Lachnanthes carolina*  
*Ludwigia microparpa*  
*Lyonia lucida*

Common Name  
red maple  
pond cypress

Indicator status  
FACW  
OBL

Common Name  
red maple  
dahoon  
coastal plain willow  
pond cypress

Indicator status  
FACW  
OBL

Common Name  
vine  
purple bluestem  
eastern false-willow  
smallfruit beggar-ticks  
clustered sedge  
coinwort  
buttonbush  
windmill grass  
mistflower  
sugarcane plume grass  
tenangle pipewort  
dogfennel  
marsh St. John's-wort  
bedstraw St. Johnswort  
musky mint  
rush  
redroot  
smallfruit primrosewillow  
fetterbush

Indicator status  
FACW  
OBL

Indicator status  
FACW  
OBL

Indicator status  
FACW  
OBL

Indicator status  
FACW  
OBL

Indicator status  
FACW  
OBL

FAC	southern bayberry	<i>Myrica cerifera</i>
OBL	maidenhane	<i>Panicum hemitomom</i>
OBL	panicum	<i>Panicum sp.</i>
OBL	swamp bay	<i>Persea palustris</i>
FAC	turkey tangle fogfruit	<i>Phyla nodiflora</i>
UPL	slash pine	<i>Pinus elliotii</i>
FACW	rosy camphorweed	<i>Pluchea rosea</i>
OBL	bunched beaksedge	<i>Rhynchospora cephalantha</i>
OBL	beakrush	<i>Rhynchospora sp.</i>
OBL	poad cypress	<i>Taxodium ascendens</i>
OBL	Virginia marsh St. Johnswort	<i>Triadenum virginicum</i>
FACW	chainfern	<i>Woodwardia virginica</i>

**Soil Profile Description\***

Horizon	Depth	Description
1	2-0	fibric
2	2-3	10YR 5/1
3	3-12+	10YR 10 YR6/1 with striped matrix, 10YR7/1, and Mottles of 10YR5/4. E horizon appears generally depleted.
Observed water table: Not observed		
Hydric: Yes, depleted matrix beginning in upper 6"		

\* All depths are in inches and all colors were determined on moist soil.

**Jurisdiction**

Wetland: Yes

Comments: Passes the A-test



**TABLE 2**  
**Wetland Delineation Tests**

The following are abbreviated versions of the wetland delineation tests of Section 62.340.300, F.A.C.

**A Test**, [62.340.300(2)(a), F.A.C.] A positive wetland test requires that the aerial extent of obligate plant species is greater than that of the upland plants in the appropriate stratum and hydric soils or hydrologic indicators are present.

**B Test**, [62.340.300(2)(b), F.A.C.] A positive wetland test requires that the aerial extent of obligate and facultative wet plant species in the appropriate stratum is greater than 80% of the plants in that stratum and that the soils or hydrologic indicators are present.

**C Test**, [62.340.300(2)(c), F.A.C.] A positive wetland test requires an affirmative demonstration of specific soil conditions for areas that are not pine flatwoods, improved pastures or drained areas.

**D Test**, [62.340.300(2)(d), F.A.C.] A positive wetland test requires one or more hydrologic indicators and hydric soils.

**Altered Site Test**, [62.340.300(3), F.A.C.]

Note: See Tables 3 and 4 for a list of the Hydrologic and Hydric Soil Indicators.

**TABLE 3**  
**Hydrologic Indicators**

The following is an abbreviated version of the various hydrologic indicators pursuant to Section 62.340.500, F.A.C.

1. Algal mats
2. Aquatic mosses or liverworts on trees or substrates
3. Aquatic plants
4. Presence of snags
5. Drift lines and rafted debris
6. Elevated lichen lines
7. Evidence of aquatic fauna
8. Hydrologic data
9. Morphological plant adaptations
10. Secondary flow channels
11. Sediment deposition
12. Presence of vegetated hummocks or mussocks
13. Water marks



"Wetlands," as defined in subsection 373.019(17), F.S., means those areas that are inundated or saturated by surface water or ground water at a frequency and a duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils. Soils present in wetlands generally are classified as hydric or alluvial, or possess characteristics that are associated with reducing soil conditions. The prevalent vegetation in wetlands generally consists of facultative or obligate hydrophytic macrophytes that are typically adapted to areas having soil conditions described above. These species, due to morphological, physiological, or reproductive adaptations, have the ability to grow, reproduce or persist in aquatic environments or anaerobic soil conditions. Florida wetlands generally include swamps, marshes, bayheads, bogs, cypress domes and strands, sloughs, wet prairies, riverine swamps and marshes, hydric seepage slopes, tidal marshes, mangrove swamps and other similar areas. Florida wetlands generally do not include longleaf or slash pine flatwoods with an understory dominated by saw palmetto.

**TABLE 5**  
**Wetland Definition pursuant to 62-340.200, F.A.C.**

<p>The following is an abbreviated version of the hydric soil indicators developed by the U.S.D.A.-S.C.S. (Now known as the Natural Resources Conservation Service) for Florida in 1992. A complete explanation of the hydric soil indicators above can be obtained from Florida Soil Conservation Service, (1992). See References.</p>	
<b>Hydric Soil Indicators</b>	
<b>TABLE 4</b>	
<b>All Soils</b>	1. Hydrogen Sulfide
	2. Stratified Layers
	3. Organic Bodies
	4. Mucky Mineral
	5. Muck Presence (S. FL. only)
	6. 1 cm Muck (N. FL. only)
<b>Sandy Soils</b>	1. Sandy Gleyed Matrix
	2. Sandy Redox
	3. Stripped Matrix
	4. Dark Surface
<b>Loamy and Clayey Soils</b>	1. Loamy Gleyed Matrix
	2. Depleted Matrix
	3. Thick Dark Surface (S. FL. only)
	4. Iron/Manganese Masses (N. FL. only)
	5. Marl (S. FL. only)
	6. Umbria Surface



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**Exhibit A**  
**Location of Levy Nuclear Plant property, Levy County, Florida**

