ATTACHMENTS

Attachment A

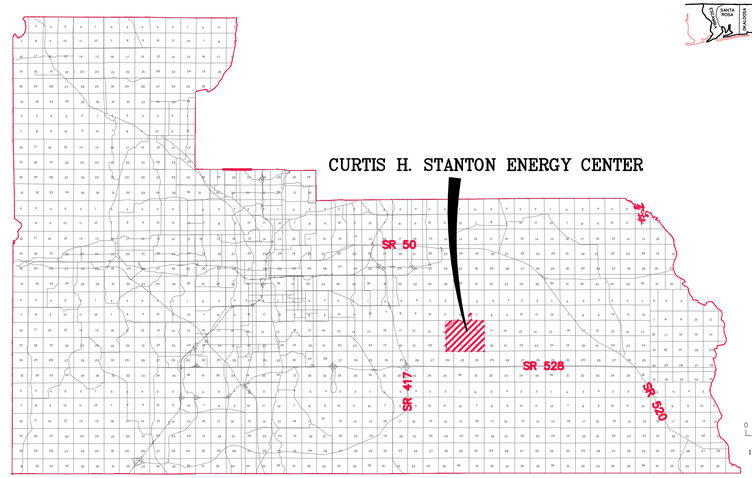
Certified Site/Areas/Facilities Delineation Maps

BOUNDARY SURVEY OF

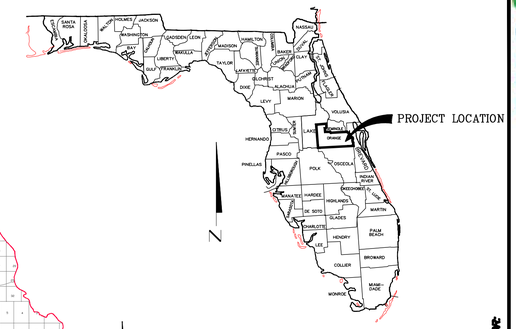
CURTIS H. STANTON ENERGY CENTER

LOCATED IN

SECTIONS 12, 13, 14, 23 & 24, TOWNSHIP 23 SOUTH, RANGE 31 EAST, and
SECTIONS 7, 18 & 19, TOWNSHIP 23 SOUTH, RANGE 32 EAST
ORANGE COUNTY, FLORIDA



ORANGE COUNTY, FLORIDA



LEGAL DESCRIPTION:

All of Section 18, Township 23 South, Range 32 East, Orange County, Florida;
plus the West 990 feet of the Southwest 1/4 of Section 7, Township 23 South, Range 32 East, Orange County, Florida.

less: Right-of-Way Agreement (Official Records Book 3537, page 1156)

Together with:

All of Section 19, Township 23 South, Range 32 East, Orange County, Florida.

Together with:

All of Section 24, Township 23 South, Range 31 East, Orange County, Florida.

Together with:

All of Section 13, Township 23 South, Range 31 East, Orange County, Florida,
less: Right-of-Way for Alafaya Trail Extension. (Official Records Book 8964 at Page 3164)

Together with:

The East 1/2 of Section 23, Township 23 South, Range 31 East, Orange County, Florida,
less: Right-of-Way for Alafaya Trail Extension. (Official Records Book 8964 at Page 3164)

Together with:

The East 1/2 of Section 14, Township 23 South, Range 31 East, Orange County, Florida,
less: Right-of-Way for Alafaya Trail Extension. (Official Records Book 8964 at Page 3164)

Together with:

The South 200' of the SW 1/4 of Section 12, Township 23 South, Range 31 East, Orange County, Florida

LEGEND:

(C)	=	Calculated
℄/L	=	Centerline
CHD	=	Chord Distance
CB	=	Chord Bearing
(D)	=	Deed
Δ	=	Delta Angle
(F)	=	Field
L	=	Length
R	=	Radius
ORB	=	Official Records Book
PC	=	Point of Curvature
PT	=	Point of Tangent
PI	=	Point of Intersection
CM	=	Concrete Monument
id	=	Identification
—ϟ—	=	Line Not to Scale
— · —	=	Section line
▬	=	Boundary line
ROW	=	Right of Way
AKA	=	also known as
±	=	more or less

SURVEYOR'S NOTES:

1. This Boundary Survey is not valid without the signature and original raised Seal of a Florida Licensed Surveyor and Mapper.

2. Bearings shown hereon are relative to the Florida State Plane Coordinate System, Transverse Mercator Projection, Florida East Zone (FL E 0901), North American Datum of 1983/2007 adjustment based on the North line of the Northeast Quarter of Section 18, Township 23 South, Range 32 East as being South 89°58'05" West.

3. The lands described hereon were not abstracted for ownership, easements, rights-of-way or other matters of title by this firm nor were any such documents provided by the client.

4. The Legal Description shown hereon was prepared by the surveyor based upon a review of the Orange County Property Appraisers records.

5. Interior improvements were not located.

6. Underground improvements, if any, such as foundations and utilities, were not located.

7. This Boundary Survey certified to the Orlando Utilities Commission.

8. Lands surveyed contain acres:

3138.36 acres ± lying South and East of Alafaya Trail Extension
21.92 acres ± lying Southwest of Alafaya Trail Extension
125.38 acres ± lying North and West of Alafaya Trail Extension

3285.66 acres ± total

ROBERT M. JONES
PROFESSIONAL SURVEYOR AND MAPPER
FLORIDA REGISTRATION NUMBER: PLS 4201

UNLESS IT BEARS THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER THIS DRAWING, SKETCH, PLAT OR MAP IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT VALID.

LAST DATE IN FIELD: August 24, 2011

PREPARED BY:

MACTEC
MACTEC Engineering & Consulting, Inc.
4150 North John Young Parkway Orlando, Florida 32804-2620
Phone: 407.522.7570 Fax: 407.522.7576
CERTIFICATE OF AUTHORIZATION: LB 6989

PREPARED FOR:

ORLANDO UTILITIES COMMISSION
5971 Perishing Avenue
Orlando, Florida 32822
Phone: 407-384-4077

DATE	REVISION	DATE	REVISION

COUNTY: Orange County, Florida
FIELD BOOK/PAGE: N/A/N/A
OFF. NO.: 637411 0514
DWG. NAME: Stanton Energy Center Boundary.dwg

DWG. DATE: August 10, 2011
PHOTO DATE: 2010
DRAWN BY: P.E.W.
CHECKED BY: R.M.J.

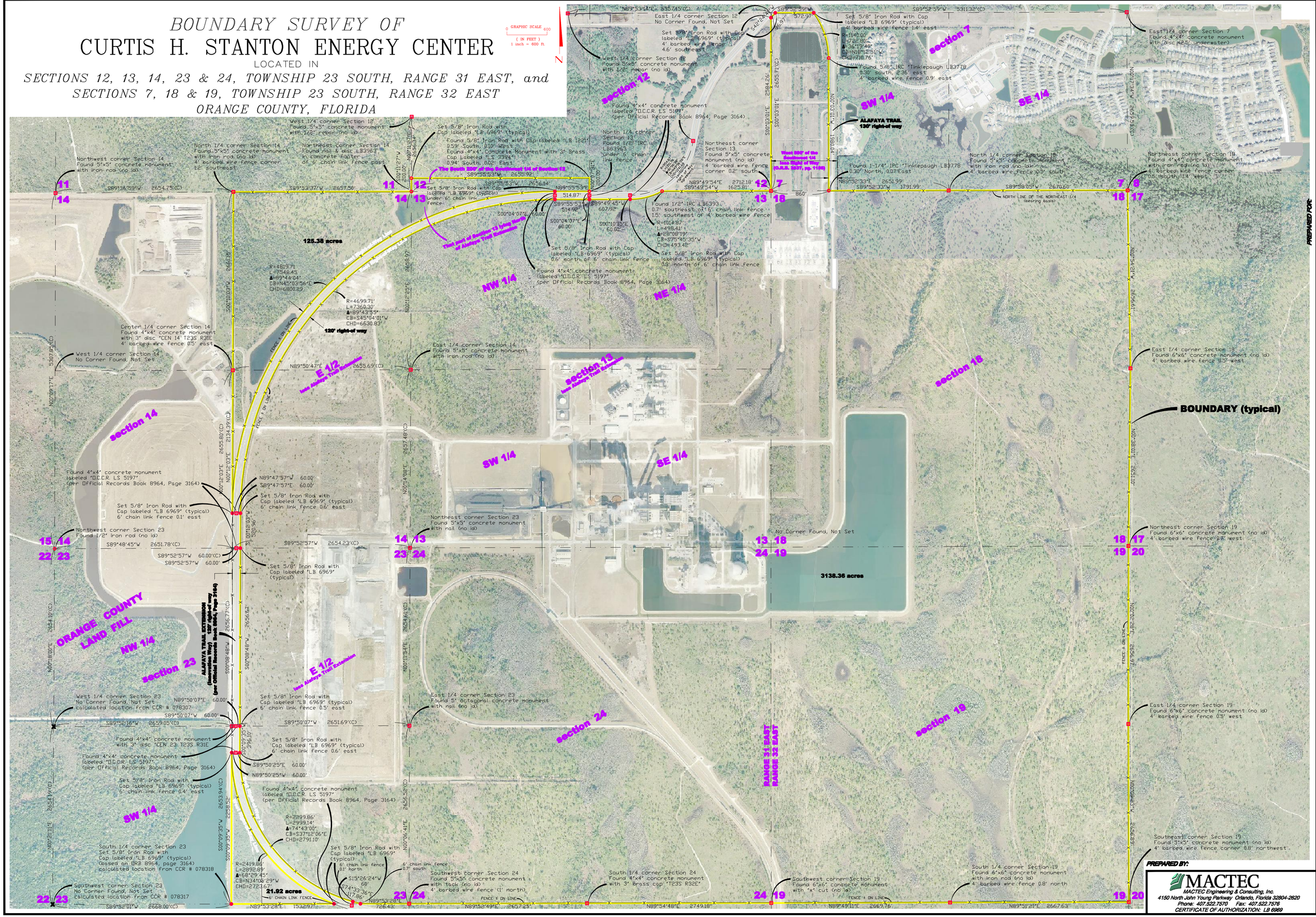
PROJECT TITLE:
BOUNDARY SURVEY OF
CURTIS H. STANTON ENERGY CENTER
LOCATED IN
SECTIONS 12, 13, 14, 23 & 24, TOWNSHIP 23 SOUTH, RANGE 31 EAST, and
SECTIONS 7, 18 & 19, TOWNSHIP 23 SOUTH, RANGE 32 EAST
ORANGE COUNTY, FLORIDA

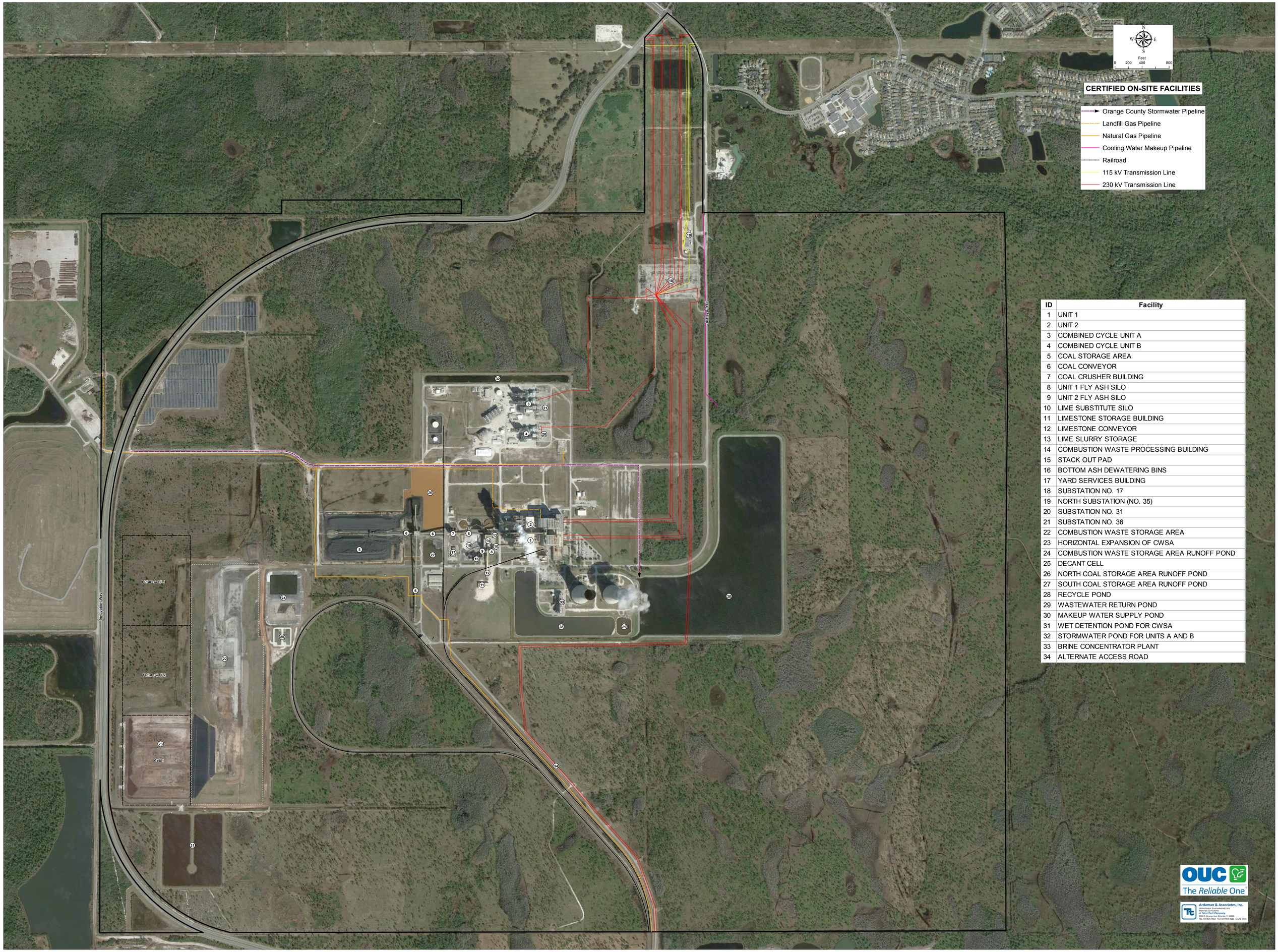
SHEET NO.
1 OF 2

BOUNDARY SURVEY OF
CURTIS H. STANTON ENERGY CENTER

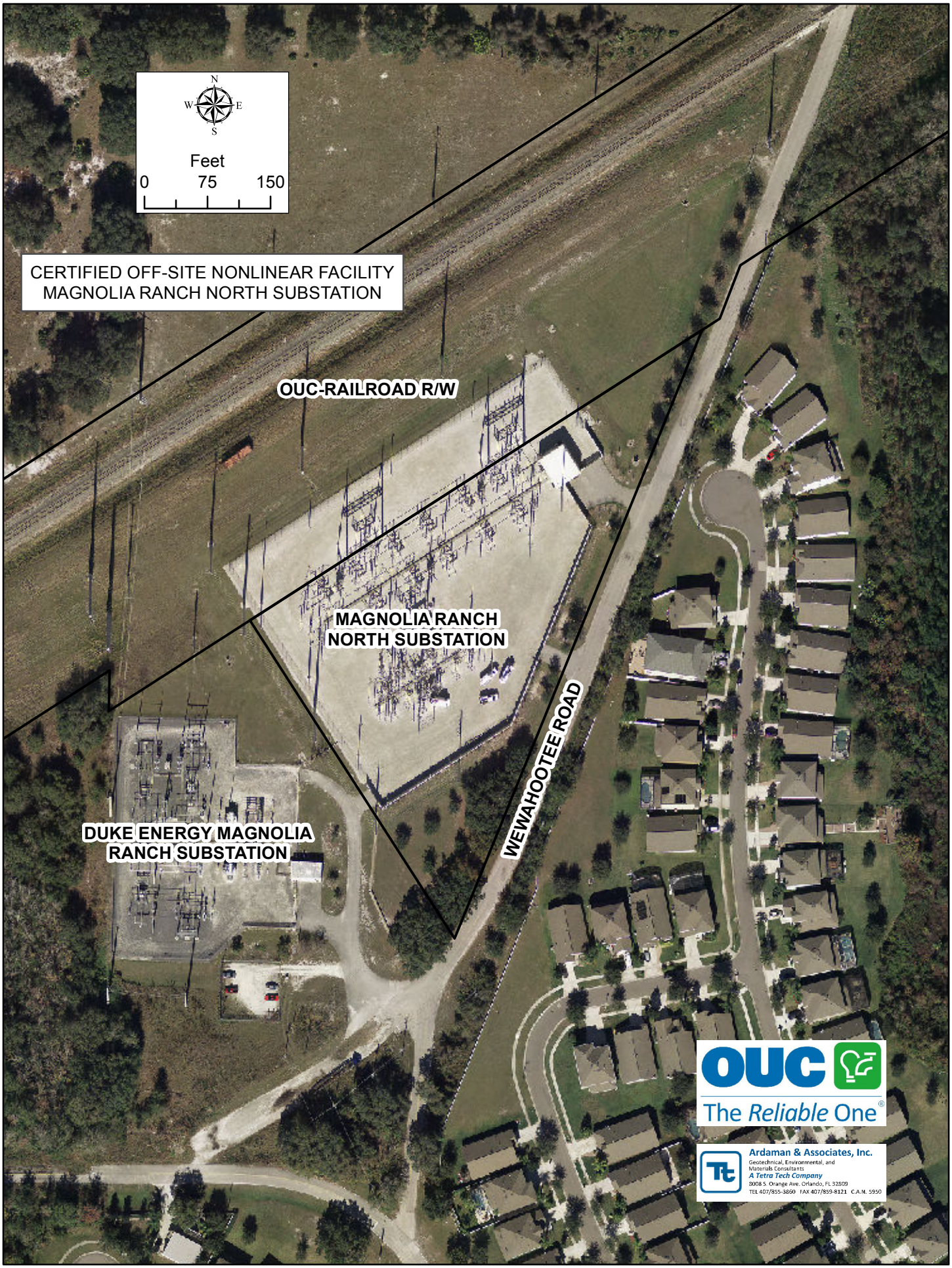
LOCATED IN

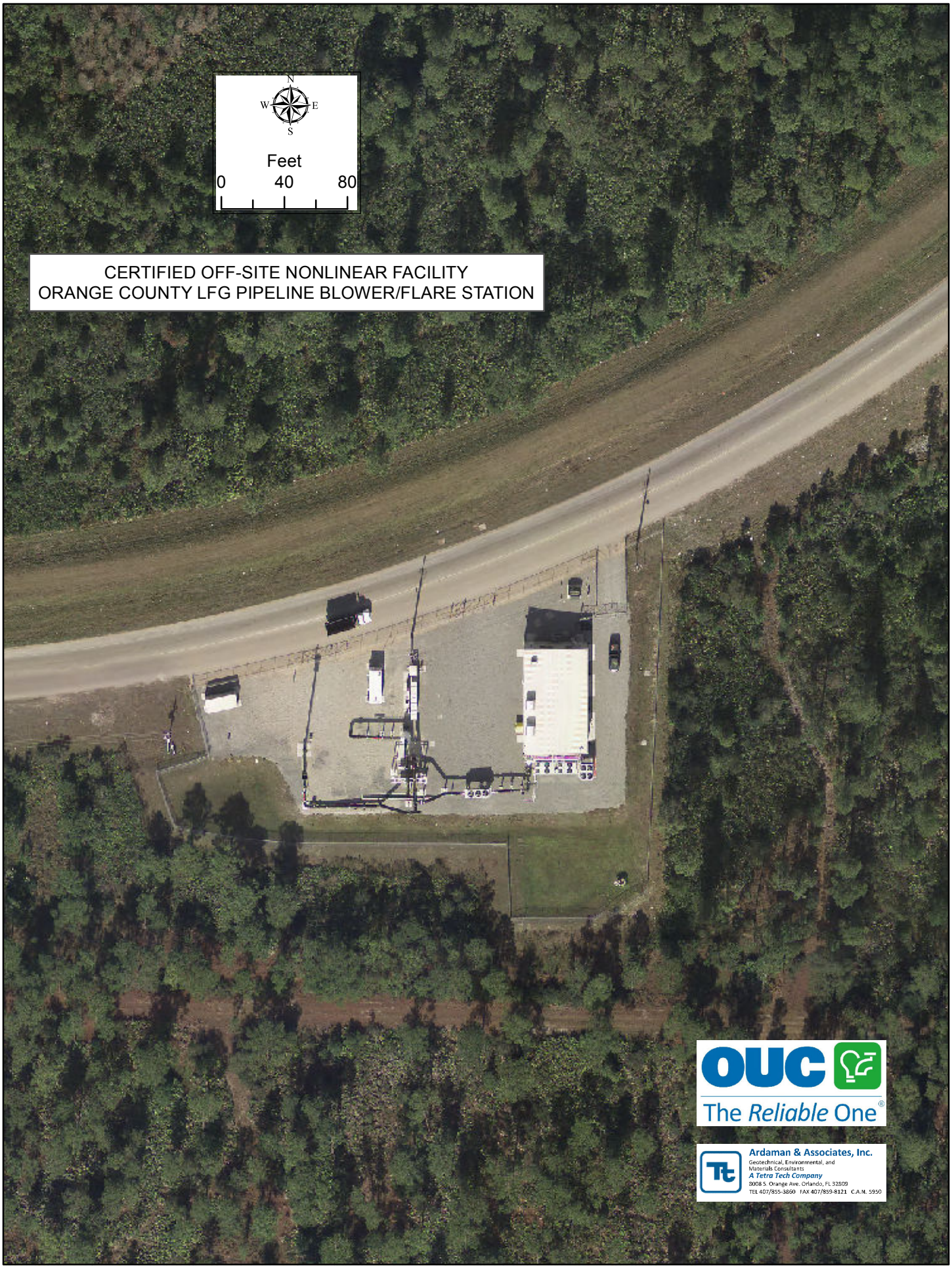
SECTIONS 12, 13, 14, 23 & 24, TOWNSHIP 23 SOUTH, RANGE 31 EAST, and
SECTIONS 7, 18 & 19, TOWNSHIP 23 SOUTH, RANGE 32 EAST
ORANGE COUNTY, FLORIDA


GRAPHIC SCALE
0 600
(IN FEET)
1 inch = 600 ft.
N
section 12
section 7
section 13
section 18
section 14
section 23
section 24
section 19
NW 1/4
NE 1/4
SW 1/4
SE 1/4
E 1/2
ALAFAYA TRAIL
130' right-of way
120' right-of way
125.38 acres
3138.36 acres
21.92 acres
ORANGE COUNTY LAND FILL
RANGE 31 EAST
RANGE 32 EAST
BOUNDARY (typical)
West 1/4 corner Section 12
Found 5"x5" concrete monument with 1/2" rebar (no id)
North 1/4 corner Section 14
Found 5"x5" concrete monument with iron rod (no id)
Northeast corner Section 14
Found nail & disc LB3963 in concrete footer of 6' chain link fence post
Northwest corner Section 14
Found 5"x5" concrete monument with iron rod (no id)
4' barbed wire fence corner 1.2' southeast
Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical)
Found 5/8" Iron Rod with Cap labeled "LB 1221" 0.59' South, 0.10' West
Found 4"x4" Concrete Monument with 3" Brass Cap Labeled "LS 3394" 0.94' South, 0.02' East
The South 200' of the Southwest 1/4 of Section 12
Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) under 6' chain link fence
The East 200' of the Southwest 1/4 of Section 13 lying South of Alafaya Trail Extension
Center 1/4 corner Section 14
Found 4"x4" concrete monument with 3" disc "CEN 14 T23S R31E"
4' barbed wire fence 0.5' east
West 1/4 corner Section 14
No Corner Found, Not Set
East 1/4 corner Section 14
Found 5"x5" concrete monument with iron rod (no id)
Found 4"x4" concrete monument labeled "D.C.C.R. LS 5197" (per Official Records Book 8964, Page 3164)
Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 6' chain link fence 0.1' east
Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 6' chain link fence 0.6' east
Northwest corner Section 23
Found 1/2" iron rod (no id)
Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical)
ALAFAYA TRAIL EXTENSION (Section 24 Right-of-Way) (per Official Records Book 8964, Page 3164)
West 1/4 corner Section 23
No Corner Found, Not Set
calculated location from CCR # 078307
Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 6' chain link fence 0.5' east
Found 4"x4" concrete monument with 3" disc "CEN 23 T23S R31E"
Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 6' chain link fence 0.6' east
Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 6' chain link fence 0.4' east
South 1/4 corner Section 23
Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical)
(based on ORB 8964, page 3164)
calculated location from CCR # 078318
Southwest corner Section 23
No Corner Found, Not Set
calculated location from CCR # 078317
Found 4"x4" concrete monument labeled "D.C.C.R. LS 5197" (per Official Records Book 8964, Page 3164)
Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 6' chain link fence 0.7' south
6' chain link fence 0.1' north
Southwest corner Section 24
Found 4"x4" concrete monument with tack (no id)
4' barbed wire fence (1' north)
Northeast corner Section 23
Found 5"x5" concrete monument with nail (no id)
East 1/4 corner Section 23
Found 5" Octagonal concrete monument with nail (no id)
South 1/4 corner Section 24
Found 4"x4" concrete monument with 3" Brass cap "T23S R32E"
No Corner Found, Not Set
Southwest corner Section 19
Found 6"x6" concrete monument with "x" cut (no id)
South 1/4 corner Section 19
Found 6"x6" concrete monument with iron rod (no id)
4' barbed wire fence 0.8' north
Southeast corner Section 19
Found 5"x5" concrete monument (no id)
4' barbed wire fence corner 0.8' northwest
East 1/4 corner Section 19
Found 6"x6" concrete monument (no id)
4' barbed wire fence 0.5' west
Northeast corner Section 19
Found 6"x6" concrete monument (no id)
4' barbed wire fence 0.7' west
East 1/4 corner Section 18
Found 6"x6" concrete monument (no id)
4' barbed wire fence 0.5' west
Northeast corner Section 18
Found 4"x4" concrete monument with iron rod (no id)
4' barbed wire fence corner 0.5' south 1.4' west
North 1/4 corner Section 18
Found 5"x5" concrete monument with iron rod (no id)
4' barbed wire fence 0.5' south
NORTH LINE OF THE NORTHEAST 1/4 (bearing basis)
East 1/4 corner Section 7
Found 4"x4" concrete monument with disc (RLS underwater)
Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical)
4' barbed wire fence 1.4' east
Found 5/8" IRC "Tinklepaugh LB3778" 0.30' south, 2.36' east
4' barbed wire fence 0.9' east
West 1/4 corner Section 18
Found 1-1/4" IPC "Tinklepaugh LB3778" 0.30' North, 0.07' East
West 100' of the Southwest 1/4 lying South of Alafaya Trail (O.R.B. 2637, pg. 1146)
Found 1/2" IRC LB6393 0.7' southeast of 6' chain link fence 1.5' southwest of 4' barbed wire fence
Set 5/8" Iron Rod with Cap labeled "LB 6969" (typical) 0.3' north of 6' chain link fence
Found 4"x4" concrete monument labeled "D.C.C.R. LS 5197" (per Official Records Book 8964, Page 3164)
R=4819.71'
L=7346.45'
Δ=89°44'04"
CB=N45°03'56"E
CHD=6600.29'
R=4699.71'
L=7360.30'
Δ=89°49'55"
CB=S45°04'01"W
CHD=6630.83'
R=2399.86'
L=2999.14'
Δ=74°43'00"
CB=S37°12'06"E
CHD=2791.10'
R=2419.86'
L=2892.89'
Δ=68°29'45"
CB=N34°08'29"W
CHD=2723.67'
S15°26'24"W 60'
S74°33'36"E 117.86'
6' CHAIN LINK FENCE
FENCE ± ON LINE
FENCE ± ON LINE
FENCE ± ON LINE
FENCE ± ON LINE
N89°53'14"E 5357.45'(C)
S89°52'59"W 5311.32'(C)
S89°13'36"W 2654.75'(C)
S89°53'37"W 2657.50'
S89°55'53"W 2655.92'
S89°55'53"W 2656.14'
S89°49'45"W 607.92'
S89°49'54"E 2712.18'
S89°49'54"W 1625.81'
S89°52'33"W 1791.99'
S89°58'05"W 2670.60'
N89°52'33"E 2651.59'
N89°50'47"E 2655.69'(C)
N89°47'57"W 60.00'
S89°47'57"E 60.00'
S89°52'57"W 2654.23'(C)
S89°48'45"W 2651.78'(C)
S89°52'57"W 60.00'(C)
S89°52'57"W 60.00'
N89°50'07"E 60.00'
S89°50'07"W 60.00'
S89°52'16"W 2659.05'(C)
S89°50'07"W 2651.69'(C)
S89°50'25"E 60.00'
N89°50'25"W 60.00'
S89°52'01"W 2668.00'(C)
N89°53'28"E 1532.97'
N89°53'28"E 726.48'
N89°52'49"E 2657.25'
N89°54'48"E 2749.18'
N89°49'11"E 2669.76'
N89°51'21"E 2667.63'
N00°11'27"W 200.00'
N00°11'27"W 2656.34'
S00°04'07"E 60.00'
S00°04'07"E 60.00'
S00°10'15"E 60.00'
S00°03'01"E 2584.26'
S00°03'01"E 2655.71'(C)
S00°07'31"E 200.00'
S00°10'03"W 2661.18'
N00°12'23"E 2658.92'
N00°12'03"E 2655.80'(C)
N00°12'03"E 2134.39'(C)
N00°12'03"E 520.96'
S00°08'48"W 2656.52'
S00°08'48"W 2656.77'(C)
S00°09'35"W 2258.52'
S00°09'35"W 2653.94'(C)
N00°14'08"E 2657.48'(C)
N00°11'54"E 2656.52'(C)
N00°16'41"E 2656.52'(C)
N00°18'00"E 2654.10'(C)
N00°21'11"E 2654.19'(C)
N00°34'21"W 2656.61'
N00°38'01"E 2651.10'
N00°02'28"E 2656.97'
N00°06'43"W 2656.83'
N00°17'34"W 2655.93'(C)
N00°89'17"E 5307.85'(C)
S00°10'03"W
S00°09'35"W
S00°09'35"W
N00°09'35"E
N00°09'35"E
N00°09'35"E



ID	Facility
1	UNIT 1
2	UNIT 2
3	COMBINED CYCLE UNIT A
4	COMBINED CYCLE UNIT B
5	COAL STORAGE AREA
6	COAL CONVEYOR
7	COAL CRUSHER BUILDING
8	UNIT 1 FLY ASH SILO
9	UNIT 2 FLY ASH SILO
10	LIME SUBSTITUTE SILO
11	LIMESTONE STORAGE BUILDING
12	LIMESTONE CONVEYOR
13	LIME SLURRY STORAGE
14	COMBUSTION WASTE PROCESSING BUILDING
15	STACK OUT PAD
16	BOTTOM ASH DEWATERING BINS
17	YARD SERVICES BUILDING
18	SUBSTATION NO. 17
19	NORTH SUBSTATION (NO. 35)
20	SUBSTATION NO. 31
21	SUBSTATION NO. 36
22	COMBUSTION WASTE STORAGE AREA
23	HORIZONTAL EXPANSION OF CWSA
24	COMBUSTION WASTE STORAGE AREA RUNOFF POND
25	DECANT CELL
26	NORTH COAL STORAGE AREA RUNOFF POND
27	SOUTH COAL STORAGE AREA RUNOFF POND
28	RECYCLE POND
29	WASTEWATER RETURN POND
30	MAKEUP WATER SUPPLY POND
31	WET DETENTION POND FOR CWSA
32	STORMWATER POND FOR UNITS A AND B
33	BRINE CONCENTRATOR PLANT
34	ALTERNATE ACCESS ROAD


N
W
E
S
Feet
0
75
150
CERTIFIED OFF-SITE NONLINEAR FACILITY
MAGNOLIA RANCH NORTH SUBSTATION
OUC-RAILROAD R/W
MAGNOLIA RANCH
NORTH SUBSTATION
WEWAHOOTEE ROAD
DUKE ENERGY MAGNOLIA
RANCH SUBSTATION
OUC
The Reliable One
Ardaman & Associates, Inc.
Geotechnical, Environmental, and
Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950


N
W
E
S
Feet
0
40
80
CERTIFIED OFF-SITE NONLINEAR FACILITY
ORANGE COUNTY LFG PIPELINE BLOWER/FLARE STATION
OUC
The Reliable One
Ardaman & Associates, Inc.
Geotechnical, Environmental, and
Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

CERTIFIED OFF-SITE ASSOCIATED LINEAR FACILITIES
Railroad Right of Way with Transmission Lines and Gas Pipeline
Railroad Right of Way with Transmission Lines
Railroad Right of Way
N
W
E
S
Feet
0
1,250
2,500
5,000
Orange County Eastern Water Reclamation Facility
Cooling Water Makeup Pipeline
230 kV Transmission Line Stanton to Rio Pinar Tie
Landfill Gas Pipeline
Innovation Way
Altaya Trail
STANTON ENERGY CENTER
LFG Pipeline Blower/Flare Station
Magnolia Ranch North Substation
Mud Lake
OUC
The Reliable One
Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants
A Tetra Tech Company
8008 S. Orange Ave. Orlando, FL 32809
TEL 407/855-3860 FAX 407/859-8121 C.A.N. 5950

Attachment B

Surface Water Management System Plans

(To Be Attached As Applicable)

Attachment C

Mitigation Monitoring Schedule

MITIGATION REQUIREMENTS

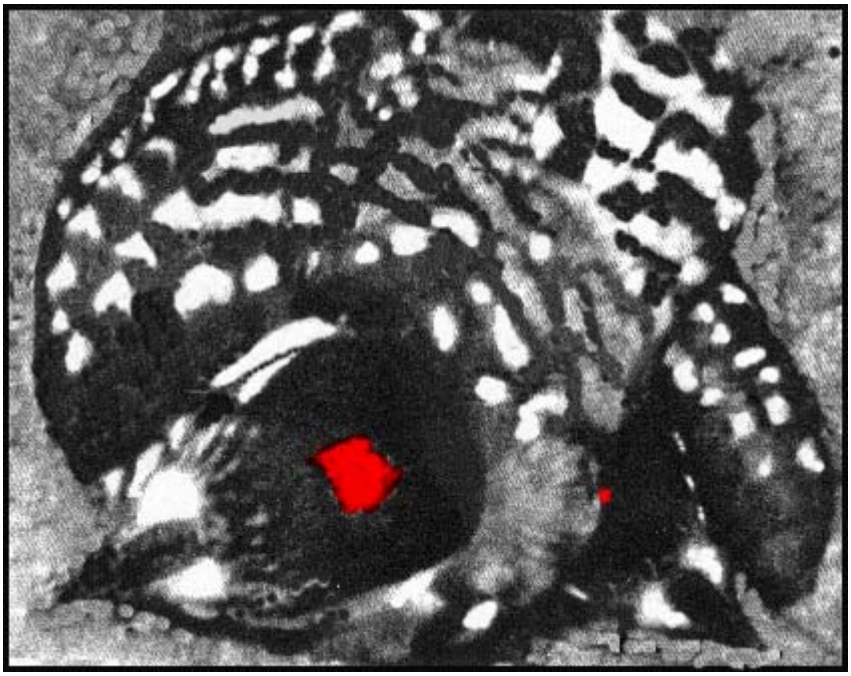
Mitigation Project	Title of Report	Report Frequency	Report Due Date	Description of Report
Magnolia Ranch Substation	Annual Monitoring Report	Yearly	January 17th	Wetland Monitoring
SEC North Substation	Annual Monitoring Report	Yearly	January 17th	Wetland Monitoring
STANTON ENERGY CENTER				
	Annual RCW Monitoring Report	Annual Report	January 31st	RCW Demographics, Nesting Success, and Reproduction
	Annual Exotic Vegetation Report	Annual Report	July 31st	Distribution and Eradication Success of Exotics
	Habitat Summary Report	Five-year Interval	March 31st, 2016	Timber Stand and Habitat Analysis in Relation to RCW Recovery Plan Guidelines
	Annual Saw Palmetto Distribution Report	Annual to Biannual Report	July 31st	Distribution & Control Success for Palmetto
	SEC Site Summary Report (Five Year Monitoring)	Five-year Interval	August 31st, 2015	RCW Population and Site Habitat Trending Analysis
	Annual Mitigation Monitoring Report (Fish & Wildlife Monitoring)	Annual Report	January 31st	Mitigation Monitoring

RCW – Red-cockaded Woodpecker

Attachment D

Red-Cockaded Woodpecker Management Plan

THE CURTIS H. STANTON ENERGY CENTER, RED-COCKADED WOODPECKERS HABITAT MANAGEMENT PLAN



Prepared By:

DeLotelle and Guthrie, Inc.
1220 S. W. 96th Street
Gainesville, Florida 32607

July 8, 2005

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EXECUTIVE SUMMARY

The red-cockaded woodpecker (*Picoides borealis*), a state listed species of special concern and federally listed endangered species, was first observed on the proposed Curtis H. Stanton Energy Center (SEC site) in 1980. During the early 1980s, nine occupied clusters (roosting habitat) were found on the SEC site while 16 occupied clusters occurred in other areas north of the Bee Line Expressway. Presently, there are 13 occupied clusters remaining north of the Bee Line Expressway plus 10 other occupied clusters located on the TM-Ranch about 4 miles southeast of the SEC site. Six occupied clusters currently remain on the SEC site.

Orlando Utilities Commission (OUC) prepared and implemented a red-cockaded woodpecker management plan and monitoring program in 1981 to improve the chances of long-term survival of the species on the SEC site. The 1981 plan plus updates in the 1993 plan, consisted of both a regular prescribed burning program and monitoring activities studying red-cockaded woodpecker habitat use and demographics (DeLotelle and Guthrie and Black & Veatch, 1993 and DeLotelle and Epting 2000). In 1993 as part of the mitigation program for Unit II construction, the original 1981 Red-cockaded Woodpecker Management Plan was revised to incorporate new developments in management strategies for the mesic longleaf pine ecosystem (Black & Veatch and DeLotelle and Guthrie, Inc., 1992). The 1993 management plan contained most elements of the 1981 plan with additional plans for wetland restoration and planting of cypress trees (*Taxodium distichum*) in selected areas. Longleaf pine (*Pinus palustris*) was planted in selected upland areas for future foraging habitat. The revised monitoring plan of 1993 called for evaluating red-cockaded woodpecker survival, fledging success, and other demographic factors.

The following mitigation and enhancement plan is proposed to offset losses in mitigation areas from the gas pipeline installation in the southern utilities corridor and from the removal of planted pine along the northern transmission line corridor between the substation and Pope Road. OUC will be implementing additional measures above the practices outlined the 1981 and 1993 reports to aid in increasing the number of red-cockaded woodpecker clusters on the SEC site and ultimately to enhance the viability of the Orange County red-cockaded population. These actions include a cluster creation

project, exotic species removal, and bird translocation. Cluster creation will consist of constructing three artificial clusters each with four artificial cavities plus augmentation in each of six occupied clusters as needed. The artificial clusters will be developed in historic cluster sites and will have enhanced habitats after the removal of nuisance plants and mid-story shrubs. If natural dispersal is unsuccessful, bird translocations will be performed.

1.0 INTRODUCTION

As part of the Conditions of Unit I Site Certification Agreement (SCA), specifically conditions XXXI, Orlando Utilities Commission (OUC), Florida Municipal Power Agency (FMPA), and Kissimmee Utility Authority (KUA), agreed to manage approximately 2,000 acres of the Curtis H. Stanton Energy Center (SEC) for the benefit of the on-site, red-cockaded woodpeckers (*Picoides borealis*). These conditions were carried forward as a condition for the construction of Unit II. OUC prepared and implemented a management plan and monitoring program in 1981 and updated it in 1993, namely The Red-cockaded Woodpecker Management Plan, to improve the chances of long-term survival of the species on the SEC site (OUC, 1981 and 1993 update). In addition, OUC funded planting programs; as detailed in The Joint Agency Mitigation and Monitoring Plan (JAMMP), which were designed to mitigate wetland and upland impacts associated with the construction of the Unit II transmission line and alternate access road.

Since the development of these plans, advances have been made in the knowledge of on-site and regional red-cockaded woodpecker populations as a result of studies primarily supported by OUC. Other knowledge gained about the species requirements have led to changes in some management practices, e.g., the Red-cockaded Woodpecker (*Picoides borealis)* Recovery Plan: Second Edition, 2003. Accordingly, the 1981 and 1993 Red-cockaded Woodpecker Management Plan will be revised to reflect these new management practices.

This following update reflects recent changes in red-cockaded woodpecker management strategies and addresses the mitigation requirements of the Unit 2 Conditions of Certification (COC) as provided in the JAMMP. This plan will also detail compensation measures for the loss of the mitigation pine planting areas of longleaf pine both in the certified north/south, associated, facilities corridor and under the transmission line between the substation and Pope Road. These actions include:

(1) a statement of the habitat function and description provided for the managed area;

(2) a schedule of fire management utilizing a Florida State Certified Burn Specialist, that includes a description of burn conditions, burn frequency, and measures taken to avoid the spread of wildfire;

(3) measures to eradicate exotic vegetation from both wetlands and uplands;

(4) other enhancement activities such as ground cover enhancement, artificial cavity augmentation, and bird translocations; and

(5) persons and/or the company responsible for the management plan.

1.1 Overall Project History

Certification studies commencing in 1980 for the SEC site included the evaluation of endangered and threatened wildlife species. Several endangered and threatened wildlife species including the red-cockaded woodpecker occurred on-site and in surrounding habitats. During the initial field surveys, nine occupied clusters were observed on-site with an additional 16 occupied clusters located off-site in the northern area of the Big Econlockhatchee Basin (Big Econ). Prior to the initial SCA in 1982, red-cockaded woodpeckers were not known to occur in the area. In response to discussions with the Florida Fish and Wildlife Conservation Commission (FFWCC, formerly Florida Game and Fresh Water Fish Commission [FGFWFC]) and the U. S. Fish and Wildlife Service (FWS), a management plan and long-term monitoring program for red-cockaded woodpeckers were developed as part of the informal review for SEC I (DeLotelle and Newman 1981). Because of mitigation actions and new developments in management strategies for the mesic longleaf pine ecosystem, the original 1981 Red-cockaded Woodpecker Management Plan was revised in 1993 during the certification process for SEC II. On-site groups were studied continuously as part of the monitoring program with additional groups in surrounding areas studied during the certification process for SEC I & II and for other projects in the Big Econ basin.

1.2 Unit I History

OUC initiated discussions with the FGFWFC and FWS in 1980 to develop mitigation and management options that minimized impacts of Unit I construction on red-cockaded woodpeckers. OUC made major siting changes during the site design phase including both the 1) relocation of the make-up water supply pond and solid waste disposal area and 2) a complete rotation of the entire power block and associated facilities from a north to south orientation to an east-west alignment. These mitigation procedures were implemented to avoid cavity trees and to protect the higher quality pine habitat. Such actions resulted in increased cost; but, less impact on the red-cockaded woodpecker habitat.

In addition, the 1981 Red-cockaded Woodpecker Management Plan was developed in consultation with the FGFWFC and FWS as part of the Unit I SCA for the Florida Department of Environmental Regulation (FDER). The objectives of the 1981 management plan were to:

(1) identify the distribution and abundance of red-cockaded woodpeckers in the area;

(2) map and determine the status of existing clusters and cavity trees on-site as well as in the surrounding areas;

(3) map potential cluster sites and foraging habitats on-site;

(4) develop a fire management schedule for the mesic longleaf pine flatwoods ecosystem in the undeveloped portions of the site; and

(5) propose a long-term monitoring plan for the site's red-cockaded woodpeckers.

As stipulated in Condition XXXI for the Certification of Unit I, the Red-cockaded Woodpecker Management Plan will be implemented for the life of the facility on about 2,000 acres of longleaf pine flatwoods. The life of the SEC site can be expected to extend well into this century. Approximately, 1100 acres of the site was dedicated to power plant related activities, including additional Units II, III, and IV.

1.3 Unit II Project Description

Unit II at the SEC site involved the construction of an additional coal-fired, steam electric generating unit and associated facilities. Unit II required nine acres of previously cleared and graded land located immediately north of the SEC Unit I facility. Unit II also included a 14-mile long, 230 kV transmission line and a two-mile long, alternate access road. Both the transmission line and alternate access road were located in the certified north/south associated facilities corridor. The selected route was chosen specifically to have as little impact as possible on both upland and wetland communities. The transmission line runs south from the on-site substation, parallels the northern, eastern and southern side of the make-up water supply pond, extends south across a cleared area, and then proceeds southeasterly along the railroad spur within the certified associated facilities corridor. The alternate access road parallels the eastern side of the existing railroad from the southern edge of the power block near the coal handling facility to the Bee Line Expressway, about 2 miles to the south.

The alternate access road was constructed first and had minor impacts on red-cockaded woodpecker habitat (DeLotelle and Guthrie, Inc and Black & Veatch, 1993). Together, the transmission line and alternate access road impacted about 80 longleaf pine trees in red-cockaded woodpecker territories on the SEC site; however, none of the impacts were to cavity trees.

As a result of anticipated impacts from Unit II construction to uplands and wetlands, the JAMMP was developed to enhance wetland and upland areas in the managed area on the SEC site (Black and Veatch and DeLotelle and Guthrie, Inc., 1992). The plan called for extensive planting of longleaf pine in upland habitats, planting of slash pine (*P.elliotii*) in the associated facilities corridor, and planting of pond cypress (*Taxodium distichum*) in wetlands. Longleaf pines were to be planted in selected areas to promote flight corridors for passage across cleared transmission line/railroad corridors. Ditch filling, contouring, and other restoration efforts restored the historical hydroperiods of several wetland systems. Several dirt roads were maintained to improve access to the mitigation sites. These mitigation access roads were selected so as not to impact mitigation sites, cavity trees, or the flatwoods ecosystem and ran along existing woods roads. Monitoring of the mitigation activities specified in the JAMMP was performed annually by OUC.

1.4 Unit II Impacts and Further Habitat Loss

Mitigation lands for Unit II construction included planting areas for longleaf pine and pond cypress, as well as ditch plugging areas for wetland enhancement on the SEC site. Mitigation for red-cockaded woodpeckers in the form of pine tree planting occurred in several areas, including strips along the transmission line corridor to the north and the access corridor south of the main facility at the SEC site (Figure 1). These tree-planting areas were created to provide pine habitat for crossing the access corridor by red-cockaded woodpeckers and other wildlife. Several of these pine tree-planting areas were removed during the construction of a permitted gas pipeline along the southern access corridor and (see Figures 2 and 4) all planted pine trees under the transmission line in the northern corridor were removed or are planned for removal. In the north corridor, the planted trees had grown to a height where OUC viewed the failure of the transmission line as imminent and had OUC maintenance department remove, on an emergency basis, several patches of planted trees that were the greatest threat. OUC determined that all planted pines along the northern corridor are potential hazards to the transmission lines and are to be removed. These areas were planted as a result of mitigation for loss of natural pine habitat from the construction activities for Unit II. The following update and enhancement activities are proposed to offset losses in mitigation areas from the existing and pending removal of planted pine in both the gas pipeline and the northern transmission line corridors.

1.5 Land Management Perspective

During the early-to-late 1900's the SEC site was managed for cattle, timber, and hunting. During this period, the local landowners or lessees conducted winter prescribed burns, including the years of 1980 and 1982. OUC's fire management schedule for the SEC site was implemented after construction of Unit I and included control burns over the entire site continuing through 2004. Six controlled burns have been conducted during this monitoring period by OUC. Since the property was purchased by OUC, other activities in most of the management area have generally been restricted; thus, good conditions have been maintained for continued development of the longleaf pine ecosystem and enhancement of red-cockaded woodpecker habitat.

Although still a problem during fire activities, saw palmetto (*Serenoa repens*) seems to be less abundant and the wiregrass community more extensive than during pre-construction monitoring. As a result of the fire management practices, several good recruitment classes have occurred since 1982 and longleaf pine regeneration in the managed area is greater than prior to 1984. Many former sparsely treed areas now include a well established, younger-age class of longleaf pine. Other areas on-site still have a much-reduced density of longleaf pine from historical timber management practices. Habitat conditions on the SEC site appear to be similar to other non-disturbed portions of the Big Econ basin (Brown et al., 1989); however, the site includes a much greater percentage of older aged longleaf pine than most of the surrounding areas. The TM-Ranch, about eight miles to the southeast, is the obvious exception and includes many old longleaf pines and consequently a red-cockaded woodpecker population similar to the SEC site.

In addition to habitat management, numerous monitoring studies have been conducted on the SEC site since 1980. To date, the following studies have been conducted:

(1) reproductive studies, annually 1980-2004;

(2) area wide population monitoring studies in addition to the above in 1981, 1983, 1986, 1988, and 1995-2004;

(3) home range, habitat evaluation and use, and territory size studies in 1981-84 and 1986-87;

(4) population turnover studies, annually from 1980-2004; and

(5) cavity tree use studies, annually 1980-2004.

(6) population status in areas north of the Beeline Expressway was determined through 2004.

FIGURE 1. Location of Red-cockaded Woodpecker Clusters in East Orange County, OUC, Orlando, Florida, 2005

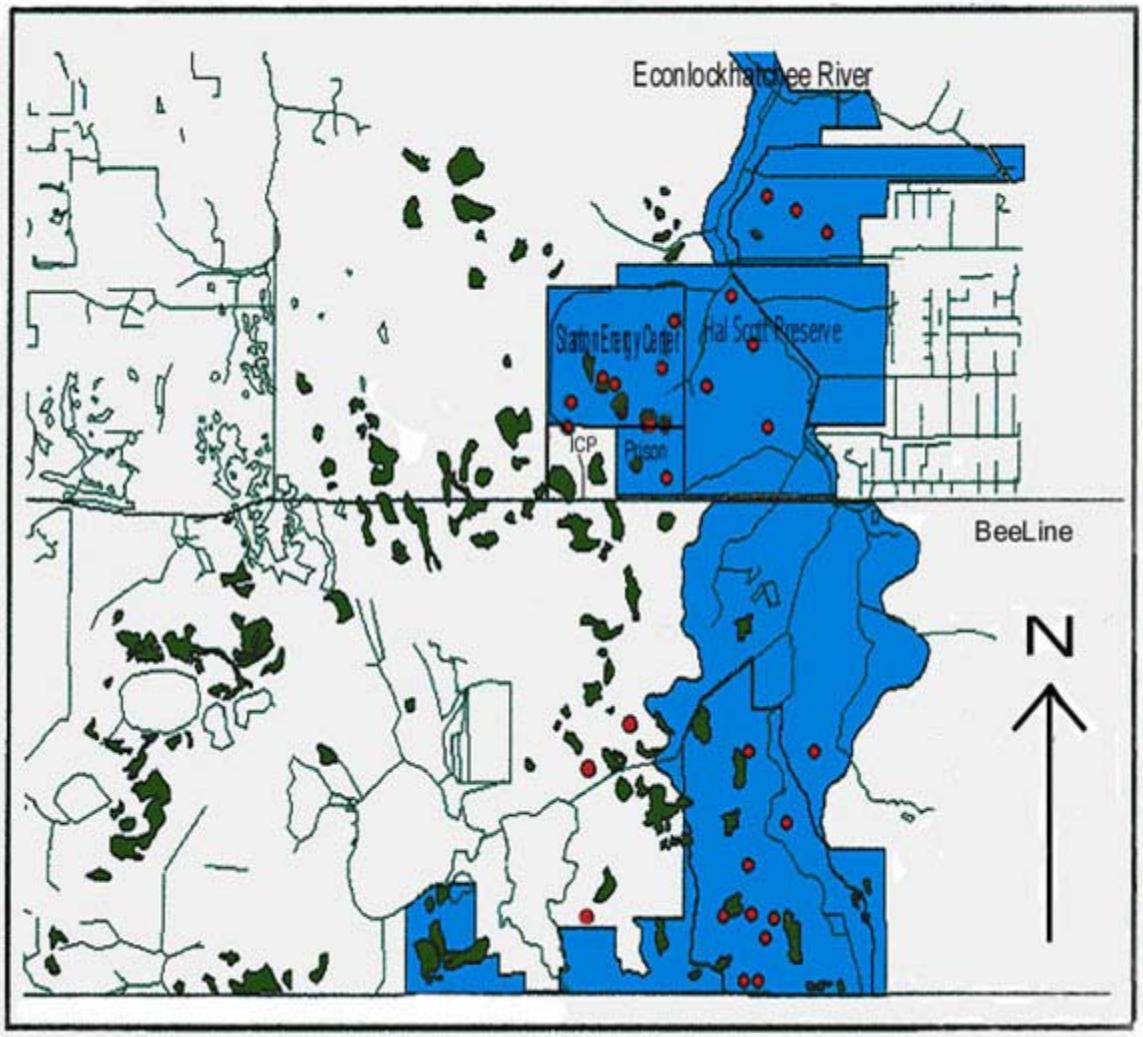
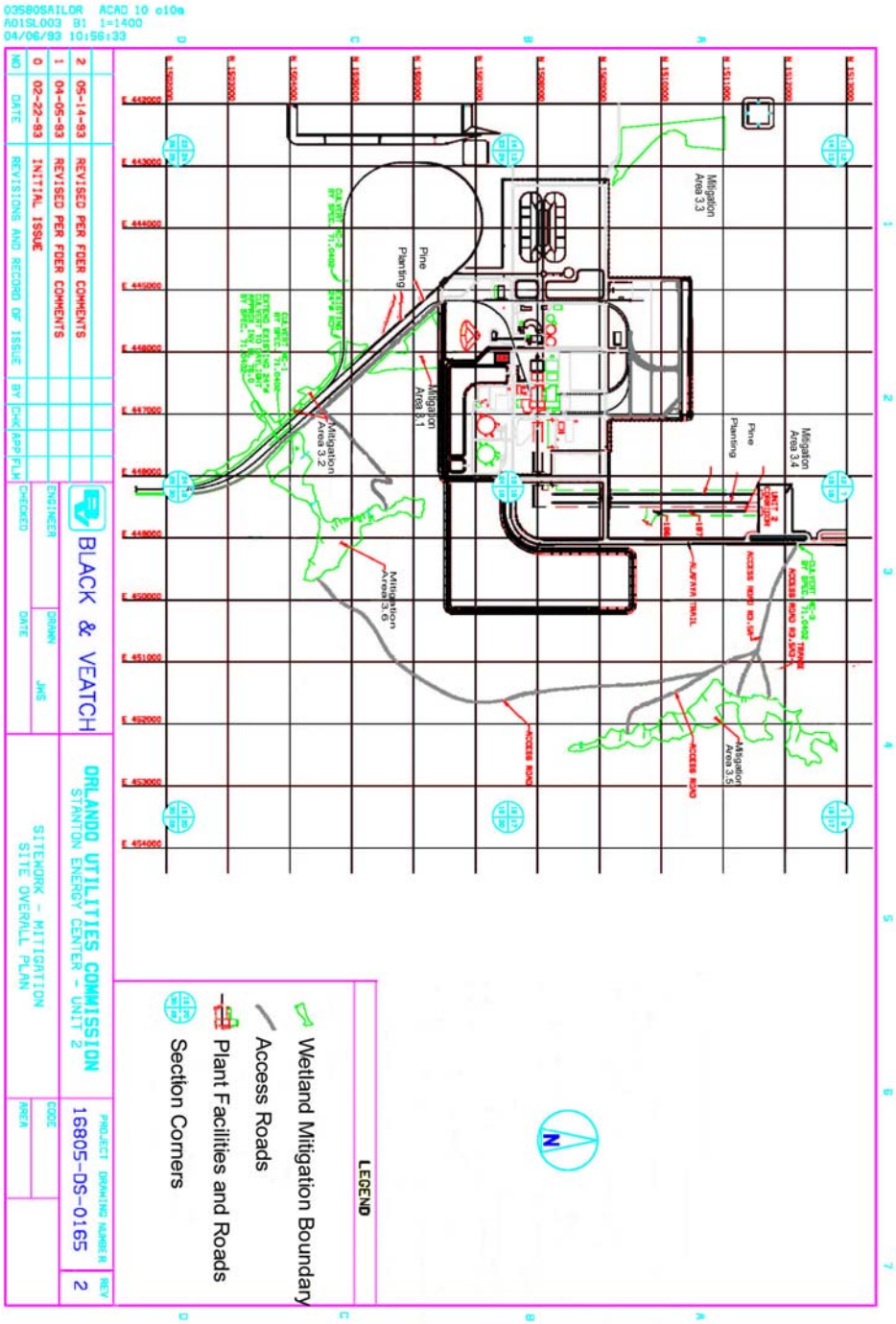


Figure 2. Location of Mitigation Areas and Pine Tree Planting Areas for Unit II Construction, SEC, OUC, Orlando, Florida, 2005



Data from these studies have contributed substantially to the knowledge of the biology and habitat requirements of the red-cockaded woodpecker. The findings and published literature from these studies have been used for development strategies on other projects in the area and by the FWS in the producing habitat protection guidelines for the red-cockaded woodpecker in the southeast United States and central Florida (See Red-cockaded Woodpecker Recovery Plan, 2003).

2.0 HABITAT AND POPULATION STATUS

The primary goal of the management and enhancement plan as described in Sections 3.0 and 4.0 of this report is to maintain and improve conditions capable of supporting red-cockaded woodpeckers on the SEC site. The following section describes the habitat within the red-cockaded woodpecker management area and provides a broad overview of the current population status on the SEC site in relation to the total red-cockaded woodpecker population in the area.

2.1 Habitat

Habitat within the red-cockaded woodpecker management area on the SEC site consists of mesic longleaf pine flatwoods, cypress domes and strands, bayheads, wet prairies and xeric oak scrub. Mesic longleaf pine flatwoods occur throughout north and central Florida southward to near Lake Okeechobee. Uplands within the management area have an overstory dominated by longleaf pine. The overstory in the wetter habitats often includes pond pine (*P. serotina*) and a few slash pines in scattered areas. The shrub layer in the flatwoods consists of saw palmetto, stagger bush (*Lyonia fruticosa*), fetterbush (*L.lucida*) and gallberry (*Ilex glabra*). The open pine canopy allows the development of a rich savannah-like ground cover of herbaceous species (Myers and Ewel, 1990) including wiregrass species (*Aristida stricta* and *A. spiciformis*), beakrush (*Rhynchospora fascicularis*), and bluestem (*Andropogon virginicus*) (DeLotelle and Guthrie 2000).

Longleaf pine density is generally low within the management area, averaging about 10,051 stems per territory (Table 1). Nesting home ranges contain a mean of 4,237 pine stems, with a mean diameter-at-breast-height (dbh) of 9 inches. Pine stands in territories average 50 stems/acre with a weighted mean age of 55 years. The average pine basal area per territory is 2,961 square feet, which includes about 3,401 stems with a minimal 9-inch, dbh. Tree heights reach up to 50 feet with those over 90 years-of-age averaging 38.4 feet. The most abundant age class (30-40 years) averages 31.5 feet in height. Although the data has been partially updated since 1980, no complete sampling of pine stand densities and age profiles has been conducted recently.

TABLE1. Population and Habitat Characteristics for Eleven Groups of Red-cockaded Woodpeckers on the 2,000-acre management area at the SEC site, Florida, 2005

Group ID	Group Size*	Mean Reproduction All Years	Mean Reproduction 2000-2004	N =Years	Pine Basal Area (FT^2)	Total Pine Stems**	Territory Size (Acres)
+A	2	1.33	0.00	3	3,551	14,709	383
+B	2	1.00	0.00	1	3,131	13,547	363
++C	3	0.80	0.00	4	2,195	8,818	251
++D	3	1.00	0.00	5	2,593	8,733	261
C/D	3	0.95	2.00	19	3,195	8,366	236
E	3	0.92	2.25	24	4,333	13,490	299
F	2	1.00	1.25	24	3,177	10,418	255
G	2	1.00	1.00	24	2,673	6,452	215
H	3	1.00	1.00	24	2,465	6,317	234
+I	3	1.30	0.00	9	3,778	10,961	239
#X	2	0.93	0.25	19	2,163	10,237	398
On-Site Average	2.55	1.02	1.38	14.3	3,023	10,211	285
Off-Site 13Groups	2.44	1.11	1.34	6.1 45 Group Years	-	-	-

** Predominant group size during the breeding season for the study period.*
*** Includes all pine stems more than three inches in diameter at breast height in each territory.*
+ Territories were abandoned prior to the end of the study period.
++ Territories and groups combined during 1986.
 # Territory abandoned in 1981 and occupied again in 1986.

2.2 Study Area

The OUC site is approximately 3,280 acres and is located 8.5 miles southeast of Orlando, Florida in the Floridian section of the Atlantic Coastal Plain. Approximately 1100 acres are dedicated to power generation and associated facilities while the remaining 2000 acres are set-aside for the RCW management area. Situated in eastern Orange County, the site is in the Big Econ Basin between the Little and Big Econ Rivers and south of U.S. Highway 50. The Big Econ Basin is approximately 950 square miles. The Big Econ flows from south to north and water quality is good while that of the Little Econ is poor (Brown *et al*. 1989). Surface drainage of the SEC site flows easterly toward the Big Econ via the Hart and Cowpen Branches and an unnamed tributary (Figure 3). These are head water streams to the Big Econ and have had portions of their drainage impacted by pre-SEC construction of swells, ditches, and fire lanes to promote more rapid drainage and to control both wild and prescription fires. Uplands

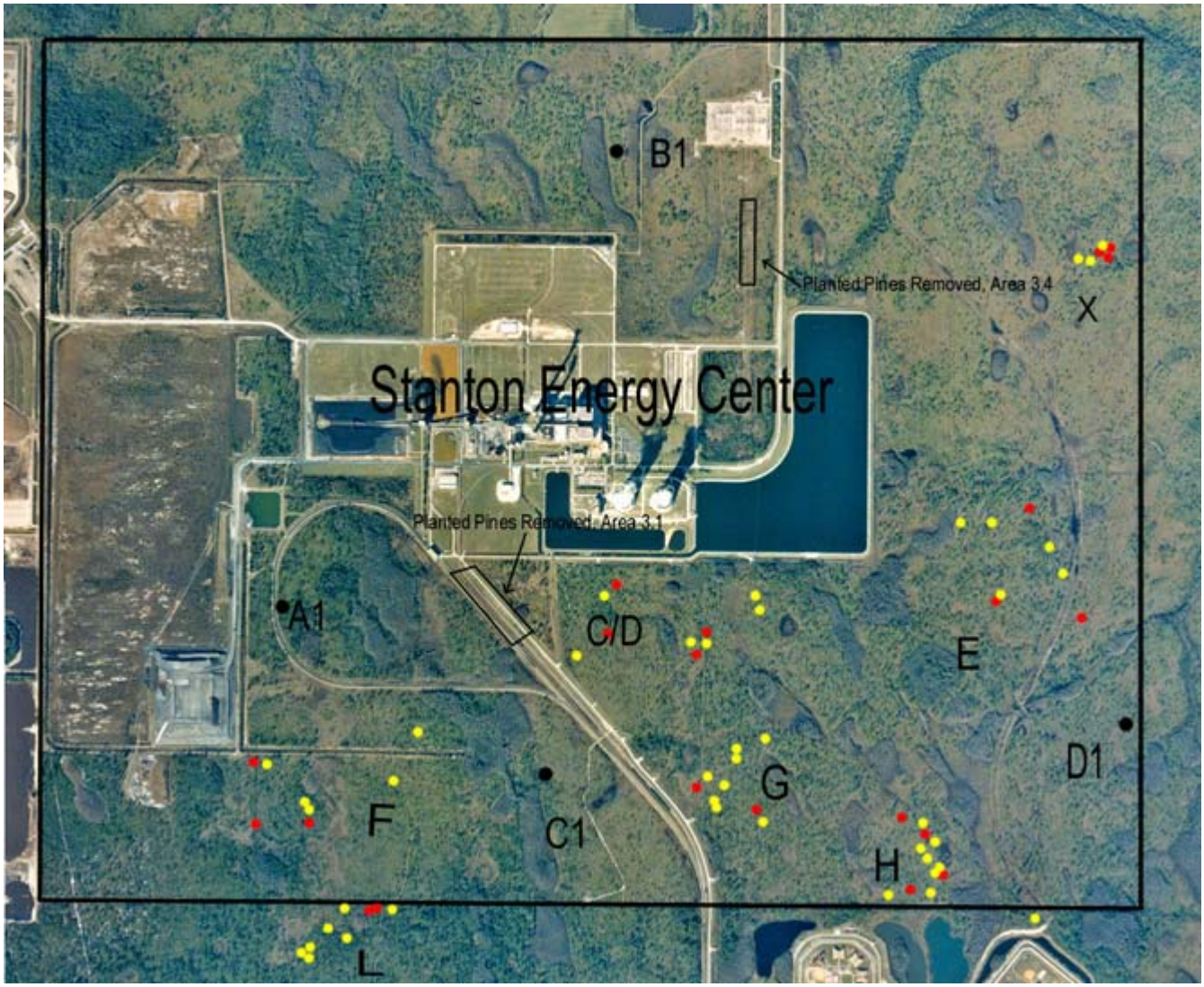
account for about 87 % and wetlands (Figure 4) about 13% of the 2000-acre red-cockaded woodpecker management area on the SEC site.

The 2000-acre management area on the SEC site occurs in the mesic longleaf pine flatwoods within the Big Econ Basin. Most central Florida flatwoods have lower pine densities than north Florida flatwoods (Shapiro 1983, DeLotelle *et al*. 1983, Bowman *et al*. 1997, Myers and Ewel 1990). Because of the flat topography and the underlying organic hardpan, these central Florida flatwoods often have standing water during most of the wet season. Numerous shallow depressions that retain much of the rainfall during the summer months are present. These interconnected depressions, aligned in a north-south direction provide natural drainage for the Basin during the wet season, although they are usually dry during the spring and fall. Hydroperiods of these depressions are sufficient to have allowed cypress (*Taxodium distichum var. nutans*) forests and wet prairie vegetation to develop. Scrubby flatwoods also occur in the Basin on slightly elevated ridges. These interspersed mesic longleaf pine and scrubby flatwoods along with scrub-oak communities are found in a southeasterly direction along an unnamed sand ridge from just past Yeehaw Junction down to within several miles of Fort Drum, Florida.

The over-story of these flatwoods consists almost entirely of longleaf pine. Many age classes are represented in the Econ Basin with several trees greater than 170 years of age. A few pond and slash pines occur near wetlands. The shrub layer includes saw palmetto, stagger bush, fetterbush, and gallberry. The open pine canopy promotes the development of a rich savannah-like ground cover of herbaceous species (Myers and Ewel, 1990) including wiregrass, lopsided Indian grass (*Sorghastrum secundum*), beakrush, and bluestem. The scrubby flatwoods includes a shrub layer of myrtle oak (*Quercus myrtifolia*), sand live oak (*Q. geminata*), and tarflower (*Befaria racemosa*) while the ground cover contains many of the same species as the pine flatwoods.

Figure 3. Aerial Photograph Showing Waterways on the SEC and Surrounding Areas, OUC, Orlando, Florida, 2005.

Figure 4. Aerial Photograph Showing Cluster and Artificial Cluster Locations and Major Vegetation types on the SEC and Surrounding Areas, OUC, Orlando, Florida, 2005.



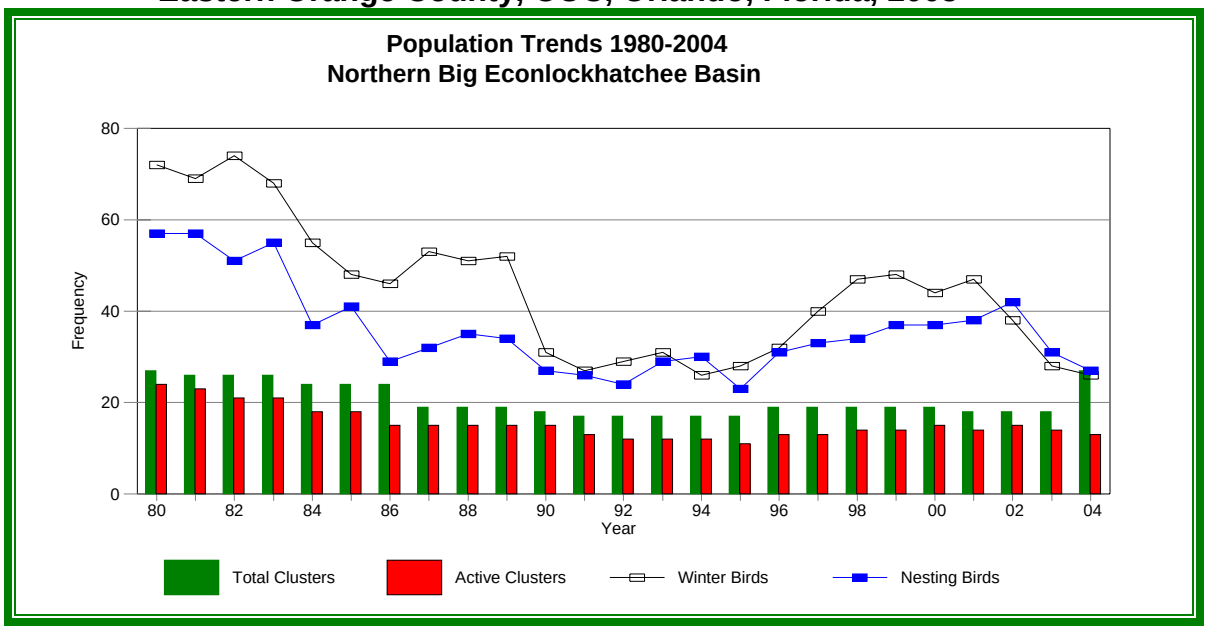
These central Florida flatwoods were historically used for timber, turpentine production, and cattle grazing (Myers and Ewel 1991). These activities had a profound and lasting affect on this ecosystem, mainly as a result of the alteration of natural fire regimes and removal of pine seed sources. Fires were set in the fall and winter to stimulate growth of herbaceous plants for the cattle. This fire schedule, used until the development of the SEC site and purchases of the Hal Scott Preserve by the St. Johns River Water Management District and Orange County, affected pine recruitment in two ways. First, fall and winter burns often destroyed the pine seeds before they germinated or killed the young seedlings prior to development of their fire-resistant grass stage. Second, pine seeds require bare soil to germinate; however, the fall and winter fires cleared the herbaceous ground cover when pines were not dropping seeds. These alterations apparently caused some areas to experience slow pine regeneration. One upland area in the northwest section of the SEC site has had little pine recruitment since 1969 and has maintained a very low pine density; however, this may be due to other agricultural and industrial activities on the site. In other sections, densities in unlogged areas ranged up to about 500 trees per acre near riparian areas with density generally reduced away from wetlands and in logged areas. Prior to power plant construction, winter burns were set during 2-to-3 year intervals for range management purposes.

2.3 Population Status

The core population north of the Bee Line Expressway, which includes the red-cockaded woodpeckers on the SEC site, declined from 25 occupied clusters in 1980 to 11 by 1995, increased to 15 by 2000, and declined to 13 occupied clusters by 2004 (Figure 5). On the SEC site only three clusters were abandoned during this period; a reduction from nine occupied clusters in 1980 to six occupied clusters in 1993. Of the eight clusters north of the Bee Line Expressway that were abandoned, five were clear-cut or the foraging habitat was eliminated, and three were abandoned. Three of the most recent abandonment's apparently resulted from demographic factors, namely low reproduction and high adult turnover. Excluding the recent addition of artificial clusters on the Hal Scott Preserve, the ratio of occupied to abandoned clusters in the entire core population north of the Beeline Expressway has declined from 92% in 1980 to 72% by 2004.

The number of red-cockaded woodpecker groups in the northern Basin (Figure 4) declined (54.4%) from the early 1980s through the mid-1990s, increased in the late 1990s, but has declined precipitously since 2001 (Figure 5). The midwinter population including adults, fledglings, floaters, and helpers, declined by 64% from 1982-1991, increased during the late 1990s, but likewise declined during the early 2000s. Territories in these down years primarily contained mostly the resident breeders. Reductions in the number of breeding groups occurred during most of these down years: in the mid-1980s, the early 1990s, and the early 2000s.

Figure 5. Population Trends in the Red-cockaded Woodpecker Population in Eastern Orange County, OUC, Orlando, Florida, 2005

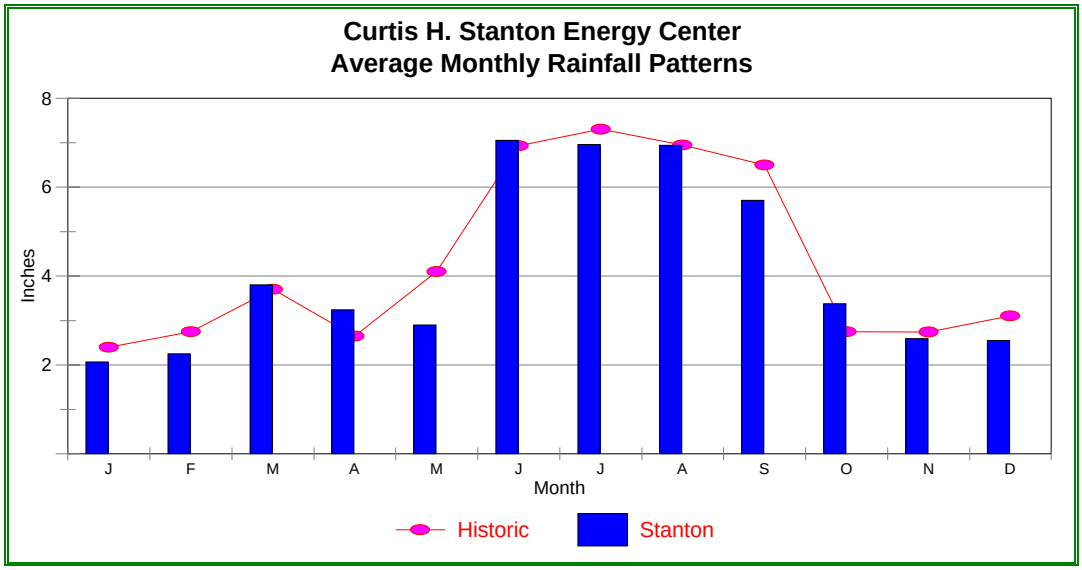


2.4 Weather

Central Florida has a humid, subtropical climate with an average rainfall of 51.2 inches per year. The interior, mid-peninsula of Florida often has more dry periods than north, south, or coastal areas (Jordan 1984). Yearly rainfall on the SEC site varied (range 37.4 to 64.5 inches per year) over the last 21 years averaging slightly less (50.03 inches) than the long-term yearly average. Ten of the 21 years were above the long-term average while 11 years were below historic averages. Slightly drier conditions (47.9 inches per year) existed from 1979 to 1990 while slightly wetter conditions

prevailed after 1990 (53.9 inches per year). Extremely dry years occurred in 1990 and 1993, and very wet years occurred in 1994 and 1997. More than half the annual rainfall (27.2 inches for the historic average and 27.0 inches for the SEC site) fell during the rainy season from June through September (Figure 6). Drought conditions often occurred during the early spring months (January through May, 14.5 inches of rain). Reviewing historic averages reveals the month of May was the most deficient in rainfall with April and October having the greatest surplus (Figure 6).

Figure 6. Summary of Average Monthly Rainfall on the SEC and Surrounding Areas, OUC, Orlando, Florida, 2005.



3.0 MANAGEMENT PRACTICES AND IMPLEMENTATION

3.1 Introduction

For the red-cockaded woodpeckers, restoration of good quality habitat is vital to the recovery of the species. Loss of habitat was primary among the original causes of decline. Generally, optimum habitat conditions for red-cockaded woodpeckers occur in open woodlands, which in the pine flatwoods of Central Florida equates to longleaf pine flatwoods/wire grass communities. The longleaf pine ecosystem is famous for its highly diverse groundcovers. In fact, this fire-dependent habitat contains nearly one quarter of all the plant species in North America. As the vegetation approaches the climax stage, the hardwood encroachment eventually results in the abandonment of clusters and population decline or extirpation. The longleaf pine ecosystem is a fire sub-climax stage maintained by regular fire intervals; frequent burning, regardless of the season, is paramount for continued maintenance of this community. Early to mid-growing season burning is optimum as it 1) promotes wiregrass, herbaceous flowering and seeding, and longleaf pine recruitment; 2) tends to decrease the abundance of hardwoods and shrub mid-story; and 3) has less damage to the herbaceous layer and soils than mechanical clearing. Late growing season (Oct. to Nov.) fire may have detrimental impacts on over-story pines and is not as effective in reducing mid-story rootstock or promoting native groundcovers as the early to mid-growing season burns. In fact, some research suggests that late dormant season (mid-Nov. to Jan.) burns may be more effective than late growing season burns in reducing hardwoods and restoring herbaceous groundcovers. When considering the establishment of the longleaf-wiregrass sere, it should be noted that as fuel loads accumulate, the intensity of the fire increases and optimum burning times are shifted towards the winter where cooler air temperatures and steadier weather patterns prevail thereby providing maximum fire control and minimal longleaf pine mortality.

This revision of the management procedures for the SEC site red-cockaded woodpecker management area is similar to the 1981 and 1993 management plans in that it focuses on protecting existing clusters and provides acceptable foraging areas within red-cockaded woodpecker habitats. The major activity necessary to promote a healthy red-cockaded woodpecker population is a burning program that maintains a vegetative structure of low grasses and herbaceous layer, little midstory, and a canopy

of longleaf pine. Exotic vegetation such as cogon grass (*Imperata cylindrica*) needs direct intervention for removal using herbicidal control. A species-specific control method will be developed to deal with the elimination of cogon grass and a report provided at the end of the second year of treatment. Patches with taller growth of saw palmetto will be controlled by mechanical means in selected areas and by a shortened burn rotation interval. A pine stand and habitat map will be developed based on aerial and field reconnaissance as described below. Following this assessment, an evaluation will be conducted every five years to assess all described habitat conditions and exotic species control. A yearly report on the red-cockaded woodpecker population and a five-year report will be provided to the agencies.

The habitat enhancement plan will be accomplished by implementing the following:

(1) a burning program with a goal of maintaining a sub-climax stage of vegetation consisting of a wiregrass and herbaceous understory, a diminished shrub midstory, and an open canopy of longleaf pine;

(2) an exotic species control program that consists of determining the distribution of the exotic encroachments and the ensuing eradication of the exotics by the application of applicable herbicide treatments; and

(3) a saw palmetto control program consisting of the roller chopping or mowing of areas with excessive growth of saw palmetto.

3.2 Timber Management Goals

Timber management practices described in the 1981 plan and the planting program, described in the JAMMP have allowed pine stem density to increase in many portions of the management area; however, some areas still have low stem counts. Pine regeneration via natural recruitment should substantially increase during the next 20 to 30 years.

The 2003 USFWS Red-cockaded Woodpecker Recovery Plan (p. 188) describes optimum habitat as having the following longleaf pine densities: 1) longleaf pine greater than or equal to 14” dbh should have a minimum of 20 ft^2/acre, 2) longleaf pine greater than or equal to 10” dbh and less than 14” dbh should have a maximum of 40 ft^2/acre,

and 3) longleaf pine less than 10” dbh should have a maximum of 10 ft^2/acre with less than 20 stems/acre. The burning program as detailed in this document, is intended to establish and maintain these densities for the longleaf pine-wiregrass community. Timber surveys will be performed on a 5-year period to assess the longleaf pine/wiregrass densities and determine the effectiveness of the burning program.

Criteria that are more applicable to central Florida are under review and development to reflect conditions of the region (Costa and DeLotelle, unpublished analysis). To meet central Florida standards or achieve the minimum managed stability criteria and manage toward the desired future conditions for red-cockaded woodpecker habitat within the property, i.e., central Florida habitats, management activities will be undertaken as follows.

(1) For the home range habitat, provide each group of red-cockaded woodpeckers a minimum of 3,000 ft^2 of pine basal area (BA), counting only those pine stands in suitable habitat that, for this standard only, have each of the following characteristics:

a) at least 2,000 ft^2 of BA in trees 9 in dbh or larger;

b) at least 1,000 ft^2 of BA in trees larger than four and less than nine inches dbh; and

c) open recruitment stands of pine. Dense stands of recruitment pine will be reduced should they become a problem; however, it is expected that the frequent burning program will naturally provide adequate thinning of small dbh pine.

(2) Provide a minimum of 75 acres of foraging habitat. This minimum requires at least 40 ft^2 of BA/acre to achieve a total of 3,000 ft^2 of BA; however, if the BA per acre is less than 40 ft^2, additional acreage/territory (foraging partition) will be required to achieve 3,000 ft^2 total BA with the caveat that no more than 300 acres/red-cockaded woodpecker group may be designated as foraging habitat.

(3) Pine stands that are suitable for foraging habitat must have all of the following characteristics:

a) longleaf pine with 2,000 ft^2 BA for trees with an 9 inch minimum dbh, i.e., at least 30 years old; however, up to 1,000 ft^2 of BA of the total stand may be in trees 4 to less than 9 inches dbh (20-29 years old).
b) an average pine BA of all 4-inch dbh and larger trees between 40 and 70 ft^2. Currently, stand BA in some areas of the south-central Florida Recovery Unit average less than 40 square feet of BA/acre in 4 to 9 dbh pines; with some as low as 10 ft^2 BA/acre. These low BA conditions are primarily a result of poor recruitment, i.e., few good seed crops and inadequate (frequency and season) prescribed burning programs. Even in good conditions, control fires may jump into the crown, which results in higher tree mortality than desired. During the past 15 years, several recruitment classes have become established, and sites with adequate prescribed burning stand BA are increasing throughout the region.
c) no hardwood midstory or if a hardwood midstory is present it is sparse and less than 7 feet in height: the midstory will be controlled by fire or mechanical means.
d) after the larger dbh class trees reach the optimum habitat levels as defined in the 2003 USFWS RCW Recovery Plan (p. 188), total stand BA above 100 ft^2/acre will be reduced to a minimum 70 ft^2/acre by the thinning of trees primarily with a dbh of 9 inches or less.
e) foraging habitat stands will be within 0.50 miles of the cluster center and preferably within 0.25 miles. Foraging habitat stands cannot be separated from one another by more than 200 feet of non-foraging habitat, e.g., rights-of-way, clear-cut or forest stands less than 30 years of age, hardwood dominated stands, agricultural fields, etc.
f) frequent prescribed burning of foraging habitat during the growing season will be applied. The development and protection of a herbaceous groundcover will facilitate the prescribed burning and will greatly benefit the red-cockaded woodpeckers.

The habitat characteristics that have been described, support a large meta-population of red-cockaded woodpeckers in the Big Econ Basin and additional isolated

populations throughout the central Florida area (DeLotelle *et al.* in press and Bowman *et al.* 1997). Research to date supports the designation of foraging habitat that will result in stable or increasing populations, as described above. The SEC site would be a further test of the applicability of these guidelines to expand existing populations with intensive cluster management. The RCW Recovery Plan stresses the importance of adequate stand structure. Pine stands cannot be considered suitable as foraging habitat unless they have an "open" character. A pine stand that is 20 years in age with open structure will qualify as suitable foraging habitat. If such a stand has not been prescribed burned or otherwise treated to control the hardwood mid-story and has not been thinned to a basal area of 70 ft^2/acre or less, it will not satisfy the "open" condition criterion. At present, dense stands of young pine and pine/hardwood do not occur on-site and thus are not an issue of concern. Stand quality, as measured by an open structure, is a critical factor in determining the suitability and use of foraging habitat.

The desired future condition for red-cockaded woodpeckers foraging habitat stands is for the 3,000 ft^2 BA to be composed of 9-inch dbh tree and larger. Management activities should be implemented to achieve this goal. Most sites will be capable of growing trees this size, at least at moderate stand densities, e. g., 30-60 ft^2 BA /acre. In addition to the longleaf pine stands, foraging studies indicate that cypress domes constitute an important habitat for on-site red-cockaded woodpeckers. Prior to the construction of Unit I at the SEC site, wildfires sporadically resulted in extensive burning in the cypress domes. These hot fires made some cypress domes unsuitable as foraging sites for extended periods; however, now that a controlled fire program is in effect and natural site drainage has been restored in selected areas, the detrimental effects of the hot cypress dome burning have been reduced. Measures to restore natural site drainage in selected areas were described in the 1993 JAMMP and are now complete.

This revised management plan is expected to provide conditions favorable to maintaining a mesic longleaf pine ecosystem and thereby provide optimum habitat conditions for the red-cockaded woodpeckers as well as other wildlife that is characteristic of this habitat type.

3.3 Red-cockaded Woodpecker Management Area

The Red-cockaded Woodpecker Management Area consists of approximately 2,000 acres of undeveloped lands on the SEC site. The management area is defined, as stipulated in the SEC Unit II Conditions of Certification, as all lands depicted on Figure 4.2 of the August 1981 Red-cockaded Woodpecker Management Plan, except for the area specifically identified as "construction impact of proposed Units I, II, III, and IV. Figure 7 of this plan is identical to Figure 4.2 of the August 1981 Red-cockaded Woodpecker Management Plan. The roads shown in Figure 7 will be maintained for dry and wet season travel along with the access road to the Hall Scott Preserve on the east side and the weather station on the south end of the SEC site. These roads are necessary for access and fire control.

The Red-cockaded Woodpecker Management Area will continue to be managed for the benefit of the red-cockaded woodpecker, in accordance with Condition XXXI of the SCA granted to OUC by the FDER Sitting Board on December 14, 1982. If additional uses of the management area are required for the operation of the power plant, these uses will be approved in accordance with the procedures identified in the Florida Power Plant Siting Act and by the FWS prior to their implementation.

3.4 Management Objectives

OUC will implement the management activities described in Section 3.2 to achieve the following objectives:

(1) prohibit unnecessary disturbances in areas managed for red-cockaded woodpeckers;

(2) protect all existing, both occupied and abandoned, and new cavity trees;

(3) protect clusters, including surrounding trees, to ensure future replacement cavity trees and to serve as a buffer zone to disturbances;

(4) ensure that each occupied cluster has at least four suitable roost cavities;

(5) where necessary, protect each nest cavity from climbing predators;

(6) provide for future clusters in the remaining forest stands through appropriate timber management

(7) maintain or improve foraging habitat through appropriate timber management and a controlled fire program;

(8) provide contiguous habitat between clusters and foraging habitat with habitat breaks no larger than presently exist;

(9) conduct a regular, prescribed burning program;

(10) maintain the perimeter firebreak system to control prescribed burns and to prevent the spread of wildfire;

(11) establish an exotic weed control program for the elimination of cogon grass, other exotic plant species, and possible future contamination by other exotic species;

(12) allow all previously disturbed areas (those associated with pre-construction activities) not scheduled for tree planting within the management area to reseed naturally with pine;

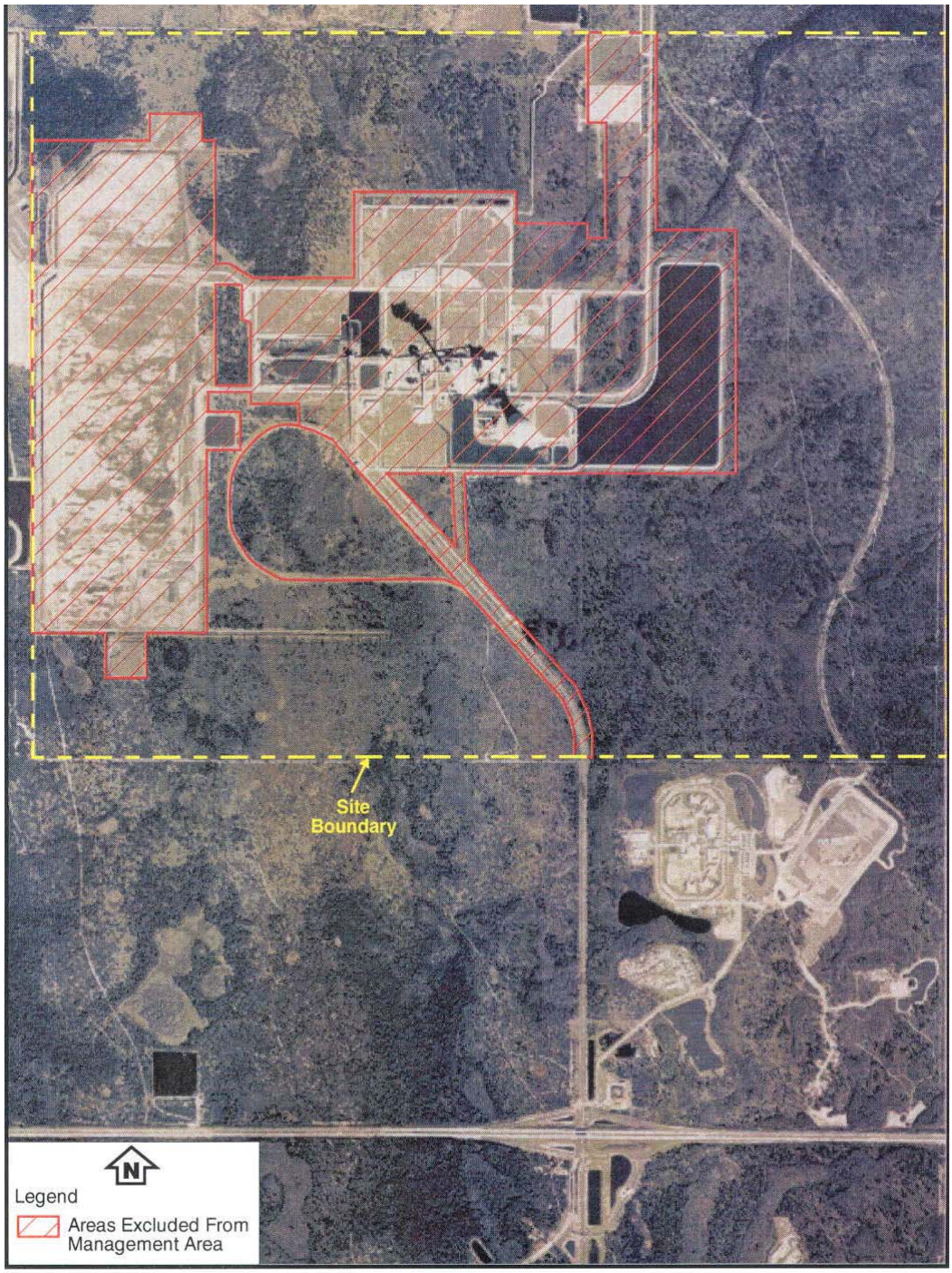
(13) conduct on-site monitoring of red-cockaded woodpecker survivorship, population status, and fledgling success; and

(14) establish an enhancement plan for providing ground cover improvement by reducing tall patches of saw palmetto growth.

3.5 Implementation

OUC will be responsible for implementing the management practices discussed below. Qualified biologists will be retained to monitor the red-cockaded woodpecker population in accordance with the 2003 Red-cockaded Woodpecker Recovery Plan and monitor the success of the management plan and practices.

Figure 7. The Red-cockaded Woodpecker Management Area and Projected Development Areas, including Units 3 and 4 for the SEC, OUC, Orlando, Florida, 2005.



CURTIS H. STANTON ENERGY CENTER
RED-COCKADED WOODPECKER MANAGEMENT AREA

3.5.1 Controlling Disturbance

Construction contractors will be briefed as required on their legal obligations under the Endangered Species Act and regulations of the FGFWFC. This briefing will include information on the limits of construction, activities required to comply with stated construction plans, and construction constraints as described in the Mitigation Plan Construction Constraints (Appendix E of the JAMMP). OUC or their consultant will monitor construction activities.

All cluster areas and buffer zones will be conspicuously marked prior to any construction. Cavity trees close to construction activities will be fenced and marked with endangered species posters. Where possible, a 200-foot buffer zone will be established around each cavity tree close to construction activities. Some cavity trees are located immediately adjacent to unimproved dirt roads that will be used during mitigation activities or population monitoring; no adverse impacts are expected to occur. There are no known construction activities expected to occur within 200 feet of any RCW clusters on the Stanton site.

3.5.2 Timber Control

No timber will be harvested within the management area, unless required for improving habitat for the red-cockaded woodpeckers. Pine trees will be allowed to reach senescence and die. Any harvesting will be approved by the FGFWFC and FWS prior to the harvest.

Potential replacement cavity trees and cluster sites, as well as younger pines within each cluster area will be retained. Young pines may be removed to keep cavities clear of obstruction. Currently all cavity trees are located in open stands of pine with relatively few hardwoods; thus, there is no immediate need for stand improvement thinning in cluster sites. Abandoned cavity trees and snags in the management area will be retained to provide roosting and nesting sites for kleptoparasites. The burning program outlined in this document should promote pine regeneration by natural recruitment.

3.5.3 Fire Management

The burning program that will be implemented on the red-cockaded woodpecker management area is outlined in this section. It includes a description of the schedule, frequency of burns, burn conditions, and means of controlling wildfire. Burns, which have been conducted every three to five years, occurred in the mid 1980s, 1990-91, 1993, 1998, and 2003.

3.5.3.1 Burn Schedule and Frequency. The red-cockaded woodpecker management area will be divided into areas and alternately burned on a two-year rotation to reduce saw palmetto growth and provide optimum habitat conditions. Since the seasonality of the burn has an impact on the vegetation, Table 2 is provided to indicate the burn season preference. Burning will usually be performed during the optimum season as shown in the Table 2; however, some intentional variation will occur and other factors, e.g., short and long-term weather conditions, fuel loading, etc., may dictate burns during seasons other than the optimum listed above. New pine planting areas or recruitment areas will be burned on the same schedule as the remaining portions of the management area. Burns will be by ground ignition, primarily using backing fires to minimize vegetation mortality; however, variable conditions may dictate flanking or in extreme cases, head firing techniques.

Table 2. Burn Preference According to Rank Order for Effects on Habitat Condition and Red-cockaded Woodpeckers, SEC, 2005.

Burn Season Rating	Rank	Months	Comments
Optimum	1	February to April	Wiregrass & longleaf pine response is best in spring
Preferred	2	May to June	RCW nesting season[1]
Satisfactory	3	July to September	High water and heat
Least Satisfactory	4	October to mid-November	High stress on longleaf pines
Special Conditions	N/A	Mid-November to January	Heavy fuel loads

Note: Burning during the nesting season requires additional clearing around the cavity trees.

3.5.3.2 Burn Conditions and Control of Wildfire. A Florida State Certified Burn Specialist will conduct prescribed burns. Two of the most important factors that ensure a successful cool summer burn are soil moisture and relative humidity. Fuel moisture is a function of relative humidity, rainfall, and temperature (Mobeley et al. 1978). Burns will not be conducted when soils and leaf litter are completely dry. When possible, burns will be conducted as soon as possible (one to three days) following a storm event, preferably one producing a 0.5 to 1 inch rainfall. Likewise, relative humidity should be moderate to high and not lower than 20 percent. A moderate breeze is also desired to prevent the fire from reaching the tree crown. After initiation of this frequent burning program, fuel loads should be sufficiently reduced such that a cooler and more controllable burn is more easily achieved.

A fire break of about 20 feet in width, completely encircling the red-cockaded woodpecker management area and adjacent to the SEC site perimeter fence, is presently maintained by OUC. This firebreak will be disked annually and immediately prior to any controlled burn. Other unimproved roads exist within the interior of the management area and may serve as additional firebreaks. Because of drainage concerns, plantings within the Riparian Habitat Protection Areas, described in the JAMMP, will not be protected with firebreaks. Other measures, such as backfires, may be used to prevent seedling mortality in these areas. All vegetation around cavity trees will be mowed to a height of no greater than 1 foot for a radial distance of 20 feet. If the control burn is set during the nesting season, the clearing will be for a radial distance of 50 feet. All clearing will be performed by hand or by a low impact mower towed with a rubber-tired tractor.

3.5.4 Exotic Vegetation Control

Herbicides and pesticides toxic to wildlife will not be used in any part of the red-cockaded woodpecker territories. Spot applications of an approved herbicide may be used in the areas of pine tree plantings or wetlands, if necessary, to remove or control exotic or undesired invasive species.

The extensive invasion of cogon grass will ultimately replace most native ground cover species. Cogon grass occurs initially as spots of 1 meter or more in size, but later may occupy much larger areas as the plant spreads throughout the herbaceous ground

layer. The species out competes most other herbaceous species and promotes very hot fires when burned. To eliminate this exotic species, a program will be instituted to delineate, map, and eradicate the plants with appropriate herbicides. To determine major areas of cogon grass, a qualified biologist will review a recent aerial photograph of the site and follow-up with a field examination to refine the locations of this invasive grass. A finial map will then be developed and a contractor will be retained to eliminate this species. The initial treatments during the first year will be made in the fall, if possible, with periodic treatments as needed. Inspections of each spot or area will be made to determine the necessity for retreatments during the second year. Annual inspections will occur until the species is eliminated; thereafter, re-inspections will be conducted every five years to further assess the success of the elimination plan. Retreatments will be conducted, if needed and a determination will be made as to the best assessment interval; however, the assessment interval will not be longer than every five years. At the end of the second year of treatment a report will be provided to the respective agencies. The five-year sampling and assessment report will include results and recommendation from the cogon grass evaluation.

Presently, to control cogon grass contractors will apply arsenal at 1% by volume from a low volume spray unit. This concentration is well under the max label rate of 6 pints per acre. In the thickest areas, 4 pints per acre max may be used. For the Chinese tallow and the Brazilian pepper (should it occur on-site), 79% high-grade oil, 20% Garlon 4, 1% Stalker will be used as a basal bark treatment.

3.5.5 Population Monitoring Studies

OUC will also continue the yearly red-cockaded woodpecker monitoring study using the guidelines established in the 2003 Red-cockaded Woodpecker Recovery Plan. Monitoring studies will include annual winter banding of all unbanded adults and juveniles that remain within the population. Annual inspections will also be made of nest trees each week during the nesting season to assess nesting and fledgling success. Nestlings will be banded at this time. Nest trees with low or insufficient resin flow will be wrapped with material to protect against climbing snakes. Population estimates will be determined for the winter and nesting season. Cavity trees and cavities will also be inspected to determine the number of suitable cavities in each

cluster. The location and status will be recorded using GPS coordinates. Based on these inspections, the consultant will determine the need for population enhancement translocations and the necessity for additional cavity inserts in these existing clusters. At least four usable cavities will be maintained in each cluster using artificial cavities, if necessary. Translocations of young birds to the site will be conducted as described below in Chapter 4.0.

3.5.6 Pine Habitat Condition Monitoring

An assessment of the habitat conditions on the entire site has not been made since the mid-1980s (DeLotelle et al 1987). Habitat conditions will be evaluated to determine pine stand age and densities across the management area using previously applied techniques (DeLotelle et al 1987, DeLotelle et al 1995, also see Hooper et al 1982). An aerial photograph will be used to determine new pine stands and will be compared to historic conditions (1980) of pine stands. Once the pine stands and other habitats are determined from aerial photographs for the SEC site, a field evaluation will be made. Data will be collected by placing one to five plots in each stand with the number of plots per stand based on the stand size. A 100 by 100 foot plot will be laid out to count all pine stems and take diameter measurements on 10% of the trees over three inches in diameter. Seedlings will be counted separately. Five increment cores will be taken in mature pines to evaluate age and ten-year growth of pines. This will be used to develop a report and pine stand map for the SEC site and provided to Florida Department of Environmental Protection (FDEP), USFWS, and FFWCC. This evaluation and report will be updated every five years and provided to these agencies.

3.5.7 Ground Cover Enhancement Plan

Overall, habitat conditions for the Red-cockaded Woodpecker have improved with the implementation of the fire management program and the addition of several recruitment classes of longleaf pine on the SEC site. While the ground cover on the SEC site is in reasonably good condition, it has deteriorated over the last 10-15 years compared to historic conditions. A healthy and extensive herbaceous ground cover is important for the support of the insect fauna. In order to maintain and improve conditions for red-cockaded woodpeckers several activities should be undertaken to enhance the ground cover conditions. The largest activity will be the establishment of an intensive fire program to maintain the seral longleaf pine and wiregrass community. Mechanical control of the saw palmetto will also be required, as the overgrowth and continued expansion of saw palmetto will diminish these aspects of the forest ecosystem.

The primary focus of the plan on mechanical control of palmetto growth will be to develop a map with the occurrence of problem areas, which will be treated as appropriate. These areas will be located on aerial photographs and followed-up with on-site inspections. All existing and artificial clusters will be inspected for palmetto growth. A map will be produced to denote each area that does not meet the criteria listed below and will then be used to evaluate the necessity of roller chopping the various pine habitats. It is recommended that an 18-inch diameter by 5.5 feet long roller chopper be used (Outcault, pers.comm. 2005). No tandem choppers will be used on-site. A heavy-duty bush hog may be employed in place of the roller chopper provided there are no stumps. The initial treatment could include roller chopping or bush hogging in selected areas followed by a fire interval of every two years to reduce the buildup of saw palmetto. A suggested route for roller chopping will be provided that will involve the least damage to grasses and other components of the ground cover.

Mechanical control should occur in the fall of the year with one small roller chop as described above. A bush hog operation or cutover with a large mower behind a tractor should be undertaken in cluster areas with problems. No treaded equipment will be allowed in any cavity tree areas. Roller chopping or bush hogging in the remaining areas may be employed to reduce palmetto growth and promote the herbaceous growth. This is best accomplished in the fall or winter when conditions are relatively dry

in the foraging habitat areas. The path of the roller chopper should be circular or rounded at the ends so as not to damage ground cover by plowing into topsoil. Sharp angle turns must not be used in ground cover areas. Once again, conditions must be dry to meet this objective.

3.5.8 Vegetation Delineation, Mapping, and Eradication

The various habitats essential for the red-cockaded woodpeckers will be surveyed to determine the extent of encroachment by undesirable vegetation. First, an inventory of the management area (review of aerial photographs followed by field verification) will be undertaken to determine the locations and extent of the areas that require corrective action. Although not a major problem at this point, any areas with popcorn tree (*Sapium sebiferum*) should also be noted for elimination. Once the location and extent of the various encroaching species is determined, elimination and suppressing measures will be implemented. The height of saw palmetto in the various habitats will be the determining factor for its suppression as outlined in Table 3 below.

a) Cavity Tree Cluster areas:

prior to initiating ground surveys, aerial photographs of all areas will be reviewed, and then cavity tree cluster areas will be verified in the field to determine the extent of exotics and saw palmetto. Problem areas will be mapped and corrective action noted.

b) Foraging areas:

an approach similar to that used in cavity tree cluster sites will be employed in foraging habitat areas as well. Areas with a number of dead pines will be of particular interest and will be investigated.

c) Wetland fringes in Upland Habitats:

wetland fringe areas, which often have particularly high growth of saw palmetto, will also be investigated. If the areas are not extensive, no corrective action will be undertaken but a few areas are expected to need improvement.

d) Remainder of Property:

the remainder of the flatwoods will be treated in a similar fashion to the wetland fringe areas above.

Table 3. Criteria for the Institution of Mechanical Control of Saw Palmetto in Red-cockaded Woodpecker Habitats on the SEC Site

AREA	Maximum Stem Growth of Palmetto Above Ground Surface	Treatment Method
Cluster Areas	1.5 feet	Hand or bush hog
Foraging Areas	1.5 to 2 feet	Roller chopping
Wetland Fringe	2 to 3 feet	Roller chopping or fire frequency
Remainder of Property	2 to 3 feet	Roller chopping or fire frequency

4.0 POPULATION ENHANCEMENTS AND CLUSTER CREATION

The east Orange County red-cockaded woodpecker population was one of four within Florida identified by the FGFWFC as needing a conservation plan to ensure further protection (Cox *et al*., 1995). The action described below will aid in increasing the number of groups on the SEC site and ultimately in enhancing the viability of the Orange County red-cockaded woodpecker population. This plan first includes a portion for the creation of a recruitment cluster followed by a translocation program with sub-adult birds. A comprehensive plan for the enhancement of foraging habitat was described in section 3.0 and will require a number of years to be successful. Other additional enhancement aspects of the management plan are intended to mitigate for losses of the planted pine trees associated with both the construction of the gas pipeline along the alternate access road corridor to the south and the transmission line maintenance operations in the corridor to the north between the substation and Pope road.

4.1 Cluster Creation for Recruitment of Sub-adults

Three cluster sites (A1, B1, and D1) will be provisioned each with four artificial cavities, in different segments of the population (Figure 1). Within each artificial cluster area, four cavity inserts will be installed in proximity to each other in trees ranging in age between 50 and 150 years and with a diameter of 14 inches or more (Table 4). These clusters will be inspected during seasonal surveys and any required maintenance will be performed. All recruitment cluster sites, except the C1 area, are abandoned clusters that were occupied by red-cockaded woodpeckers through the 1980s. These artificial cluster sites were selected based on the proximity of the surrounding groups of red-cockaded woodpeckers and the availability of potential cavity trees, i.e., those with diameters of 14 inches or more. Each cluster and the surrounding foraging habitat have been evaluated to determine if enough foraging resources were present to meet the needs of central Florida red-cockaded woodpeckers (See DeLotelle and Epting 1992 and DeLotelle et al. 1995, also see guidelines in Section 3.2). Additional artificial

cavities may be placed in any natural cluster that is deficient in usable cavities. Although four cluster sites are available only three were chosen: A1, B1, and D1, for artificial cavity augmentation.

Table 4. Artificial Cluster Sites for Cavity Inserts and Description of Surrounding Foraging Habitat, SEC, Orlando, Florida, 2003.

Cluster ID and Description	***Old Trees****	***Number of 60 to 80 Year Old Trees*****	***Age/Density of Foraging Habitat***	***Number of Pines and Basal Area in 200 Acres***	***Management Needed in Cluster Areas***
A1 Artificial Site	Numerous old trees	6@14" dbh or larger trees	58 years & 59 per acre	12,400 pine trees 6,550 ft^2	Bush-hog near all cavity trees
B1 Artificial Site	14/ Many in 50 to 80 age class	12@14" dbh or larger trees	48 years & 82 per acre	13,400 pine trees 6,130 ft^2	Bush-hog near several cavity trees
C1 Abandoned Site	Numerous old trees	7@14" dbh or larger trees	39 years & 52 per acre	8,500 pine trees 3,682 ft^2	Hand clean around all cavity trees
D1 Abandoned Site	Numerous old trees	7@14" dbh or larger trees	41 years & 71 per acre	11,700 pine trees 5,082 ft^2	Bush-hog some pf cluster area, Hand clean remainder

**Old-remnant trees are easily identified by the presence of large flattop crown and few if any limbs on the bole of the tree. All trees exceed 100 years of age based on numerous increment core bores taken from these type trees in the Big Econ Basin.*
*** This is the primary age and size class of live pine trees used for artificial cavity inserts in the Big Econ Basin and other central Florida Flatwoods sites.*

4.2 Monitoring Activities.

Annual monitoring studies and reproductive success will be used to assess the status of the existing red-cockaded woodpeckers groups. These studies will continue over the life of the facility. The monitoring studies will include periodic inspections to determine if dispersing red-cockaded woodpeckers are using any of the artificial clusters as roosting sites. Artificial cavities will also be inspected to ensure that there are no leaks and to clean any undesired nest material. If solitary birds are found living

in these recruitment clusters, other red-cockaded woodpeckers of the opposite sex will be translocated to potentially form a new breeding group in these clusters.

It is anticipated the new dispersing birds that take residency in these artificial clusters will primarily be young males; thus, a young female would be translocated to these sites. The bird will be placed in the new cavity on the night of its capture or free-released if captured and released on the same morning. Other combinations of translocation activities over the intervening monitoring years may occur. No more than two birds from the surrounding area will be translocated in any one year. No translocations from surrounding groups will occur during years of low reproduction. The three artificial cluster sites and cavities will be visited at least twice during each nesting season to determine occupancy, reproductive status, and reproductive success. Cluster creation and occupation shall be considered a success when a pair of red-cockaded woodpeckers have occupied the site for one complete year or have reproduced successfully. Reproduction is successful when eggs, nestlings, or fledglings from the new group are observed.

4.3 Translocation Activities

If at the end of the first year, no dispersals have occurred into the three artificial clusters, attempts will be made to obtain birds for translocation from other populations of red-cockaded woodpeckers in the southeast by attending the translocation meeting in Tallahassee, Florida with the purpose of securing bird(s) for translocation. Birds to be translocated will be placed in artificial cavities, screened, and released in the morning. If a bird is obtained for translocation, monitoring will occur as detailed in Section 4.2.

4.4 Implementation Schedule for Artificial Cavity Installations

The following schedule for artificial cluster sites is proposed to implement the procedures outlined above. Recruitment clusters with inserts will be constructed in three locations as previously described. All shrubs, including palmetto and wax-myrtle (*Myrica cenifera),* will be mowed for a minimum radius of 50 feet around all cavity trees within the artificial sites and all dead limbs or other dying vegetation will be removed from the vicinity of these cavity trees to ensure a low flame height during control burns. The following activities should be performed:

(1) prescribed burns in these red-cockaded woodpeckers habitats should be conducted on a regular basis as in the remaining forest management fire schedule;

(2) monitoring of artificial cavities to determine their continued suitability as roost sites for red-cockaded woodpeckers;

(3) monitoring of remaining red-cockaded woodpeckers groups on the SEC site for reproduction and possible translocation of young-of-the-year;

(4) annual monitoring and translocation activities until successful occupation and reproduction in the artificial cluster sites has occurred; and

(5) inspection for debris, predators, or competitors of the roost cavities occupied by the breeding males and females prior to each year's inspections of artificial cavities during the spring.

5.0 REPORTS

The following reports will be provided for the duration of the plant. Copies will be furnished to each of the respective agencies as shown in Table 5.

Table 5 Report Schedule for Management Plan Activities for the next Five-Years and Beyond, Curtis H. Stanton Energy Center, 2005

Report Name	Frequency	Due Date	Duration	Comments
RCW monitoring	Annual	August 2005	Life of Plant	Demographics-reproduction, etc.
Exotic species Control	Annual[1]	July 2007	Two years, as needed	Success of control, reapplication
Habitat Survey	Five Year Intervals	March 2006	Updated Every 5 years	Comparison with historic data
Saw palmetto reduction	One-two year	July 2007	Two years, as needed	As needed
Five Monitoring	Every 5 years	August, 2010	Covers all data collected	Summary of all completed studies
Fish & Wildlife Annual Monitoring Report	Annually	January 31, each year	Life of Facility	Required

Notes:

A five-year summary report will cover red-cockaded woodpecker demographics, the status of exotic and nuisance plant or animal species, and pine habitat characteristics. This report will include a recommendation to maintain eradication of exotic species over the next five years.

1) Report frequency will be annual until exotics are eradicated; thereafter, frequency will be on a five-year interval.

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Updated Figure 7 - Curtis H. Stanton Energy Center
Red-Cockaded Woodpecker Management Area

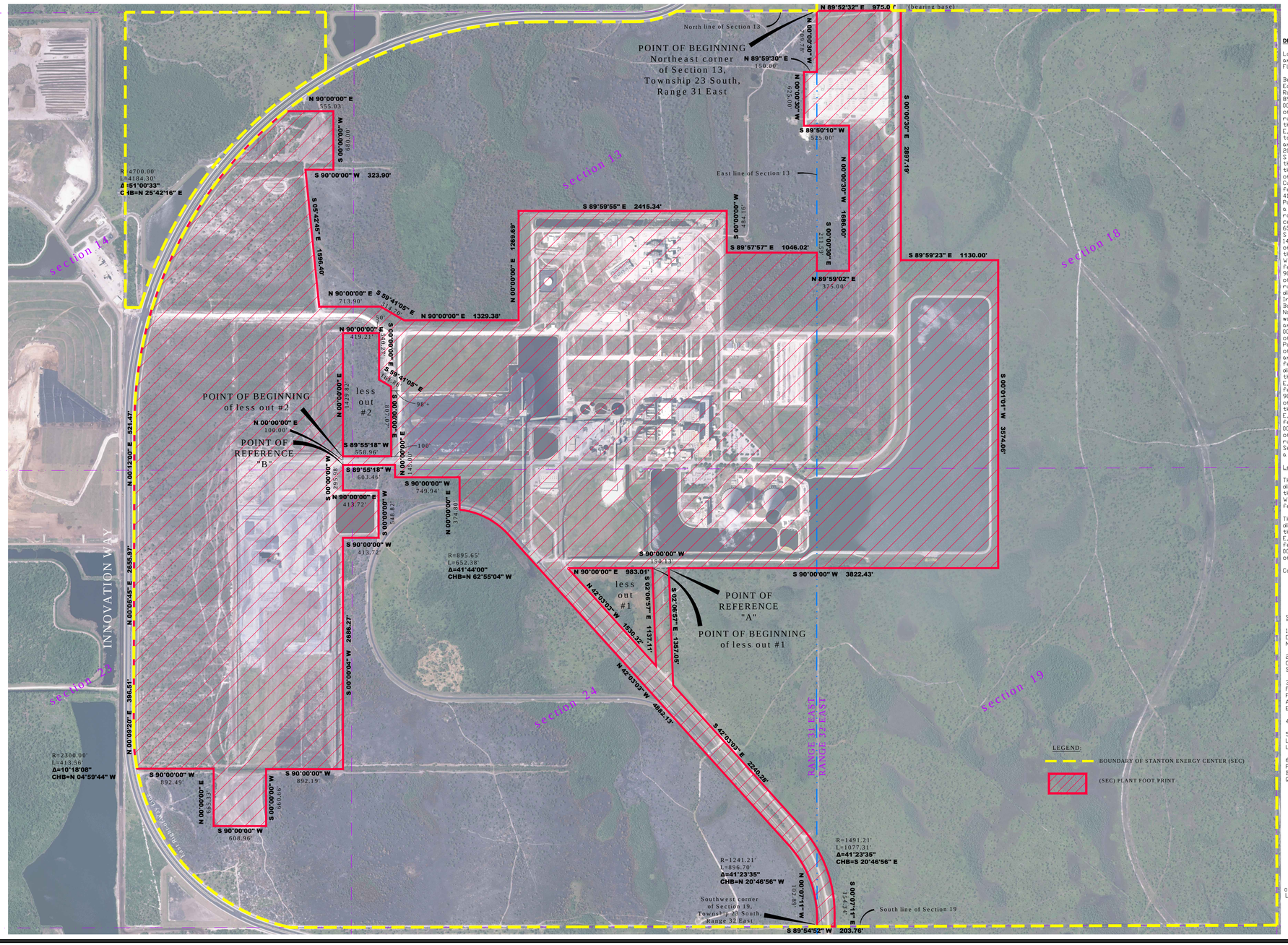
MAP OF RCW SET ASIDE HABITAT

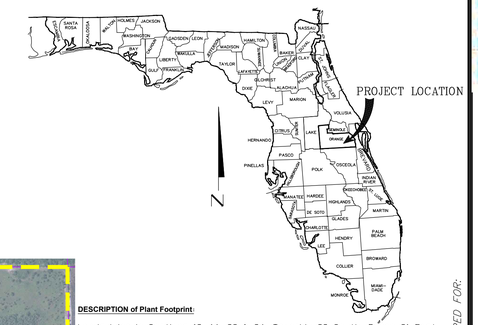
A PORTION OF

CURTIS H. STANTON ENERGY CENTER (SEC)

LOCATED IN

SECTIONS 13, 14, 23 & 24, TOWNSHIP 23 SOUTH, RANGE 31 EAST, and
SECTION 18 & 19, TOWNSHIP 23 SOUTH, RANGE 32 EAST
ORANGE COUNTY, FLORIDA





DESCRIPTION of Plant Footprint:

Lands lying in Sections 13, 14, 23 & 24, Township 23 South, Range 31 East and Sections 18 & 19, Township 23 South, Range 32 East, Orange County, Florida, being more particularly described as follows:

Begin at the Northeast corner of Section 13, Township 23 South, Range 31 East, also being the Northwest corner of Section 18, Township 23 South, Range 32 East; thence run along the North line of said Section 18, N 89°52'32" E, a distance of 975.00 feet; thence leaving said North line, run S 00°00'30" E, a distance of 2897.19 feet; thence run S89°59'23" E, a distance of 1130.00 feet; thence run S 00°01'01" W, a distance of 3574.06 feet; thence run S 90°00'00" W, a distance of 3822.43 feet to a Point of Reference "A"; thence run S 02°06'57" E, a distance of 1357.05 feet; thence run S 42°03'03" E, a distance of 2240.28 feet to a Point of Curvature, of a curve concave to the Southwest, having a radius of 1491.21 feet; thence run along the arc of said curve through a central angle of 41°23'35" and chord bearing S 20°46'56" E, a distance of 1077.31 feet to a Point of Tangency thence run S 00°07'11" E, a distance of 154.34 feet to the South line of said Section 19; the run along said South line, S 89°54'52" W, a distance of 203.76 feet to the Southwest corner of said Section 19; thence run along the West line of said Section 19, N 00°07'11" W, a distance of 102.89 feet to a Point of Curvature, of a curve concave to the Southwest, having a radius of 1241.21 feet; thence run along the arc of said curve through a central angle of 41°23'35" and chord bearing N 20°46'56" W, a distance of 896.70 feet to a Point of Tangency; thence run N 42°03'03" W, a distance of 4882.13 feet to a Point of Curvature, of a curve concave to the Southwest, having a radius of 895.65 feet; thence run along the arc of said curve through a central angle of 41°44'00" and chord bearing N 62°55'04" W, a distance of 652.38 feet; thence run N 00°00'00" E, a distance of 374.80 feet; thence run S 90°00'00"W, a distance 749.94 feet; thence run N 00°00'00" E, a distance of 145.00 feet; thence run S89°55'18" W, a distance of 603.46 feet to a Point of Reference "B"; thence run S 00°00'00" W, a distance of 295.98 feet; thence run N 90°00'00" E, a distance of 413.72 feet; thence run S 00°00'00" W, a distance of 548.82 feet; thence run S 90°00'00" W, a distance of 413.72 feet; thence run S 00°00'04" W, a distance of 2686.27 feet; thence run S 90°00'00" W, a distance of 892.19 feet; thence run S 00°00'00" W, a distance of 660.66 feet; thence run S 90°00'00" W, a distance of 608.96 feet; thence run N 00°00'00" E, a distance of 665.33 feet; thence run S 90°00'00" W, a distance of 892.49 feet to a point on the East Right of Way Line of Innovation Way (aka Alafaya Trail extension) as recorded in OFficial Records Book 8964, at Page 3164, said point lying on a curve, concave to the Northeast, having a radius of 2300.00 feet; thence run along said right of way line, along the arc of said curve through a central angle of 10°18'08" and chord bearing N 04°59'44" W, a distance of 413.56 feet; thence run N 00°09'20" E, a distance of 396.51 feet; thence run N 00°06'45" E, a distance of 2655.97 feet; thence run N 00°12'00" E, a distance of 521.47 feet to a Point of Curvature, of a curve concave to the Southeast, having a radius of 4700.00 feet; thence run along the arc of said curve through a central angle of 51°00'33" and chord bearing N 25°42'16" E, a distance of 4184.30 feet; thence leaving said East Right of Way Line, run N 90°00'00" E, a distance of 555.03 feet; thence run S 00°00'00" W, a distance of 680.00 feet; thence run S 90°00'00" W, a distance of 323.90 feet; thence run S 05°42'45" E, a distance of 1596.40 feet; thence run N 90°00'00" E, a distance of 713.90 feet; thence run S 59°41'05" E, a distance of 314.70 feet; thence run N 90°00'00" E, a distance of 1329.38 feet; thence run N 00°00'00" E, a distance of 1269.69 feet; thence run N 89°59'55" E, a distance of 2415.34 feet; thence run S 00°00'00" W, a distance of 484.16 feet; thence run S 89°57'57" E, a distance of 1046.02 feet; thence run S 00°00'30" E, a distance of 211.59 feet; thence run N 89°59'02" E, a distance of 375.00 feet; thence run N 00°00'30" W, a distance of 1686.00 feet; thence run S 89°50'10" W, a distance of 525.00 feet; thence run N 00°00'30" W, a distance of 625.00 feet; thence run N 89°59'30" E, a distance of 150.00 feet to the East line of said Section 13; thence run along the East line of said Section 13, N 00°00'30" W, a distance of 709.78 feet to the Point of Beginning;

Less and Except:

Thence return to said Point of Reference "A", thence run S 90°00'00" W, a distance of 190.13 feet to for the Point of Beginning of the "less out #1"; thence run S 02°06'57" E, a distance of 1137.11 feet; thence run N 42°03'03" W, a distance of 1530.32 feet; thence run N 90°00'00" E, a distance of 983.01 feet to the Point of Beginning of the "less out #1"

Thence return to said Point of Reference "B", thence run N 00°00'00" E a distance of 100.00 feet to for the Point of Beginning of the "less out #2"; thence run N 00°00'00" E, a distance of 1429.82 feet; thence run N 00°00'00" E, a distance of 419.21 feet; thence run S 00°00'00" E, a distance of 540.27 feet; thence run S 59°41'05" E, a distance of 161.88 feet; thence run S 00°00'00" E, a distance of 80.707 feet; thence run S 89°55'18" W, a distance of 558.96 feet to the Point of Beginning of the "less out #2".

Containing 1034 acres more or less.

LAST DAY IN FIELD: n/a

SURVEYOR'S NOTES:

1) THIS MAP OF DESCRIPTION IS NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF THE SIGNING FLORIDA LICENSED SURVEYOR AND MAPPER.

2) THE CONFIGURATION OF THE LANDS DESCRIBED HEREON WAS PROVIDED BY THE CLIENT. DIMENSIONS PRIMARILY DEVELOPED BY SCALING AND PROTRACTING FROM SOURCE AERIAL IMAGERY.

3) THE BEARINGS AND DISTANCES SHOWN ON THIS SURVEY ARE RELATIVE TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, TRANSVERSE MERCATOR PROJECTION, FLORIDA EAST ZONE (FL E 0901), NORTH AMERICAN DATUM OF 1983/2007 ADJUSTMENT WITH THE NORTH LINE OF SECTION 18, TOWNSHIP 23SOUTH, RANGE 31 EAST BEING N 89°52'32" E.

4) THIS IS NOT A BOUNDARY SURVEY.

5) THIS MAP OF DESCRIPTION DOES NOT ADDRESS THE IDENTIFICATION OR LOCATION OF JURISDICTIONAL WETLANDS OR SOVEREIGN LANDS (IF ANY) THAT MAY LIE WITHIN OR ADJACENT TO THE LANDS DESCRIBED.

6) SOURCE OF AERIAL IMAGERY: THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, DIVISION OF STATE LANDS, BUREAU OF SURVEY AND MAPPING, LAND BOUNDARY INFORMATION SYSTEM WEBSITE, dlabins.org), DIGITAL ORTHOGRAPHIC QUARTER QUAD, DATED 2008.

ROBERT M. JONES
FLORIDA PROFESSIONAL SURVEYOR AND MAPPER
LICENSE No. LS 4201

PREPARED BY:

MACTEC
MACTEC Engineering & Consulting, Inc.
4150 North John Young Parkway Orlando, Florida 32804-2620
Phone: 407.522.7570 Fax: 407.522.7576
CERTIFICATE OF AUTHORIZATION: LB 6989

PREPARED FOR:

ORLANDO UTILITIES COMMISSION
5971 Perishing Avenue
Orlando, Florida 32822
Phone: 407-384-4077

REVISION	DATE

REVISION	DATE
added less out #2	01/08/10
revised title & boundary	06/16/15

COUNTY: ORANGE	DWG. DATE: 06.15.09		
Field Books: n/a	PHOTO DATE:		
OFF. NO.: 6374080385	DRAWN BY: P.E.W.		
DWG. NAME: Red-Cockaded.dwg	CHECKED BY: R.M.J.		

PROJECT TITLE: MAP OF DESCRIPTION of a portion of
CURTIS H. STANTON ENERGY CENTER
SECTIONS 13, 14, 23 & 24, TOWNSHIP 23 SOUTH, RANGE 31 EAST, and SECTION 18 & 19, TOWNSHIP 23 SOUTH, RANGE 32 EAST
ORANGE COUNTY, FLORIDA

SHEET NO. 1 OF 1

Attachment E

2015 Florida List of Invasive Species

Florida Exotic Pest Plant Council's 2015 List of Invasive Plant Species

Purpose of the List: *To focus attention on —*

- the adverse effects of exotic pest plants on Florida's biodiversity and native plant communities,
- the habitat losses in natural areas from exotic pest plant infestations,
- the impacts on endangered species via habitat loss and alteration,
- the need for pest plant management,
- the socio-economic impacts of these plants (e.g., increased wildfires or flooding in certain areas),
- changes in the severity of different pest plant infestations over time,
- providing information to help managers set priorities for research and control programs.

CATEGORY I

Invasive exotics that are altering native plant communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives. *This definition does not rely on the economic severity or geographic range of the problem, but on the documented ecological damage caused.*

Scientific Name	Common Name	FLEPPC Category	Gov. List	Regional Distribution
Abrus precatorius	rosary pea	I	N	C, S
Acacia auriculiformis	earleaf acacia	I		C, S
Albizia julibrissin	mimosa, silk tree	I		N, C
Albizia lebbeck	woman's tongue	I		C, S
Ardisia crenata (*A. crenulata* misapplied)	coral ardisia	I	N	N, C, S
Ardisia elliptica (*A. humilis* misapplied)	shoebutton ardisia	I	N	C, S
Asparagus aethiopicus (*A. sprengeri; A. densiflorus* misapplied)	asparagus-fern	I		N, C, S
Bauhinia variegata	orchid tree	I		C, S
Bischofia javanica	bishopwood	I		C, S
Calophyllum antillanum (*C. calaba* misapplied)	Santa Maria, mast wood, Antilles calophyllum	I		S
Casuarina equisetifolia	Australian-pine, beach sheoak	I	P, N	N, C, S
Casuarina glauca	suckering Australian-pine, gray sheoak	I	P, N	C, S
Cinnamomum camphora	camphor tree	I		N, C, S
Colocasia esculenta	wild taro	I		N, C, S
Colubrina asiatica	lather leaf	I	N	S
Cupaniopsis anacardioides	carrotwood	I	N	C, S
Deparia petersenii	Japanese false spleenwort	I		N, C
Dioscorea alata	winged yam	I	N	N, C, S
Dioscorea bulbifera	air-potato	I	N	N, C, S
Dolichandra unguis-cati (=*Macfadyena unguis-cati*)	cat's claw vine	I		N, C, S
Eichhornia crassipes	water-hyacinth	I	P	N, C, S
Eugenia uniflora	Surinam cherry	I		C, S
Ficus microcarpa (*F. nitida* and *F. retusa* var. *nitida* misapplied)[1]	laurel fig	I		C, S
Hydrilla verticillata	hydrilla	I	P, U	N, C, S
Hygrophila polysperma	green hygro	I	P, U	N, C, S
Hymenachne amplexicaulis	West Indian marsh grass	I		N, C, S
Imperata cylindrica (*I. brasiliensis* misapplied)	cogon grass	I	N, U	N, C, S
Ipomoea aquatica	water-spinach	I	P, U	C
Jasminum dichotomum	Gold Coast jasmine	I		C, S
Jasminum fluminense	Brazilian jasmine	I		C, S
Lantana camara (= *L. strigocamara*)	lantana, shrub verbena	I		N, C, S
Ligustrum lucidum	glossy privet	I		N, C
Ligustrum sinense	Chinese privet, hedge privet	I	N[2]	N, C, S
Lonicera japonica	Japanese honeysuckle	I		N, C, S
Ludwigia hexapetala	Uruguay waterprimrose	I		N, C
Ludwigia peruviana	Peruvian primrosewillow	I		N, C, S
Lumnitzera racemosa	kripa; white-flowered mangrove; black mangrove	I		S
Luziola subintegra	Tropical American water grass	I		S
Lygodium japonicum	Japanese climbing fern	I	N	N, C, S

[1]Does not include *Ficus microcarpa* subsp. *fuyuensis*, which is sold as "Green Island Ficus"
[2] Chinese privet is a FLDACS Noxious Weed except for the cultivar 'Variegatum'

FLEPPC List Definitions:

Exotic – a species introduced to Florida, purposefully or accidentally, from a natural range outside of Florida.

Native – a species whose natural range includes Florida.

Naturalized exotic – an exotic that sustains itself outside cultivation (it is still exotic; it has not "become" native).

Invasive exotic – an exotic that not only has naturalized, but is expanding on its own in Florida native plant communities.

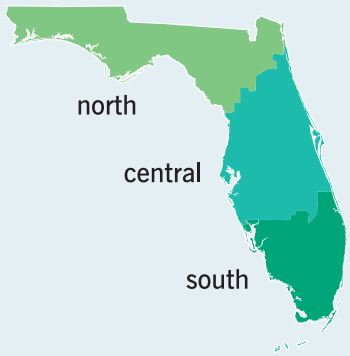
Abbreviations:

Government List (Gov. List):
P = Prohibited aquatic plant by the Florida Department of Agriculture and Consumer Services

N = Noxious weed listed by Florida Department of Agriculture & Consumer Services

U = Noxious weed listed by U.S. Department of Agriculture.

Regional Distribution:
N = north, C = central, S = south, referring to each species' current distribution in general regions of Florida (not its potential range in the state). Please refer to the map below.



Changes to the 2015 List:

New Category I Listings:

Sporobolus jacquemontii
(West Indian dropseed)

This weedy grass, a native of the West Indies and tropical America, was introduced into Florida in the early 1900s. In the 1980s-1990s, it was becoming noticeable, especially in pastures where it crowds out forage grasses. It is not palatable for cattle and is very difficult to control. In recent years, this weed has been advancing into natural areas such as palmetto prairies and open flatwoods. West Indian dropseed is a close relative of, and very similar in appearance to, smut grass, *Sporobolus indicus*, leading to confusion with identification. The seedheads of both grasses can be affected by a smut fungus that leaves the seeds black and unfertile. Both grasses have spike-like seedheads. West Indian dropseed is taller, usually about 3-4 feet tall, with spreading seedhead branches. Smut grass is usually 1-2 feet tall with a tight cylindrical spike. Both species are very weedy, but West Indian dropseed is the one that has started invading native habitats.

David Hall

Vitex rotundifolia
(Beach vitex)

Beach vitex is a deciduous shrub that can grow to 1.5 m (5′). The nodal rooting system can extend 10m (34′) with stems that can extend over 6m (20′) from the main taproot. Young stems are green with fleshy tips that become larger in diameter, brown, and woody with age. Vitex has simple aromatic leaves that are sometimes palmately trifoliate. Leaves are 2-6.5 cm long and 1-4.5 cm wide. The flower is purple in color and appears in late spring to early summer. Vitex can be found on dunes, vacant lots, and along public right-of-ways.

Rick O'Connor, Florida Sea Grant/ University of Florida

New Category II Listings:

Crassocephalum crepidioides
(redflower ragleaf)

Crassocephalum crepidioides is a member of the Aster family native to tropical Africa. This erect herb has a soft stem with lobed leaves and red flowers, with high seed production of more than 4000 per plant. Seeds are dispersed by the wind. First found

Scientific Name	Common Name	FLEPPC Category	Gov. List	Regional Distribution
Lygodium microphyllum	Old World climbing fern	I	N, U	C, S
Macfadyena unguis-cati (see *Dolichandra unguis-cati*)				
Manilkara zapota	sapodilla	I		S
Melaleuca quinquenervia	melaleuca, paper bark	I	P, N, U	C, S
Melinis repens (= *Rhynchelytrum repens*)	Natal grass	I		N, C, S
Mimosa pigra	catclaw mimosa	I	P, N, U	C, S
Nandina domestica	nandina, heavenly bamboo	I		N, C
Nephrolepis brownii (= *N. multiflora*)	Asian sword fern	I		C, S
Nephrolepis cordifolia	sword fern	I		N, C, S
Neyraudia reynaudiana	Burma reed, cane grass	I	N	S
Nymphoides cristata	crested floating heart	I	N	C, S
Paederia cruddasiana	sewer vine, onion vine	I	N	S
Paederia foetida	skunk vine	I	N	N, C, S
Panicum repens	torpedo grass	I		N, C, S
Pennisetum purpureum	Napier grass, elephant grass	I		N, C, S
Phymatosorus scolopendria	serpent fern, wart fern	I		S
Pistia stratiotes	water-lettuce	I	P	N, C, S
Psidium cattleianum (= *P. littorale*)	strawberry guava	I		C, S
Psidium guajava	guava	I		C, S
Pueraria montana var. *lobata* (= *P. lobata*)	kudzu	I	N	N, C, S
Rhodomyrtus tomentosa	downy rose-myrtle	I	N	C, S
Rhynchelytrum repens (See *Melinis repens*)				
Ruellia simplex[1]	Mexican petunia	I		N, C, S
Salvinia minima	water spangles	I		N, C, S
Sapium sebiferum (= *Triadica sebifera*)	popcorn tree, Chinese tallow tree	I	N	N, C, S
Scaevola taccada (= *Scaevola sericea, S. frutescens*)	scaevola, half-flower, beach naupaka	I	N	C, S
Schefflera actinophylla (= *Brassaia actinophylla*)	schefflera, Queensland umbrella tree	I		C, S
Schinus terebinthifolius	Brazilian-pepper	I	P, N	N, C, S
Scleria lacustris	Wright's nutrush	I		C, S
Senna pendula var. *glabrata* (= *Cassia coluteoides*)	climbing cassia, Christmas cassia, Christmas senna	I		C, S
Solanum tampicense (= *S. houstonii*)	wetland nightshade, aquatic soda apple	I	N, U	C, S
Solanum viarum	tropical soda apple	I	N, U	N, C, S
*Sporobolus jacquemontii**	West Indian dropseed	I		C, S
(= *S. indicus var. pyramidalis*)				
Syngonium podophyllum	arrowhead vine	I		N, C, S
Syzygium cumini	jambolan-plum, Java-plum	I		C, S
Tectaria incisa	incised halberd fern	I		S
Thespesia populnea	seaside mahoe	I		C, S
Tradescantia fluminensis	small-leaf spiderwort	I		N, C
Urena lobata	Caesar's weed	I		N, C, S
Urochloa mutica (= *Brachiaria mutica*)	Para grass	I		C, S
*Vitex rotundifolia**	beach vitex	I		N

CATEGORY II

Invasive exotics that have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category I species. *These species may become ranked Category I if ecological damage is demonstrated.*

Scientific Name	Common Name	FLEPPC Category	Gov. List	Regional Distribution
Adenanthera pavonina	red sandalwood	II		S
Agave sisalana	sisal hemp	II		C, S
Aleurites fordii (= *Vernicia fordii*)	tung oil tree	II		N, C
Alstonia macrophylla	devil tree	II		S
Alternanthera philoxeroides	alligator weed	II	P	N, C, S
Antigonon leptopus	coral vine	II		N, C, S
Ardisia japonica	Japanese ardisia	II		N
Aristolochia littoralis	calico flower	II		N, C, S

[1]Many names are applied to this species in Florida because of a complicated taxonomic and nomenclatural history. Plants cultivated in Florida, all representing the same invasive species, have in the past been referred to as *Ruellia brittoniana, R. tweediana, R. caerulea,* and *R. simplex*.
*Added to the FLEPPC List of Invasive Plant Species in 2015

Scientific Name	Common Name	FLEPPC Category	Gov. List	Regional Distribution
Asystasia gangetica	Ganges primrose	II		C, S
Begonia cucullata	wax begonia	II		N, C, S
Blechum pyramidatum (see *Ruellia blechum*)				
Broussonetia papyrifera	paper mulberry	II		N, C, S
Bruguiera gymnorrhiza	large-leaved mangrove	II		S
Callisia fragrans	inch plant, spironema	II		C, S
Casuarina cunninghamiana	river sheoak, Australian-pine	II	P	C, S
Cecropia palmata	trumpet tree	II		S
Cestrum diurnum	day jessamine	II		C, S
Chamaedorea seifrizii	bamboo palm	II		S
Clematis terniflora	Japanese clematis	II		N, C
Cocos nucifera	coconut palm	II		S
*Crassocephalum crepidioides**	redflower ragleaf, Okinawa spinach	II		C, S
Cryptostegia madagascariensis	rubber vine	II		C, S
Cyperus involucratus (*C. alternifolius* misapplied)	umbrella plant	II		C, S
Cyperus prolifer	dwarf papyrus	II		C, S
Dactyloctenium aegyptium	Durban crowfoot grass	II		N, C, S
Dalbergia sissoo	Indian rosewood, sissoo	II		C, S
Elaeagnus pungens	silverthorn, thorny olive	II		N, C
Elaeagnus umbellata	silverberry, autumn olive	II		N
Epipremnum pinnatum cv. Aureum	pothos	II		C, S
Eulophia graminea	Chinese crown orchid	II		S
Ficus altissima	false banyan, council tree	II		S
Flacourtia indica	governor's plum	II		S
Hemarthria altissima	limpo grass	II		C, S
*Heteropterys brachiata**	red wing	II		S
Hibiscus tiliaceus (See *Talipariti tiliaceum*)				
Hyparrhenia rufa	jaragua	II		N, C, S
Ipomoea carnea ssp. *fistulosa* (= *I. fistulosa*)	shrub morning-glory	II	P	C, S
Kalanchoe pinnata (= *Bryophyllum pinnatum*)	life plant	II		C, S
Koelreuteria elegans ssp. *formosana* (= *K. formosana; K. paniculata* misapplied)	flamegold tree	II		C, S
Landoltia punctata (= *Spirodela punctata*)	spotted duckweed	II		N, C, S
Leucaena leucocephala	lead tree	II	N	N, C, S
Limnophila sessiliflora	Asian marshweed	II	P, U	N, C, S
Livistona chinensis	Chinese fan palm	II		C, S
Macroptilium lathyroides	phasey bean	II		N, C, S
Melaleuca viminalis (= *Callistemon viminalis*)	bottlebrush, weeping bottlebrush	II		C, S
Melia azedarach	Chinaberry	II		N, C, S
Melinis minutiflora	molasses grass	II		C,S
Merremia tuberosa	wood-rose	II		C, S
Mikania micrantha	mile-a-minute vine	II	N, U	S
Momordica charantia	balsam apple, balsam pear	II		N, C, S
Murraya paniculata	orange-jessamine	II		S
Myriophyllum spicatum	Eurasian water-milfoil	II	P	N, C, S
Panicum maximum (= *Urochloa maxima, Megathyrsus maximus*)	Guinea grass	II		N, C, S
Passiflora biflora	two-flowered passion vine	II		S
Pennisetum setaceum	green fountain grass	II		S
Phoenix reclinata	Senegal date palm	II		C, S
Phyllostachys aurea	golden bamboo	II		N, C
Pittosporum pentandrum	Philippine pittosporum, Taiwanese cheesewood	II		S
*Praxelis clematidea**	praxelis	II		C
Pteris vittata	Chinese brake fern	II		N, C, S
Ptychosperma elegans	solitaire palm	II		S
Rhoeo spathacea (see *Tradescantia spathacea*)				

*Added to the FLEPPC List of Invasive Plant Species in 2015

in the US in 1997 in Miami-Dade County, redflower ragleaf was documented in the panhandle in Escambia County in 2012.

Patricia L. Howell

Heteropterys brachiata
(red wing)

Heteropterys brachiata or "redwing" is a liana (woody vine) in the Malpighiaceae family. It is native to Mexico, Central America and South America. Redwing seedlings dominate the understory of hardwood hammocks, and older plants twine up into the canopy where their flowers and fruits are present, but out of reach, in winter months. The fruits of redwing are deep red, wind-dispersed samaras; hence the name "redwing."

Jennifer Possley, Fairchild Tropical Botanic Garden

Praxelis clematidea
(Praxelis)

Praxelis clematidea is an Aster with lavender colored flowers from South America. Its short life cycle and propensity to be moved by vehicles contribute to its recent invasion in Central Florida. Look for young, light green plants with irregularly toothed leaves that soon flower, and then develop tough stems and bases. Flowers are a series of florets produced in heads, each producing a single, bristle-topped seed that is seated on a conical receptacle. This key character is easy to see because the phyllaries fall to reveal the receptacle when the head is in fruit.

Colette Jacono

Spermacoce verticillata
(scrubby false buttonweed)

A common weed of disturbed sites for over 80 years, *Spermacoce verticillata* is advancing into natural areas, especially in southern Florida. A member of the coffee family, Rubiaceae, plants are best known for their nearly woody, multiple branched structure, opposite, stalkless leaves often clustered in a whorl; and axillary, cylindrical heads of densely packed flowers. Distinguish this species from our natives by its tubular white flowers that are no longer than 1mm and fruits that are less than 1.5mm long.

Colette Jacono

Use of the FLEPPC List

The FLEPPC List of Invasive Plant Species is not a regulatory list. Only those plants listed as Federal Noxious Weeds, Florida Noxious Weeds, Florida Prohibited Aquatic Plants, or in local ordinances are regulated by law. FLEPPC encourages use of the Invasive Species List for prioritizing and implementing management efforts in natural areas, for educating lay audiences about environmental issues, and for supporting voluntary invasive plant removal programs. For more information on using the FLEPPC List of Invasive Plant Species, see *Proper Uses of FLEPPC Invasive Plant Lists* at www.fleppc.org/list/list.htm

NOTE: Not all exotic plants brought into Florida become pest plants in natural areas. The FLEPPC List of Invasive Plant Species represents only about 11% of more than 1,400 exotic species that have been introduced into Florida and have subsequently established outside of cultivation. Most escaped exotics usually present only minor problems in highly disturbed areas (such as road-sides). And there are other exotics cultivated in Florida that are "well-behaved" — that is, they don't escape cultivation at all.

www.fleppc.org

Scientific Name	Common Name	FLEPPC Category	Gov. List	Regional Distribution
Richardia grandiflora	large flower Mexican clover	II		N, C, S
Ricinus communis	castor bean	II		N, C, S
Rotala rotundifolia	roundleaf toothcup, dwarf Rotala, redweed	II		S
Ruellia blechum (= *Blechum brownei*)	green shrimp plant, Browne's blechum	II		N, C, S
Sansevieria hyacinthoides	bowstring hemp	II		C, S
Sesbania punicea	purple sesban, rattlebox	II		N, C, S
Solanum diphyllum	two-leaf nightshade	II		N, C, S
Solanum torvum	susumber, turkey berry	II	N, U	N, C, S
*Spermacoce verticillata**	shrubby false buttonweed	II		C, S
Sphagneticola trilobata (= *Wedelia trilobata*)	wedelia	II		N, C, S
Stachytarpheta cayennensis (= *S. urticifolia*)	nettle-leaf porterweed	II		S
Syagrus romanzoffiana (= *Arecastrum romanzoffianum*)	queen palm	II		C, S
Syzygium jambos	Malabar plum, rose-apple	II		N, C, S
Taliparíti tiliaceum (= *Hibiscus tiliaceus*)	mahoe, sea hibiscus	II		C, S
Terminalia catappa	tropical-almond	II		C, S
Terminalia muelleri	Australian-almond	II		C, S
Tradescantia spathacea (= *Rhoeo spathacea, Rhoeo discolor*)	oyster plant	II		S
Tribulus cistoides	puncture vine, burr-nut	II		N, C, S
Vitex trifolia	simple-leaf chaste tree	II		C, S
Washingtonia robusta	Washington fan palm	II		C, S
Wedelia (see *Sphagneticola* above)				
Wisteria sinensis	Chinese wisteria	II		N, C
Xanthosoma sagittifolium	malanga, elephant ear	II		N, C, S

Citation example:
FLEPPC. 2015. List of Invasive Plant Species. Florida Exotic Pest Plant Council. http://www.fleppc.org/list/list.htm

The 2015 list was prepared by the FLEPPC Plant List Committee:

Stephen H. Brown, UF/IFAS Lee County Extension, Parks and Recreation Division, 3410 Palm Beach Blvd., Fort Myers, FL 33916, (239) 533-7513, brownsh@ufl.edu

Janice Duquesnel, Florida Park Service, Florida Department of Environmental Protection, 77200 Overseas Highway, Islamorada, FL 33063, (305) 664-8455, Janice.Duquesnel@dep.state.fl.us

David W. Hall, Private Consulting Botanist and Author, 3666 NW 13th Place, Gainesville, FL 32605, (352) 375-1370

Roger L. Hammer, Retired Naturalist and Author, 17360 Avocado Drive, Homestead, FL 33030, kaskazi44@comcast.net

Patricia L. Howell, Chair (2012-present), Broward County Parks, Natural Resource and Land Management Section, 950 NW. 38th St., Oakland Park, FL 33309, (954) 357-8137, phowell@broward.org

Colette C. Jacono, Florida Museum of Natural History, PO Box 110575, Gainesville, FL 32611, (352) 318-2931, colettej@ufl.edu

Kenneth A. Langeland, Professor Emeritus, University of Florida/IFAS, Center for Aquatic and Invasive Plants, 7922 NW. 71st Street, Gainesville, FL 32653, (352) 214-8918, gator8@ufl.edu

Chris Lockhart, Habitat Specialists, Inc., P. O. Box 243116, Boynton Beach, FL 33424,(561) 738-1179, chris@lockharts.org

Jean McCollom, Natural Ecosystems, 985 Sanctuary Road, Naples, FL 34120, (239) 304-1847, jeanm@naples.net

Gil Nelson, Florida State University/iDigBio, 157 Leonard's Dr., Thomasville, GA 31792, gnelson@bio.fsu.edu

Jimi L. Sadle, Everglades National Park, 40001 State Road 9336, Homestead, FL 33034, (305) 242,7806, Jimi_Sadle@nps.gov

Jessica Spencer, US Army Corp of Engineers, 701 San Marco Boulevard, Jacksonville, FL 32207, (904) 232-1696, Jessica.E.Spencer@usace.army.mil

Arthur Stiles, Florida Park Service, Florida Department of Environmental Protection, 4620 State Park Lane, Panama City, FL 32408, (850) 233-5110, arthurstiles@dep.state.fl.us

Daniel B. Ward, Department of Botany, University of Florida, 220 Bartram Hall, Gainesville, FL 32611

Richard P. Wunderlin, Institute for Systematic Botany, Department of Cell Biology, Microbiology & Molecular Biology, University of South Florida, 4202 E. Fowler Ave., ISA 2015, Tampa, FL 33620, (813) 974-2359, rwunder@usf.edu

The Early Detection and Distribution Mapping System (EDDMapS) holds records of reported sighting of invasive species in Florida. Most records are from local, state, and federal parks and preserves; a few records document infestations in regularly disturbed public lands such as highways or utility rights-of-way. Natural area managers, veteran observers of Florida's natural landscapes, and others submit these records, with many supported further by voucher specimens housed in local or regional herbaria for future reference and verification. New and updated observations can be submitted online at EDDMapS [www.eddmaps.org/florida/]. All reports are verified by an expert. This database, along with other plant data resources such as the University of South Florida's Atlas of Florida Vascular Plants [www.plantatlas.usf.edu], the Florida Natural Areas Inventory database [www.fnai.org], and The Institute for Regional Conservation Floristic Inventory of South Florida database [www.regionalconservation.org], provides important basic supporting information for the FLEPPC List of Invasive Plant Species. Greater success and accuracy in searching for plant information is likely if you search by scientific name rather than common name. Common names often vary in cultivation and across regions.

*Added to the FLEPPC List of Invasive Plant Species in 2015

Attachment F

Monitoring Plan Implementation Schedule

(To Be Provided by FDEP)

APPENDICES

Appendix I

NPDES Permit

Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

NOTICE OF PERMIT

CERTIFIED MAIL

In the Matter of an
Application for Permit by:
Orlando Utilities Commission (OUC)
Curtis H Stanton Energy Center
5100 South Alafaya Trail
Orlando, FL 32831

DEP File # FL0681661-IW1S/NR
Orange County

Attention: Mr. Rosario Caraccioli

Enclosed is Permit Number FL0681661 to Orlando Utilities Commission (OUC), 100 West Anderson Street, Orlando Florida, for continued operation of Curtis H Stanton Energy Center, issued under Section 403.0885, Florida Statutes and DEP Rule 62-620, Florida Administrative Code.

Any party to this order (permit) has the right to seek judicial review of the permit under Section 120.68, Florida Statutes, by the filing of a Notice of Appeal under Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, with the Clerk of the Department of Environmental Protection, Office of General Counsel, Mail Station 35, 3900 Commonwealth Boulevard, 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 thirty days after this notice is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Mark P. Thomasson, P.E.
Director
Division of Water Resource Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of business on 06-22-2011 to the listed persons.

[Clerk Stamp]

FILING AND ACKNOWLEDGMENT

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

G. Shields 06-22-2011
(Clerk) (Date)

Copies furnished by certified mail to:
Mark Nuhfer, NPDES Permitting Section, EPA Region 4, Atlanta, GA
Chairman, Board of Orange County Commissioners

Copies furnished by First Class mail to:
Denise Stalls, OUC
Florida Fish and Wildlife Conservation Commission, Conservation Planning Services
U.S. Fish & Wildlife Services

Copies furnished by intradepartmental mail to:
Chris Ferraro, P.E., DEP Orlando
Gary Miller, DEP Orlando

Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

STATE OF FLORIDA
INDUSTRIAL WASTEWATER FACILITY PERMIT

PERMITTEE:
Orlando Utilities Commission (OUC)

RESPONSIBLE OFFICIAL:
Mr. Rosario Caraccioli
5100 South Alafaya Trail
Orlando, Florida 32831

PERMIT NUMBER: FL0681661-001 (Major)
FILE NUMBER: FL0681661-001-IW1S
ISSUANCE DATE: **June 24, 2011**
EXPIRATION DATE: **June 23, 2016**

FACILITY:

Curtis H Stanton Energy Center
5100 South Alafaya Trail
Orlando, FL 32831
Orange County
Latitude: 28° 28' 43" N Longitude: 81° 09' 25" W

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and applicable rules of the Florida Administrative Code (F.A.C.) and constitutes authorization to discharge to waters of the state under the National Pollutant Discharge Elimination System. This permit does not constitute authorization to discharge wastewater other than as expressly stated in this permit. The above named permittee is hereby authorized to operate the facilities in accordance with the documents attached hereto and specifically described as follows:

FACILITY DESCRIPTION:
The Curtis H Stanton Energy Center plant consists of two coal-fired steam electric generating units (Unit 1 and 2) with a total generating capacity of 930 megawatts, a 633 megawatt gas-fired combined cycle unit known as Combined Cycle Unit A, and a 300 megawatt duel fueled (natural gas/ No. 2 fuel oil) combined cycle unit know as Unit B.

The plant utilizes a closed-loop recycle cooling water system that provides condenser cooling water for Units 1 and 2. Cooling towers are used for heat rejection. Cooling tower make-up water is withdrawn for an on-site makeup water supply storage pond. Source water for the makeup pond includes the following: treated effluent from the Orange County Eastern Wastewater Treatment Facility, stormwater runoff for the Orange County Landfill, treated effluent from an on-site package wastewater treatment plant, stormwater runoff from roof and yard drains, distillate from the on-site brine concentrator, boiler blowdown, emergency overflow for the plant recycle basin, and direct precipitation to the pond. Water from the makeup pond is also used for the plant's reclaimed service water system. Discharge from the makeup pond's emergency overflow weir only occurs during extreme 100 year/1 day or 100 year/3 day rainfall events. The makeup pond emergency overflow weir discharges to on-site wetlands that flows to Cowpen Branch and then to the Econlockkatchee River. Cowpen Branch and Econlockhatchee River are Class III, fresh waters.

On-site lined storage ponds at the plant include the recycle basin, coal pile runoff pond, and the combustion solid waste area runoff pond. Each pond contains a drainage collection system beneath the pond liners that serve as a groundwater suppression system to prevent pond liner uplift when the water levels in the ponds are low or the groundwater on-site is high due to heavy rainfall. The drainage system from each ponds periodically discharges through their respective outfall structures to adjacent on-site wetlands.

WASTEWATER TREATMENT:

All low volume wastewater from the plant as well as on-site storage pond overflows and cooling tower blowdown are routed to the recycle basin. Discharge from the recycle basin is routed to a brine concentrator that recovers the majority of the water as high quality distillate that discharges either to the cooling tower basin or makeup pond. The concentrated salts from the brine concentrator are dewatered for disposal in the solid waste disposal area.

REUSE OR DISPOSAL:

Surface Water Discharge D-001: An existing discharge of makeup pond overflow to Cowpen Branch and thus to the Econlockhatchee River, Class III Fresh Waters, (WBID's 3043 and 2991, respectively). The point of discharge is located approximately at latitude 28°28' 43" N, longitude 81°9' 25" W.

Surface Water Discharge D-002: An existing discharge from the recycle basin liner drainage system to Cowpen Branch and thus to Econlockhatchee River, Class III Fresh Waters, (WBID's 3043 and 2991, respectively). The point of discharge is located approximately at latitude 28°28' 43" N, longitude 81°9' 25" W.

Surface Water Discharge D-003: An existing discharge from the coal runoff pond liner drainage system to Hart Branch and thus to Econlockhatchee River, Class III Fresh Waters, (WBID's 3043 and 2991, respectively). The point of discharge is located approximately at latitude 28°28' 43" N, longitude 81°9' 25" W.

Surface Water Discharge D-004: An existing discharge from combustion waste pond liner drainage system to Green Branch and thus to Econlockhatchee River, Class III Fresh Waters, (WBID's 3043 and 2991, respectively). The point of discharge is located approximately at latitude 28°28' 43" N, longitude 81°9' 25" W.

Internal Outfall I-110: An existing internal discharge of boiler blowdown to the makeup pond.

Internal Outfall I-111: An existing internal discharge of brine concentrator distillate to the makeup pond.

IN ACCORDANCE WITH: The limitations, monitoring requirements and other conditions set forth in this Cover Sheet and Part I through Part IX on pages 1 through 22 of this permit.

I. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Surface Water Discharges

1. During the period beginning on the issuance date and lasting through the expiration date of this permit, the permittee is authorized to discharge Makeup Pond Overflow from Outfall D-001 to Cowpen Branch and thus to Econlockhatchee River. Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.C.3.:

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Cadmium, Total Recoverable	ug/L	Max	Report	Single Sample	Per Discharge	Grab	EFF-1	
Copper, Total Recoverable	ug/L	Max	Report	Single Sample	Per Discharge	Grab	EFF-1	
Lead, Total Recoverable	ug/L	Max	Report	Single Sample	Per Discharge	Grab	EFF-1	
Selenium, Total Recoverable	ug/L	Max	Report	Single Sample	Per Discharge	Grab	EFF-1	
Silver, Total Recoverable	ug/L	Max	Report	Single Sample	Per Discharge	Grab	EFF-1	
pH	s.u.	Max	Report	Single Sample	Per Discharge	Grab	EFF-1	
Temperature (C), Water	Degrees C	Max	Report	Single Sample	Per Discharge	Grab	EFF-1	
Nitrogen, Total	mg/L	Max	Report	Single Sample	Per Discharge	Grab	EFF-1	
Nitrogen, Ammonia, Total (as N)	mg/L	Max	Report	Single Sample	Per Discharge	Grab	EFF-1	
Ammonia, Unionized (as NH3)	mg/L	Max	Report	Single Sample	Per Discharge	Calculated	EFF-1	See I.A.3
Nitrogen, Kjeldahl, Total (as N)	mg/L	Max	Report	Single Sample	Per Discharge	Grab	EFF-1	
Nitrite plus Nitrate, Total (as N)	mg/L	Max	Report	Single Sample	Per Discharge	Grab	EFF-1	
Phosphorus, Total (as P)	mg/L	Max	Report	Single Sample	Per Discharge	Grab	EFF-1	
Phosphate, Ortho (as PO4)	mg/L	Max	Report	Single Sample	Per Discharge	Grab	EFF-1	
Acute Whole Effluent Toxicity, 96 Hour LC50 (Ceriodaphnia dubia)	percent	Min	100	Single Sample	Per Discharge	Grab	EFF-1	See I.A.4
Acute Whole Effluent Toxicity, 96 Hour LC50 (Cyprinella leedsi))	percent	Min	100	Single Sample	Per Discharge	Grab	EFF-1	See I.A.4

2. Effluent samples shall be taken at the monitoring site locations listed in Permit Condition I.A.1. and as described below:

Monitoring Site Number	Description of Monitoring Site
EFF-1	Makeup pond spillway.

3. Effluent samples for pH and temperature shall be monitored at the same time and location as the total ammonia grab sample which is used to calculate the unionized ammonia value. Unionized ammonia shall be calculated using the DEP Standard Operating Procedure for "Calculation of Un-Ionized Ammonia in Fresh Water" dated February 12, 2001. *[62-4.246(4) and [62-302.530(3)]*

4. The permittee shall comply with the following requirements to evaluate acute whole effluent toxicity of the discharge from Outfall D-001.

   a. Effluent Limitation
      (1) In any routine or additional follow-up test for acute whole effluent toxicity, the 96-hour LC50 shall not be less than 100% effluent. [Rules 62-302.200(1), 62-302.500(1)(a)4., 62-4.244(3)(a), and 62-4.241, F.A.C.]

   b. Monitoring Frequency
      (1) Routine toxicity tests shall be conducted upon discharge from D-001.
      (2) Upon completion of four consecutive, valid routine tests that demonstrate compliance with the effluent limitation in 4.a.(1) above, the permittee may submit a written request to the Department for a reduction in monitoring frequency to once every six months. The request shall include a summary of the data and the complete bioassay laboratory reports for each test used to demonstrate compliance. The Department shall act on the request within 45 days of receipt. Reductions in monitoring shall only become effective upon the Department's written confirmation that the facility has completed four consecutive valid routine tests that demonstrate compliance with the effluent limitation in 4.a.(1) above.
      (3) If a test within the sequence of the four is deemed invalid based on the acceptance criteria in EPA-821-R-02-012, but is replaced by a repeat valid test initiated within 14 days after the last day of the invalid test, the invalid test will not be counted against the requirement for four consecutive valid tests for the purpose of evaluating the reduction of monitoring frequency.

   c. Sampling Requirements
      (1) All tests shall be conducted on a single grab sample of final effluent.

   d. Test Requirements
      (1) Routine Tests: All routine tests shall be conducted using a control (0% effluent) and a minimum of five dilutions: **100%, 75%, 50%, 25%**, and **12.5%** effluent.
      (2) The permittee shall conduct 96-hour acute static renewal multi-concentration toxicity tests using the daphnid, **Ceriodaphnia dubia**, and the bannerfin shiner, **Cyprinella leedsi**, concurrently.
      (3) All test species, procedures and quality assurance criteria used shall be in accordance with **Methods for Measuring Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms**, 5th Edition, EPA-821-R-02-012. Any deviation of the bioassay procedures outlined herein shall be submitted in writing to the Department for review and approval prior to use. In the event the above method is revised, the permittee shall conduct acute toxicity testing in accordance with the revised method.
      (4) The control water and dilution water shall be moderately hard water as described in EPA-821-R-02-012, Table 7.

   e. Quality Assurance Requirements
      (1) A standard reference toxicant (SRT) quality assurance (QA) acute toxicity test shall be conducted with each species used in the required toxicity tests either concurrently or initiated no more than 30 days before the date of each routine or additional follow-up test conducted. Additionally, the SRT test must

be conducted concurrently if the test organisms are obtained from outside the test laboratory unless the test organism supplier provides control chart data from at least the last five monthly acute toxicity tests using the same reference toxicant and test conditions. If the organism supplier provides the required SRT data, the organism supplier's SRT data and the test laboratory's monthly SRT-QA data shall be included in the reports for each companion routine or additional follow-up test required.

(2) If the mortality in the control (0% effluent) exceeds 10% for either species in any test, the test for that species (including the control) shall be invalidated and the test repeated. The repeat test shall begin within 14 days after the last day of the invalid test.

(3) If 100% mortality occurs in all effluent concentrations for either species prior to the end of any test and the control mortality is less than 10% at that time, the test (including the control) for that species shall be terminated with the conclusion that the test fails and constitutes non-compliance.

(4) Routine and additional follow-up tests shall be evaluated for acceptability based on the concentration-response relationship, as required by EPA-821-R-02-012, Section 12.2.6.2., and included with the bioassay laboratory reports.

f. Reporting Requirements

(1) Results from all required tests shall be reported on the Discharge Monitoring Report (DMR) as follows:

(a) Routine Test Results: If an LC50 >100% effluent occurs in for the test species, ">100%" shall be entered on the DMR for that test species. If an LC50 <100% effluent occurs, the calculated LC50 effluent concentration shall be entered on the DMR for that test species.

(b) Additional Follow-up Test Results: For each additional test required, the calculated LC50 value shall be entered on the DMR for that test species.

(2) A bioassay laboratory report for the routine test shall be prepared according to EPA-821-R-02-012, Section 12, Report Preparation and Test Review, and mailed to the Department at the address below within 30 days after the last day of the test.

(3) For additional follow-up tests, a single bioassay laboratory report shall be prepared according to EPA-821-R-02-012, Section 12, and mailed within 30 days after the last day of the second valid additional follow-up test.

(4) Data for invalid tests shall be included in the bioassay laboratory report for the repeat test.

(5) The same bioassay data shall not be reported as the results of more than one test.

(6) All bioassay laboratory reports shall be sent to:
Florida Department of Environmental Protection
Tallahassee Office
2600 Blair Stone Road, M.S. 3545
Tallahassee, Florida 32399-2400

g. Test Failures

(1) A test fails when the test results do not meet the limits in 4.a.(1).

(2) Additional Follow-up Tests:

(a) If a routine test does not meet the acute toxicity limitation in 4.a.(1) above, the permittee shall notify the Department at the address above within 21 days after the last day of the failed routine test and conduct two additional follow-up tests on each species that failed the test in accordance with 4.d.

(b) The first test shall be initiated within 28 days after the last day of the failed routine test. The remaining additional follow-up tests shall be conducted weekly thereafter until a total of two valid additional follow-up tests are completed.

(c) The first additional follow-up test shall be conducted using a control (0% effluent) and a minimum of five dilutions: 100%, 75%, 50%, 25%, and 12.5% effluent. The permittee may modify the dilution series in the second additional follow-up test to more accurately bracket the toxicity such that at least two dilutions above and two dilutions below the target concentration and a control (0% effluent) are run. All test results shall be statistically analyzed according to the procedures in EPA-821-R-02-012.

(3) In the event of three valid test failures (whether routine or additional follow-up tests) within a 12-month period, the permittee shall notify the Department within 21 days after the last day of the third test failure.

(a) The permittee shall submit a plan for correction of the effluent toxicity within 60 days after the last day of the third test failure.
(b) The Department shall review and approve the plan before initiation.
(c) The plan shall be initiated within 30 days following the Department's written approval of the plan.
(d) Progress reports shall be submitted quarterly to the Department at the address above.
(e) During the implementation of the plan, the permittee shall conduct quarterly routine whole effluent toxicity tests in accordance with 4.d. Additional follow-up tests are not required while the plan is in progress. Following completion or termination of the plan, the frequency of monitoring for routine and additional follow-up tests shall return to the schedule established in 4.b.(1). If a routine test is invalid according to the acceptance criteria in EPA-821-R-02-012, a repeat test shall be initiated within 14 days after the last day of the invalid routine test.
(f) Upon completion of four consecutive quarterly valid routine tests that demonstrate compliance with the effluent limitation in 4.a.(1) above, the permittee may submit a written request to the Department to terminate the plan. The plan shall be terminated upon written verification by the Department that the facility has passed at least four consecutive quarterly valid routine whole effluent toxicity tests. If a test within the sequence of the four is deemed invalid, but is replaced by a repeat valid test initiated within 14 days after the last day of the invalid test, the invalid test will not be counted against the requirement for four consecutive quarterly valid routine tests for the purpose of terminating the plan.

(4) The additional follow-up testing and the plan do not preclude the Department taking enforcement action for whole effluent toxicity failures.

[62-4.241, 62-620.620(3)]

5. During the period beginning on the issuance date and lasting through the expiration date of this permit, the permittee is authorized to discharge pond liner drainage from Outfalls D-002, D-003, and D-004 to Cowpen, Hart, and Green Branch, respectively, and thus to Econlockhatchee River[1]. Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.C.3.:

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Cadmium, Total Recoverable	ug/L	Max	Report	Single Sample	Quarterly	Grab	EFF-2 EFF-3 EFF-4	
Copper, Total Recoverable	ug/L	Max	Report	Single Sample	Quarterly	Grab	EFF-2 EFF-3 EFF-4	
Lead, Total Recoverable	ug/L	Max	Report	Single Sample	Quarterly	Grab	EFF-2 EFF-3 EFF-4	
Selenium, Total Recoverable	ug/L	Max	Report	Single Sample	Quarterly	Grab	EFF-2 EFF-3 EFF-4	
Silver, Total Recoverable	ug/L	Max	Report	Single Sample	Quarterly	Grab	EFF-2 EFF-3 EFF-4	
pH	s.u.	Max	Report	Single Sample	Quarterly	Grab	EFF-2 EFF-3 EFF-4	
Temperature (C), Water	Degrees C	Max	Report	Single Sample	Quarterly	Grab	EFF-2 EFF-3 EFF-4	
Nitrogen, Total	mg/L	Max	Report	Single Sample	Quarterly	Grab	EFF-2 EFF-3 EFF-4	
Nitrogen, Ammonia, Total (as N)	mg/L	Max	Report	Single Sample	Quarterly	Grab	EFF-2 EFF-3 EFF-4	
Ammonia, Unionized (as NH3)	mg/L	Max	Report	Single Sample	Quarterly	Grab	EFF-2 EFF-3 EFF-4	See I.A.3
Nitrogen, Kjeldahl, Total (as N)	mg/L	Max	Report	Single Sample	Quarterly	Grab	EFF-2 EFF-3 EFF-4	
Nitrite plus Nitrate, Total (as N)	mg/L	Max	Report	Single Sample	Quarterly	Grab	EFF-2 EFF-3 EFF-4	
Phosphorus, Total (as P)	mg/L	Max	Report	Single Sample	Quarterly	Grab	EFF-2 EFF-3 EFF-4	
Phosphate, Ortho (as PO4)	mg/L	Max	Report	Single Sample	Quarterly	Grab	EFF-2 EFF-3 EFF-4	

[1] Pond liner drainage from Outfalls D-002, D-003, and D-004 will be eliminated with the installation of pumps and piping at the existing suppression system collection manholes in accordance with Condition VI.4. Once the installation is completed and discharges from these outfalls eliminated then the monitoring in Table I.A.5 above will no longer be required.

6. Effluent samples shall be taken at the monitoring site locations listed in Permit Condition I.A.5. and as described below:

Monitoring Site Number	Description of Monitoring Site
EFF-2	The point of discharge from the recycle basin liner drainage system.
EFF-3	The point of discharge from the coal runoff pond liner drainage system.
EFF-4	The point of discharge from the combustion waste liner drainage system

7. The discharge shall not contain components that settle to form putrescent deposits or float as debris, scum, oil, or other matter. *[62-302.500(1)(a)]*

B. Internal Outfalls

1. During the period beginning on the issuance date and lasting through the expiration date of this permit, the permittee is authorized to discharge **Boiler Blowdown** from **Internal Outfall I-110** to the make-up pond. Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.C.3:

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow	MGD	Max Max	Report Report	Daily Average Monthly Average	Annual	Estimated	OUI-1	
Oil and Grease	mg/L	Max Max	15.0 20.0	Monthly Average Daily Maximum	Annual	Grab	OUI-1	
Solids, Total Suspended	mg/L	Max Max	30.0 100.0	Monthly Average Daily Maximum	Annual	Grab	OUI-1	
pH	s.u.	Min Max	6.0 9.0	Single Sample Single Sample	Annual	Grab	OUI-1	

2. Effluent samples shall be taken at the monitoring site locations listed in Permit Condition I.B.1. and as described below:

Monitoring Site Number	Description of Monitoring Site
OUI-1	At the point of discharge of boiler blowdown to the makeup pond prior to mixing with any other wastewater streams.

3. During the period beginning on the issuance date and lasting through the expiration date of this permit, the permittee is authorized to discharge **Brine Concentrator Distillate** from **Internal Outfall I-111** to the make-up pond. Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.C.3:

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow	MGD	Max Max	Report Report	Daily Average Monthly Average	Annual	Estimated	OUI-2	
Oil and Grease	mg/L	Max Max	15.0 20.0	Monthly Average Daily Maximum	Annual	Grab	OUI-2	
Solids, Total Suspended	mg/L	Max Max	30.0 100.0	Monthly Average Daily Maximum	Annual	Grab	OUI-2	
pH	s.u.	Min Max	6.0 9.0	Single Sample Single Sample	Annual	Grab	OUI-2	

4. Effluent samples shall be taken at the monitoring site locations listed in Permit Condition I.B.3 and as described below:

Monitoring Site Number	Description of Monitoring Site
OUI-2	At the point of discharge of brine concentrator distillate to the makeup pond prior to mixing with any other wastewater streams.

C. Other Limitations and Monitoring and Reporting Requirements

1. The sample collection, analytical test methods, and method detection limits (MDLs) applicable to this permit shall be conducted using a sufficiently sensitive method to ensure compliance with applicable water quality standards and effluent limitations and shall be in accordance with Rule 62-4.246, Chapters 62-160 and 62-601, F.A.C., and 40 CFR 136, as appropriate. The list of Department established analytical methods, and corresponding MDLs (method detection limits) and PQLs (practical quantitation limits), which is titled "FAC 62-4 MDL/PQL Table (April 26, 2006)" is available at http://www.dep.state.fl.us/labs/library/index.htm. The MDLs and PQLs as described in this list shall constitute the minimum acceptable MDL/PQL values and the Department shall not accept results for which the laboratory's MDLs or PQLs are greater than those described above unless alternate MDLs and/or PQLs have been specifically approved by the Department for this permit. Any method included in the list may be used for reporting as long as it meets the following requirements:

   a. The laboratory's reported MDL and PQL values for the particular method must be equal or less than the corresponding method values specified in the Department's approved MDL and PQL list;

   b. The laboratory reported MDL for the specific parameter is less than or equal to the permit limit or the applicable water quality criteria, if any, stated in Chapter 62-302, F.A.C. Parameters that are listed as "report only" in the permit shall use methods that provide an MDL, which is equal to or less than the applicable water quality criteria stated in 62-302, F.A.C.: and

   c. If the MDLs for all methods available in the approved list are above the stated permit limit or applicable water quality criteria for that parameter, then the method with the lowest stated MDL shall be used.

   When the analytical results are below method detection or practical quantitation limits, the permittee shall report the actual laboratory MDL and/or PQL values for the analyses that were performed following the instructions on the applicable discharge monitoring report.

Where necessary, the permittee may request approval of alternate methods or for alternative MDLs or PQLs for any approved analytical method. Approval of alternate laboratory MDLs or PQLs are not necessary if the laboratory reported MDLs and PQLs are less than or equal to the permit limit or the applicable water quality criteria, if any, stated in Chapter 62-302, F.A.C. Approval of an analytical method not included in the above-referenced list is not necessary if the analytical method is approved in accordance with 40 CFR 136 or deemed acceptable by the Department. *[62-4.246, 62-160]*

2. The permittee shall provide safe access points for obtaining representative influent and effluent samples which are required by this permit. *[62-620.320(6)]*

3. Monitoring requirements under this permit are effective on the first day of the second month following permit issuance. Until such time, the permittee shall continue to monitor and report in accordance with previously effective permit requirements, if any. During the period of operation authorized by this permit, the permittee shall complete and submit to the Department Discharge Monitoring Reports (DMRs) in accordance with the frequencies specified by the REPORT type (i.e. monthly, toxicity, quarterly, semiannual, annual, etc.) indicated on the DMR forms attached to this permit. Monitoring results for each monitoring period shall be submitted in accordance with the associated DMR due dates below.

REPORT Type on DMR	Monitoring Period	Due Date
Monthly or Toxicity	first day of month - last day of month	28th day of following month
Quarterly	January 1 - March 31 April 1 - June 30 July 1 - September 30 October 1 - December 31	April 28 July 28 October 28 January 28
Semiannual	January 1 - June 30 July 1 - December 30	July 28 January 28
Annual	January 1 - December 31	January 28

DMRs shall be submitted for each required monitoring period including months of no discharge. The permittee may submit either paper or electronic DMR form(s). If submitting paper DMR form(s), the permittee shall make copies of the attached DMR form(s). If submitting electronic DMR form(s), the permittee shall use a Department-approved electronic DMR system.

The electronic submission of DMR forms shall be accepted only if approved in writing by the Department. For purposes of determining compliance with this permit, data submitted in electronic format is legally equivalent to data submitted on signed and certified paper DMR forms.

The permittee shall submit the completed DMR form(s) to the Department by the twenty-eighth (28th) of the month following the month of operation at the addresses specified below:

Florida Department of Environmental Protection
Wastewater Compliance Evaluation Section, Mail Station 3551
Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

And

Florida Department of Environmental Protection
Central District Office
3319 Maguire Boulevard Suite 232
Orlando, Florida 32803-3767
Phone Number - (407) 894-7555
[62-620.610(18)]

4. Unless specified otherwise in this permit, all reports and other information required by this permit, including 24-hour notifications, shall be submitted to or reported to, as appropriate, the Department's Central District

Office at the address specified below:

Florida Department of Environmental Protection
Central District Office
3319 Maguire Boulevard Suite 232
Orlando, Florida 32803-3767
Phone Number - (407) 894-7555.

[62-620.305]

5. All reports and other information shall be signed in accordance with the requirements of Rule 62-620.305, F.A.C. *[62-620.305]*

6. If there is no discharge from the facility on a day when the facility would normally sample, the sample shall be collected on the day of the next discharge. *[62-620.320(6)]*

6. Discharge of any product registered under the Federal Insecticide, Fungicide, and Rodenticide Act to any waste stream which ultimately may be released to waters of the State is prohibited unless specifically authorized elsewhere in this permit. This requirement is not applicable to products used for lawn and agricultural purposes or to the use of herbicides if used in accordance with labeled instructions and any applicable State permit.

   The company shall notify the Department in writing no later than six (6) months prior to instituting use of any biocide or chemical (except as authorized elsewhere in this permit) used in the cooling systems or any other portion of the treatment system which may be toxic to aquatic life. Such notification shall include:

   a. Name and general composition of biocide or chemical

   b. Frequencies of use

   c. Quantities to be used

   d. Proposed effluent concentrations

   e. Acute and/or chronic toxicity data (laboratory reports shall be prepared according to Section 12 of EPA document no. EPA/600/4-90/027 entitled, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters for Freshwater and Marine Organisms, or most current addition.)

   f. Product data sheet

   g. Product label

   The Department shall review the above information to determine if a major or minor permit revision is necessary. Discharge associated with the use of such biocide or chemical is not authorized without a permit revision by the Department. Permit revisions shall be processed in accordance with the requirements of Chapter 62-620, F.A.C.

II. SLUDGE MANAGEMENT REQUIREMENTS

1. The permittee shall be responsible for proper treatment, management, use, and land application or disposal of its sludges. *[62-620.320(6)]*

2. Storage, transportation, and disposal of sludge/solids characterized as hazardous waste shall be in accordance with requirements of Chapter 62-730, F.A.C. *[62-730]*

III. GROUND WATER REQUIREMENTS

1. Ground water monitoring at the Stanton Site is conducted in accordance with Conditions of Certification PA 81-14K.

IV. ADDITIONAL LAND APPLICATION REQUIREMENTS

1. Section IV is not applicable to this facility.

V. OPERATION AND MAINTENANCE REQUIREMENTS

1. During the period of operation authorized by this permit, the wastewater facilities shall be operated under the supervision of a person who is qualified by formal training and/or practical experience in the field of water pollution control. *[62-620.320(6)]*

2. The permittee shall maintain the following records and make them available for inspection on the site of the permitted facility.

   a. Records of all compliance monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, including, if applicable, a copy of the laboratory certification showing the certification number of the laboratory, for at least three years from the date the sample or measurement was taken;

   b. Copies of all reports required by the permit for at least three years from the date the report was prepared;

   c. Records of all data, including reports and documents, used to complete the application for the permit for at least three years from the date the application was filed;

   d. A copy of the current permit;

   e. A copy of any required record drawings; and

   f. Copies of the logs and schedules showing plant operations and equipment maintenance for three years from the date of the logs or schedules.

   [62-620.350]

VI. SCHEDULES

1. The following improvement actions shall be completed according to the following schedule.

Improvement Action	Completion Date
1. Develop and implement SWPPP	18 months from permit issuance
1. Complete Plan Summary	2 years from permit issuance
2. Progress/Update Report	3 years, and then annual thereafter

[62-620.320(6)]

3. If the permittee wishes to continue operation of this wastewater facility after the expiration date of this permit, the permittee shall submit an application for renewal no later than one-hundred and eighty days (180) prior to the expiration date of this permit. Application shall be made using the appropriate forms listed in Rule 62-620.910, F.A.C., including submittal of the appropriate processing fee set forth in Rule 62-4.050, F.A.C. *[62-620.335(1) and (2)]*

4. The permittee shall install pumps and piping at existing groundwater suppression system collection manholes in order to return water to the adjacent ponds. This includes the groundwater suppression systems beneath the pond liners at the recycle pond, coal runoff pond, and combustion waste pond. Excess water collected in the ponds will to routed the recycle basin through the existing pond system and treated by the brine concentrator. The permittee shall complete installation of the necessary pumps and piping and have the return system in operation for all three ponds within 24 months from the issuance date of this permit.

VII. BEST MANAGEMENT PRACTICES/STORMWATER POLLUTION PREVENTION PLANS

1. General Requirements

In accordance with Section 304(e) and 402(a)(2) of the Clean Water Act (CWA) as amended, 33 U.S.C. §§ 1251 et seq., and the Pollution Prevention Act of 1990, 42 U.S.C. §§ 13101-13109, the permittee must develop and implement a plan for utilizing practices incorporating pollution prevention measures. References to be considered in developing the plan are "Criteria and Standards for Best Management Practices Authorized Under Section 304(e) of the Act," found at 40 CFR 122.44 Subpart K and the Storm Water Management Industrial Activities Guidance Manual, EPA/833-R92-002 and other EPA documents relating to Best Management Practice guidance.

a. Definitions
   (1) The term "pollutants" refers to conventional, non-conventional and toxic pollutants.
   (2) Conventional pollutants are: biochemical oxygen demand (BOD), suspended solids, pH, fecal coliform bacteria and oil & grease.
   (3) Non-conventional pollutants are those which are not defined as conventional or toxic.
   (4) Toxic pollutants include, but are not limited to: (a) any toxic substance listed in Section 307(a)(1) of the CWA, any hazardous substance listed in Section 311 of the CWA, or chemical listed in Section 313(c) of the Superfund Amendments and Reauthorization Act of 1986; and (b) any substance (that is not also a conventional or non-conventional pollutant except ammonia) for which EPA has published an acute or chronic toxicity criterion.
   (5) "Significant Materials" is defined as raw materials; fuels; materials such as solvents and detergents; hazardous substances designated under Section 101(14) of CERCLA; and any chemical the facility is required to report pursuant to EPCRA, Section 313; fertilizers; pesticides; and waste products such as ashes, slag and sludge.
   (6) "Pollution prevention" and "waste minimization" refer to the first two categories of EPA's preferred hazardous waste management strategy: first, source reduction and then, recycling.
   (7) "Recycle/Reuse" is defined as the minimization of waste generation by recovering and reprocessing usable products that might otherwise become waste; or the reuse or reprocessing of usable waste products in place of the original stock, or for other purposes such as material recovery, material regeneration or energy production.
   (8) "Source reduction" means any practice which: (a) reduces the amount of any pollutant entering a waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment or disposal; and (b) reduces the hazards to public health and the environment associated with the release of such pollutant. The term includes equipment or technology modifications, process or procedure modifications, reformulation or redesign of products, substitution of raw materials, and improvements in housekeeping, maintenance, training, or inventory control. It does not include any practice which alters the physical, chemical, or biological characteristics or the volume of a pollutant through a process or activity which itself is not integral to, or previously considered necessary for, the production of a product or the providing of a service.
   (9) "SWPPP" means a Storm Water Pollution Prevention Plan incorporating the requirements of 40 CFR § 125, Subpart K, plus pollution prevention techniques, except where other existing programs are deemed equivalent by the permittee. The permittee shall certify the equivalency of the other referenced programs.
   (10) The term "material" refers to chemicals or chemical products used in any plant operation (i.e., caustic soda, hydrazine, degreasing agents, paint solvents, etc.). It does not include lumber, boxes, packing materials, etc.

2. Storm Water Pollution Prevention Plan

The permittee shall develop and implement a SWPPP for the facility, which is the source of wastewater and storm water discharges, covered by this permit. The plan shall be directed toward reducing those pollutants of concern which discharge to surface waters and shall be prepared in accordance with good engineering and good housekeeping practices. For the purposes of this permit, pollutants of concern shall be limited to toxic pollutants, as defined above, known to the discharger. The plan shall address all activities which could or do contribute these pollutants to the surface water discharge, including process, treatment, and ancillary activities.

a. Signatory Authority & Management Responsibilities

The SWPPP shall be signed by permittee or their duly authorized representative in accordance with rule 62-620.305(2)(a) and (b). The SWPPP shall be reviewed by plant environmental/engineering staff and plant manager. Where required by Chapter 471-(P.E.) or Chapter 492 (P.G.) Florida Statutes, applicable portions of the SWPPP shall be signed and sealed by the professional(s) who prepared them.

A copy of the plan shall be retained at the facility and shall be made available to the permit issuing authority upon request.

The SWPPP shall contain a written statement from corporate or plant management indicating management's commitment to the goals of the BMP program. Such statements shall be publicized or made known to all facility employees. Management shall also provide training for the individuals responsible for implementing the SWPPP.

b. SWPPP Requirements

(1) A topographic map extending one-quarter mile beyond the property boundaries of the facility, showing: the facility, surface water bodies, wells (including injection wells), seepage pits, infiltration ponds, and the discharge points where the facility's storm water discharges to a municipal storm drain system or other water body. The requirements of this paragraph may be included on the site map if appropriate.

(2) A site map showing:

(a) The storm water conveyance and discharge structures;

(b) An outline of the storm water drainage areas for each storm water discharge point;

(c) Paved areas and buildings;

(d) Areas used for outdoor manufacturing, storage, or disposal of significant materials, including activities that generate significant quantities of dust or particulates;

(e) Location of existing or future storm water structural control measures/practices (dikes, coverings, detention facilities, etc.);

(f) Surface water locations and/or municipal storm drain locations;

(g) Areas of existing and potential soil erosion;

(h) Vehicle service areas;

(i) Material loading, unloading, and access areas;

(3) A narrative description of the following:

(a) The nature of the industrial activities conducted at the site, including a description of significant materials that are treated, stored or disposed of in a manner to allow exposure to storm water;

(b) Materials, equipment, and vehicle management practices employed to minimize contact of significant materials with storm water discharges;

(c) Existing or future structural and non-structural control measures/practices to reduce pollutants in storm water discharges;

(d) Industrial storm water discharge treatment facilities;

(e) Methods of onsite storage and disposal of significant materials;

(f) Overall objectives (both short-term and long-term) and scope of the plan, specific reduction goals for pollutants, anticipated dates of achievement of reduction, and a description of means for achieving each reduction goal;

(g) A description of procedures relative to spill prevention, control & countermeasures and a description of measures employed to prevent storm water contamination;

(h) A description of practices involving preventive maintenance, housekeeping, recordkeeping, inspections, and plant security; and

2. The description of a waste minimization assessment performed in accordance with the conditions outlined in condition c below, results of the assessment, and a schedule for implementation of specific waste reduction practices.

(4) A list of the types of pollutants that have a reasonable potential to be present in storm water discharges in significant quantities.

(5) An estimate of the size of the facility in acres or square feet, and the percent of the facility that has impervious areas such as pavement or buildings.

(6) A summary of existing sampling data describing pollutants in storm water discharges.

c. Waste Minimization Assessment

The permittee is encouraged but not required to conduct a waste minimization assessment (WMA) for this facility to determine actions that could be taken to reduce waste loading and chemical losses to all wastewater and/or storm water streams as described in Part VII.D.2 of this permit.

If the permittee elects to develop and implement a WMA, information on plan components can be obtained forms the Department's Industrial Wastewater website, or from:

Florida Department of Environmental Protection
Industrial Wastewater Section, Mail Station 3545
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
(850) 245-8589
(850) 245-8669 – Fax

d. Pollution Prevention Committee:

A pollution prevention committee within the plant organization shall be appointed. These members shall be responsible for developing the SWPPP and assisting the plant manager in its implementation, maintenance, and revision.

e. Employee Training

(1) The permittee shall describe the storm water employee training program for the facility. The description shall include the topics to be covered, such as spill response, good housekeeping and material management practices, and shall identify periodic dates (e.g., every 6 months during the months of July and January) for such training. The permittee shall provide employee training for all employees and contractors that work in areas where industrial materials or activities are exposed to storm water, and for employees that are responsible for implementing activities identified in the

SWPPP (*e.g.*, inspectors, maintenance people). The employee training shall inform facility personnel and contractors of the components and goals of the facility SWPPP.

(2) Each employee and contractor that works in an areas where industrial materials or activities are exposed to storm water, and each employee that is responsible for implementing activities identified in the SWPPP shall undergo training at least once a year. Training records shall include trainee's name, signature, date of training and topics covered. Records shall be retained on-site for a minimum of three years.

f. Plan Development & Implementation

(1) The SWPPP shall be developed and implemented 18 months after the effective date of this permit, unless any later dates are specified in this permit. Any portion of the SWPPP which is ongoing at the time of development or implementation shall be described in the plan. Any waste reduction practice which is recommended for implementation over a period of time shall be identified in the plan, including a schedule for its implementation.

(2) The personnel named in the SWPPP shall perform and document a quarterly visual observation of a storm water discharge associated with industrial activity from each outfall. The visual observation shall be made during daylight hours. If no storm event resulted in runoff during daylight hours from the facility during a monitoring quarter, the permittee is excused from the visual observation requirement for that quarter, provided the permittee documents in their records that no runoff occurred. The permittee shall sign and certify the documentation.

(3) The personnel named in the SWPPP shall conduct visual observations on samples collected as soon as practical, but not to exceed 1 hour of when the runoff begins discharging from the facility. All samples must be collected from a storm event discharge that is greater than 0.1 inch in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The observation shall document: color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution.

(4) The permittee shall maintain visual observation reports onsite with the SWPPP for a minimum of three years. The report must include the observation date and time, inspection personnel, nature of the discharge (i.e., runoff), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

(5) At least once a year the personnel named in the SWPPP shall verify that the description of potential pollutant sources required under this permit is accurate; the site map as required in the SWPPP has been updated or otherwise modified to reflect current conditions; and the controls to reduce pollutants in storm water discharges associated with industrial activity identified in the SWPPP are being implemented and are adequate.

g. Submission of Plan Summary & Progress/Update Reports

(1) Plan Summary: Not later than 2 years after the effective date of the permit, a summary of the SWPPP shall be developed and maintained at the facility and made available to the permit issuing authority upon request. The summary should include the following: a brief description of the plan, its implementation process, schedules for implementing identified waste reduction practices, and a list of all waste reduction practices being employed at the facility. The results of waste minimization assessment studies already completed as well as any scheduled or ongoing WMA studies shall be discussed.

(2) Progress/Update Reports: Annually thereafter for the duration of the permit progress/update reports documenting implementation of the plan shall be maintained at the facility and made available to the permit issuing authority upon request. The reports shall discuss whether or not implementation schedules were met and revise any schedules, as necessary. The plan shall also be updated as necessary and the attainment or progress made toward specific pollutant reduction targets

documented. Results of any ongoing WMA studies as well as any additional schedules for implementation of waste reduction practices shall be included.

(3) A timetable for the various plan requirements follows:

Timetable for SWPPP Requirements:

REQUIREMENT	TIME FROM EFFECTIVE DATE OF THIS PERMIT
Complete SWPPP	18 months
Complete Plan Summary	2 years
Progress/Update Reports	3 years, and then annually thereafter

The permittee shall maintain the plan and subsequent reports at the facility and shall make the plan available to the Department upon request.

h. Plan Review & Modification

If following review by the Department, the SWPPP is determined insufficient, the permittee will be notified that the SWPPP does not meet one or more of the minimum requirements of this Part. Upon such notification from the Department, the permittee shall amend the plan and shall submit to the Department a written certification that the requested changes have been made. Unless otherwise provided by the Department, the permittee shall have 30 days after such notification to make the changes necessary.

The permittee shall modify the SWPPP whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to waters of the State or if the plan proves to be ineffective in achieving the general objectives of reducing pollutants in wastewater or storm water discharges. Modifications to the plan may be reviewed by the Department in the same manner as described above.

The permittee may incorporate applicable portions of plans prepared for other purposes. Plans or portions of plans incorporated into a SWPPP become enforceable requirements of this permit.

VIII. OTHER SPECIFIC CONDITIONS

1. Where required by Chapter 471 or Chapter 492, F.S., applicable portions of reports that must be submitted under this permit shall be signed and sealed by a professional engineer or a professional geologist, as appropriate. *[62-620.310(4)]*

2. The permittee shall provide verbal notice to the Department's Tallahassee Office as soon as practical after discovery of a sinkhole or other karst feature within an area for the management or application of wastewater, or wastewater sludges. The Permittee shall immediately implement measures appropriate to control the entry of contaminants, and shall detail these measures to the Department's Tallahassee in a written report within 7 days of the sinkhole discovery. *[62-620.320(6)]*

3. Existing manufacturing, commercial, mining, and silvicultural wastewater facilities or activities that discharge into surface waters shall notify the Department as soon as they know or have reason to believe:

   a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following levels;
      (1) One hundred micrograms per liter,
      (2) Two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2, 4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter for antimony, or

(3) Five times the maximum concentration value reported for that pollutant in the permit application; or

b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following levels;
   (1) Five hundred micrograms per liter,
   (2) One milligram per liter for antimony, or
   (3) Ten times the maximum concentration value reported for that pollutant in the permit application.

[62-620.625(1)]

IX. GENERAL CONDITIONS

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit are binding and enforceable pursuant to Chapter 403, Florida Statutes. Any permit noncompliance constitutes a violation of Chapter 403, Florida Statutes, and is grounds for enforcement action, permit termination, permit revocation and reissuance, or permit revision. *[62-620.610(1)]*

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviations from the approved drawings, exhibits, specifications or conditions of this permit constitutes grounds for revocation and enforcement action by the Department. *[62-620.610(2)]*

3. As provided in subsection 403.087(7), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor authorize any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit or authorization that may be required for other aspects of the total project which are not addressed in this permit. *[62-620.610(3)]*

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title. *[62-620.610(4)]*

5. This permit does not relieve the permittee from liability and penalties for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted source; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department. The permittee shall take all reasonable steps to minimize or prevent any discharge, reuse of reclaimed water, or residuals use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. *[62-620.610(5)]*

6. If the permittee wishes to continue an activity regulated by this permit after its expiration date, the permittee shall apply for and obtain a new permit. *[62-620.610(6)]*

7. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control, and related appurtenances, that are installed and used by the permittee to achieve compliance with the conditions of this permit. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to maintain or achieve compliance with the conditions of the permit. *[62-620.610(7)]*

8. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit revision, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. *[62-620.610(8)]*

9. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, including an authorized representative of the Department and authorized EPA personnel, when applicable, upon presentation of credentials or other documents as may be required by law, and at reasonable times, depending upon the nature of the concern being investigated, to:

   a. Enter upon the permittee's premises where a regulated facility, system, or activity is located or conducted, or where records shall be kept under the conditions of this permit;

   b. Have access to and copy any records that shall be kept under the conditions of this permit;

   c. Inspect the facilities, equipment, practices, or operations regulated or required under this permit; and

   d. Sample or monitor any substances or parameters at any location necessary to assure compliance with this permit or Department rules.

   [62-620.610(9)]

10. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data, and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except as such use is proscribed by Section 403.111, F.S., or Rule 62-620.302, F.A.C. Such evidence shall only be used to the extent that it is consistent with the Florida Rules of Civil Procedure and applicable evidentiary rules. *[62-620.610(10)]*

11. When requested by the Department, the permittee shall within a reasonable time provide any information required by law which is needed to determine whether there is cause for revising, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The permittee shall also provide to the Department upon request copies of records required by this permit to be kept. If the permittee becomes aware of relevant facts that were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be promptly submitted or corrections promptly reported to the Department. *[62-620.610(11)]*

12. Unless specifically stated otherwise in Department rules, the permittee, in accepting this permit, agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, F.A.C., shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard. *[62-620.610(12)]*

13. The permittee, in accepting this permit, agrees to pay the applicable regulatory program and surveillance fee in accordance with Rule 62-4.052, F.A.C. *[62-620.610(13)]*

14. This permit is transferable only upon Department approval in accordance with Rule 62-620.340, F.A.C. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department. *[62-620.610(14)]*

15. The permittee shall give the Department written notice at least 60 days before inactivation or abandonment of a wastewater facility or activity and shall specify what steps will be taken to safeguard public health and safety during and following inactivation or abandonment. *[62-620.610(15)]*

16. The permittee shall apply for a revision to the Department permit in accordance with Rules 62-620.300, F.A.C., and the Department of Environmental Protection Guide to Permitting Wastewater Facilities or Activities Under Chapter 62-620, F.A.C., at least 90 days before construction of any planned substantial modifications to the permitted facility is to commence or with Rule 62-620.325(2), F.A.C., for minor modifications to the permitted facility. A revised permit shall be obtained before construction begins except as provided in Rule 62-620.300, F.A.C. *[62-620.610(16)]*

17. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The permittee shall be responsible for any and all damages which may result from the changes and may be subject to enforcement action by the Department for penalties or revocation of this permit. The notice shall include the following information:

    a. A description of the anticipated noncompliance;

    b. The period of the anticipated noncompliance, including dates and times; and

    c. Steps being taken to prevent future occurrence of the noncompliance.

    [62-620.610(17)]

18. Sampling and monitoring data shall be collected and analyzed in accordance with Rule 62-4.246 and Chapters 62-160, 62-601, and 62-610, F.A.C., and 40 CFR 136, as appropriate.

    a. Monitoring results shall be reported at the intervals specified elsewhere in this permit and shall be reported on a Discharge Monitoring Report (DMR), DEP Form 62-620.910(10), or as specified elsewhere in the permit.

    b. If the permittee monitors any contaminant more frequently than required by the permit, using Department approved test procedures, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

    c. Calculations for all limitations which require averaging of measurements shall use an arithmetic mean unless otherwise specified in this permit.

    d. Except as specifically provided in Rule 62-160.300, F.A.C., any laboratory test required by this permit shall be performed by a laboratory that has been certified by the Department of Health Environmental Laboratory Certification Program (DOH ELCP). Such certification shall be for the matrix, test method and analyte(s) being measured to comply with this permit. For domestic wastewater facilities, testing for parameters listed in Rule 62-160.300(4), F.A.C., shall be conducted under the direction of a certified operator.

    e. Field activities including on-site tests and sample collection shall follow the applicable standard operating procedures described in DEP-SOP-001/01 adopted by reference in Chapter 62-160, F.A.C.

    f. Alternate field procedures and laboratory methods may be used where they have been approved in accordance with Rules 62-160.220, and 62-160.330, F.A.C.

    [62-620.610(18)]

19. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule detailed elsewhere in this permit shall be submitted no later than 14 days following each schedule date. *[62-620.610(19)]*

20. The permittee shall report to the Department's Tallahassee any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain: a description of the noncompliance and its cause; the period of noncompliance including exact dates and time, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

    a. The following shall be included as information which must be reported within 24 hours under this condition:
        (1) Any unanticipated bypass which causes any reclaimed water or effluent to exceed any permit limitation or results in an unpermitted discharge,
        (2) Any upset which causes any reclaimed water or the effluent to exceed any limitation in the permit,
        (3) Violation of a maximum daily discharge limitation for any of the pollutants specifically listed in the permit for such notice, and

(4) Any unauthorized discharge to surface or ground waters.

b. Oral reports as required by this subsection shall be provided as follows:
   (1) For unauthorized releases or spills of treated or untreated wastewater reported pursuant to subparagraph (a)4. that are in excess of 1,000 gallons per incident, or where information indicates that public health or the environment will be endangered, oral reports shall be provided to the STATE WARNING POINT TOLL FREE NUMBER (800) 320-0519, as soon as practical, but no later than 24 hours from the time the permittee becomes aware of the discharge. The permittee, to the extent known, shall provide the following information to the State Warning Point:
      (a) Name, address, and telephone number of person reporting;
      (b) Name, address, and telephone number of permittee or responsible person for the discharge;
      (c) Date and time of the discharge and status of discharge (ongoing or ceased);
      (d) Characteristics of the wastewater spilled or released (untreated or treated, industrial or domestic wastewater);
      (e) Estimated amount of the discharge;
      (f) Location or address of the discharge;
      (g) Source and cause of the discharge;
      (h) Whether the discharge was contained on-site, and cleanup actions taken to date;
      (i) Description of area affected by the discharge, including name of water body affected, if any; and
      (j) Other persons or agencies contacted.
   (2) Oral reports, not otherwise required to be provided pursuant to subparagraph b.1 above, shall be provided to the Department's Tallahassee within 24 hours from the time the permittee becomes aware of the circumstances.

c. If the oral report has been received within 24 hours, the noncompliance has been corrected, and the noncompliance did not endanger health or the environment, the Department's Tallahassee shall waive the written report.

[62-620.610(20)]

21. The permittee shall report all instances of noncompliance not reported under Permit Conditions IX. 17, 18 or 19 of this permit at the time monitoring reports are submitted. This report shall contain the same information required by Permit Condition IX.20 of this permit. *[62-620.610(21)]*

22. Bypass Provisions.

a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment works.

b. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless the permittee affirmatively demonstrates that:
   (1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and
   (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
   (3) The permittee submitted notices as required under Permit Condition IX. 22. b. of this permit.

c. If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Department, if possible at least 10 days before the date of the bypass. The permittee shall submit notice of an unanticipated bypass within 24 hours of learning about the bypass as required in Permit Condition IX. 20. of this permit. A notice shall include a description of the bypass and its cause; the period of the bypass, including exact dates and times; if the bypass has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent recurrence of the bypass.

d. The Department shall approve an anticipated bypass, after considering its adverse effect, if the permittee demonstrates that it will meet the three conditions listed in Permit Condition IX. 22. a. 1 through 3 of this permit.

e. A permittee may allow any bypass to occur which does not cause reclaimed water or effluent limitations to be exceeded if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Permit Condition IX. 22. a. through c. of this permit.

[62-620.610(22)]

23. Upset Provisions.

a. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee.
   (1) An upset does not include noncompliance caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, careless or improper operation.
   (2) An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of upset provisions of Rule 62-620.610, F.A.C., are met.

b. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed contemporaneous operating logs, or other relevant evidence that:
   (1) An upset occurred and that the permittee can identify the cause(s) of the upset;
   (2) The permitted facility was at the time being properly operated;
   (3) The permittee submitted notice of the upset as required in Permit Condition IX.5. of this permit; and
   (4) The permittee complied with any remedial measures required under Permit Condition IX. 5. of this permit.

c. In any enforcement proceeding, the burden of proof for establishing the occurrence of an upset rests with the permittee.

d. Before an enforcement proceeding is instituted, no representation made during the Department review of a claim that noncompliance was caused by an upset is final agency action subject to judicial review.

[62-620.610(23)]

Executed in Tallahassee, Florida.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Mark P. Thomasson, P.E.
Director
Division of Water Resource Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
(850) 245-8336

Attachment(s):
Discharge Monitoring Report

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed mail this report to: Department of Environmental Protection, Wastewater Compliance Evaluation Section, MS 3551, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

PERMITTEE NAME: Orlando Utilities Commission
MAILING ADDRESS: 5100 Alafaya Trail
Orlando, Florida 32831

FACILITY: Curtis H Stanton Energy Center
LOCATION: 5100 S Alafaya Trl
Orlando, FL 32831-2005

COUNTY: Orange
OFFICE: Central District

PERMIT NUMBER: FL0681661-001-IW1S

LIMIT: Final
CLASS SIZE: MA
MONITORING GROUP NUMBER: D-001
MONITORING GROUP DESCRIPTION: Makeup pond emergency overflow
RE-SUBMITTED DMR: ☐
NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To: _____

REPORT FREQUENCY: Monthly
PROGRAM: Industrial

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Cadmium, Total Recoverable	Sample Measurement										
PARM Code 01113 1 Mon. Site No. EFF-1	Permit Requirement						Report (Max.)	ug/L		Per discharge	Grab
Copper, Total Recoverable	Sample Measurement										
PARM Code 01119 1 Mon. Site No. EFF-1	Permit Requirement						Report (Max.)	ug/L		Per discharge	Grab
Lead, Total Recoverable	Sample Measurement										
PARM Code 01114 1 Mon. Site No. EFF-1	Permit Requirement						Report (Max.)	ug/L		Per discharge	Grab
Selenium, Total Recoverable	Sample Measurement										
PARM Code 00981 1 Mon. Site No. EFF-1	Permit Requirement						Report (Max.)	ug/L		Per discharge	Grab
Silver, Total Recoverable	Sample Measurement										
PARM Code 01079 1 Mon. Site No. EFF-1	Permit Requirement						Report (Max.)	ug/L		Per discharge	Grab
pH	Sample Measurement										
PARM Code 00400 1 Mon. Site No. EFF-1	Permit Requirement						Report (Max.)	s.u.		Per discharge	Grab

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

ISSUANCE/REISSUANCE DATE:

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Curtis H Stanton Energy Center

MONITORING GROUP NUMBER: D-001

PERMIT NUMBER: FL0681661-001-IW1S

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Temperature (F), Water	Sample Measurement										
PARM Code 00010 1 Mon. Site No. EFF-1	Permit Requirement						Report (Max.)	DegC		Per discharge	Grab
Nitrogen, Total	Sample Measurement										
PARM Code 00600 1 Mon. Site No. EFF-1	Permit Requirement						Report (Max.)	mg/L		Per discharge	Grab
Nitrogen, Ammonia, Total (as N)	Sample Measurement										
PARM Code 00610 1 Mon. Site No. EFF-1	Permit Requirement						Report (Max.)	mg/L		Per discharge	Grab
Ammonia, Unionized (as NH3)	Sample Measurement										
PARM Code 00619 1 Mon. Site No. EFF-1	Permit Requirement						Report (Max.)	mg/L		Per discharge	Calculated
Nitrogen, Kjeldahl, Total (as N)	Sample Measurement										
PARM Code 00625 1 Mon. Site No. EFF-1	Permit Requirement						Report (Max.)	mg/L		Per discharge	Grab
Nitrite plus Nitrate, Total 1 det. (as N)	Sample Measurement										
PARM Code 00630 1 Mon. Site No. EFF-1	Permit Requirement						Report (Max.)	mg/L		Per discharge	Grab
Phosphorus, Total (as P)	Sample Measurement										
PARM Code 00665 1 Mon. Site No. EFF-1	Permit Requirement						Report (Max.)	mg/L		Per discharge	Grab
Phosphate, Ortho (as PO4)	Sample Measurement										
PARM Code 00660 1 Mon. Site No. EFF-1	Permit Requirement						Report (Max.)	mg/L		Per discharge	Grab

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed mail this report to: Department of Environmental Protection, Wastewater Compliance Evaluation Section, MS 3551, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

PERMITTEE NAME: Orlando Utilities Commission
MAILING ADDRESS: 5100 Alafaya Trail
Orlando, Florida 32831-

FACILITY: Curtis H Stanton Energy Center
LOCATION: 5100 S Alafaya Trl
Orlando, FL 32831-2005

COUNTY: Orange
OFFICE: Central District

PERMIT NUMBER: FL0681661-001-IW1S

LIMIT: Final
CLASS SIZE: MA
MONITORING GROUP NUMBER: D-001
MONITORING GROUP DESCRIPTION: Makeup pond emergency overflow
RE-SUBMITTED DMR: ☐
NO DISCHARGE FROM SITE: ☐
MONITORING NOT REQUIRED: ☐
MONITORING PERIOD From: _____ To: _____

REPORT FREQUENCY: Toxicity
PROGRAM: Industrial

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
LC50 STATRE 96HOUR ACUTE Ceriodaphnia dubia(Routine)	Sample Measurement										
PARM Code TAN3B P Mon. Site No. EFF-1	Permit Requirement				100 (Min.)			percent		Per discharge	Grab
LC50 STATRE 96HOUR ACUTE Ceriodaphnia dubia(Additional)	Sample Measurement										
PARM Code TAN3B Q Mon. Site No. EFF-1	Permit Requirement				100 (Min.)			percent		As needed	As required by the permit
LC50 STATRE 96HOUR ACUTE Ceriodaphnia dubia(Additional)	Sample Measurement										
PARM Code TAN3B R Mon. Site No. EFF-1	Permit Requirement				100 (Min.)			percent		As needed	As required by the permit
LC50 STATRE 96HOUR ACUTE Cyprinella leedsi(Routine)	Sample Measurement										
PARM Code TAN6H P Mon. Site No. EFF-1	Permit Requirement				100 (Min.)			percent		Per discharge	Grab
LC50 STATRE 96HOUR ACUTE Cyprinella leedsi(Additional)	Sample Measurement										
PARM Code TAN6H Q Mon. Site No. EFF-1	Permit Requirement				100 (Min.)			percent		As needed	As required by the permit
LC50 STATRE 96HOUR ACUTE Cyprinella leedsi(Additional)	Sample Measurement										
PARM Code TAN6H R Mon. Site No. EFF-1	Permit Requirement				100 (Min.)			percent		As needed	As required by the permit

*ENTER "MNR" IN THE RESULTS COLUMN FOR EACH TEST THAT IS NOT REQUIRED.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

ISSUANCE/REISSUANCE DATE:

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed mail this report to: Department of Environmental Protection, Wastewater Compliance Evaluation Section, MS 3551, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

PERMITTEE NAME: Orlando Utilities Commission
MAILING ADDRESS: 5100 Alafaya Trail
Orlando, Florida 32831-

FACILITY: Curtis H Stanton Energy Center
LOCATION: 5100 S Alafaya Trl
Orlando, FL 32831-2005

COUNTY: Orange
OFFICE: Central District

PERMIT NUMBER: FL0681661-001-IW1S

LIMIT: Final
CLASS SIZE: MA
MONITORING GROUP NUMBER: D-002
MONITORING GROUP DESCRIPTION: Recycle Basin Liner Drainage Discharge
RE-SUBMITTED DMR: ☐
NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To: _____

REPORT FREQUENCY: Quarterly
PROGRAM: Industrial

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Cadmium, Total Recoverable	Sample Measurement										
PARM Code 01113 1 Mon. Site No. EFF-2	Permit Requirement						Report (Max.)	ug/L		Quarterly	Grab
Copper, Total Recoverable	Sample Measurement										
PARM Code 01119 1 Mon. Site No. EFF-2	Permit Requirement						Report (Max.)	ug/L		Quarterly	Grab
Lead, Total Recoverable	Sample Measurement										
PARM Code 01114 1 Mon. Site No. EFF-2	Permit Requirement						Report (Max.)	ug/L		Quarterly	Grab
Selenium, Total Recoverable	Sample Measurement										
PARM Code 00981 1 Mon. Site No. EFF-2	Permit Requirement						Report (Max.)	ug/L		Quarterly	Grab
Silver, Total Recoverable	Sample Measurement										
PARM Code 01079 1 Mon. Site No. EFF-2	Permit Requirement						Report (Max.)	ug/L		Quarterly	Grab
pH	Sample Measurement										
PARM Code 00400 1 Mon. Site No. EFF-2	Permit Requirement						Report (Max.)	s.u.		Quarterly	Grab

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

ISSUANCE/REISSUANCE DATE:

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Curtis H Stanton Energy Center

MONITORING GROUP NUMBER: D-002

PERMIT NUMBER: FL0681661-001-IW1S

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Temperature (C), Water	Sample Measurement										
PARM Code 00010 1 Mon. Site No. EFF-2	Permit Requirement						Report (Max.)	Deg C		Quarterly	Grab
Nitrogen, Total	Sample Measurement										
PARM Code 00600 1 Mon. Site No. EFF-2	Permit Requirement						Report (Max.)	mg/L		Quarterly	Grab
Nitrogen, Ammonia, Total (as N)	Sample Measurement										
PARM Code 00610 1 Mon. Site No. EFF-2	Permit Requirement						Report (Max.)	mg/L		Quarterly	Grab
Ammonia, Unionized (as NH3)	Sample Measurement										
PARM Code 00619 1 Mon. Site No. EFF-2	Permit Requirement						Report (Max.)	mg/L		Quarterly	Calculated
Nitrogen, Kjeldahl, Total (as N)	Sample Measurement										
PARM Code 00625 1 Mon. Site No. EFF-2	Permit Requirement						Report (Max.)	mg/L		Quarterly	Grab
Nitrite plus Nitrate, Total 1 det. (as N)	Sample Measurement										
PARM Code 00630 1 Mon. Site No. EFF-2	Permit Requirement						Report (Max.)	mg/L		Quarterly	Grab
Phosphorus, Total (as P)	Sample Measurement										
PARM Code 00665 1 Mon. Site No. EFF-2	Permit Requirement						Report (Max.)	mg/L		Quarterly	Grab
Phosphate, Ortho (as PO4)	Sample Measurement										
PARM Code 00660 1 Mon. Site No. EFF-2	Permit Requirement						Report (Max.)	mg/L		Quarterly	Grab

ISSUANCE/REISSUANCE DATE:

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed mail this report to: Department of Environmental Protection, Wastewater Compliance Evaluation Section, MS 3551, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

PERMITTEE NAME: Orlando Utilities Commission
MAILING ADDRESS: 5100 Alafaya Trail
Orlando, Florida 32831-

FACILITY: Curtis H Stanton Energy Center
LOCATION: 5100 S Alafaya Trl
Orlando, FL 32831-2005

COUNTY: Orange
OFFICE: Central District

PERMIT NUMBER: FL0681661-001-IW1S

LIMIT: Final
CLASS SIZE: MA
MONITORING GROUP NUMBER: D-003
MONITORING GROUP DESCRIPTION: Coal Runoff Pond Liner Drainage
RE-SUBMITTED DMR: ☐
NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To: _____

REPORT FREQUENCY: Quarterly
PROGRAM: Industrial

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Cadmium, Total Recoverable	Sample Measurement										
PARM Code 01113 1 Mon. Site No. EFF-3	Permit Requirement						Report (Max.)	ug/L		Quarterly	Grab
Copper, Total Recoverable	Sample Measurement										
PARM Code 01119 1 Mon. Site No. EFF-3	Permit Requirement						Report (Max.)	ug/L		Quarterly	Grab
Lead, Total Recoverable	Sample Measurement										
PARM Code 01114 1 Mon. Site No. EFF-3	Permit Requirement						Report (Max.)	ug/L		Quarterly	Grab
Selenium, Total Recoverable	Sample Measurement										
PARM Code 00981 1 Mon. Site No. EFF-3	Permit Requirement						Report (Max.)	ug/L		Quarterly	Grab
Silver, Total Recoverable	Sample Measurement										
PARM Code 01079 1 Mon. Site No. EFF-3	Permit Requirement						Report (Max.)	ug/L		Quarterly	Grab
pH	Sample Measurement										
PARM Code 00400 1 Mon. Site No. EFF-3	Permit Requirement						Report (Max.)	s.u.		Quarterly	Grab

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

ISSUANCE/REISSUANCE DATE:

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Curtis H Stanton Energy Center

MONITORING GROUP NUMBER: D-003

PERMIT NUMBER: FL0681661-001-IW1S

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Temperature (C), Water	Sample Measurement										
PARM Code 00010 1 Mon. Site No. EFF-3	Permit Requirement						Report (Max.)	Deg C		Quarterly	Grab
Nitrogen, Total	Sample Measurement										
PARM Code 00600 1 Mon. Site No. EFF-3	Permit Requirement						Report (Max.)	mg/L		Quarterly	Grab
Nitrogen, Ammonia, Total (as N)	Sample Measurement										
PARM Code 00610 1 Mon. Site No. EFF-3	Permit Requirement						Report (Max.)	mg/L		Quarterly	Grab
Ammonia, Unionized (as NH3)	Sample Measurement										
PARM Code 00619 1 Mon. Site No. EFF-3	Permit Requirement						Report (Max.)	mg/L		Quarterly	Calculated
Nitrogen, Kjeldahl, Total (as N)	Sample Measurement										
PARM Code 00625 1 Mon. Site No. EFF-3	Permit Requirement						Report (Max.)	mg/L		Quarterly	Grab
Nitrite plus Nitrate, Total 1 det. (as N)	Sample Measurement										
PARM Code 00630 1 Mon. Site No. EFF-3	Permit Requirement						Report (Max.)	mg/L		Quarterly	Grab
Phosphorus, Total (as P)	Sample Measurement										
PARM Code 00665 1 Mon. Site No. EFF-3	Permit Requirement						Report (Max.)	mg/L		Quarterly	Grab
Phosphate, Ortho (as PO4)	Sample Measurement										
PARM Code 00660 1 Mon. Site No. EFF-3	Permit Requirement						Report (Max.)	mg/L		Quarterly	Grab

ISSUANCE/REISSUANCE DATE:

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed mail this report to: Department of Environmental Protection, Wastewater Compliance Evaluation Section, MS 3551, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

PERMITTEE NAME: Orlando Utilities Commission
MAILING ADDRESS: 5100 Alafaya Trail
Orlando, Florida 32831-

FACILITY: Curtis H Stanton Energy Center
LOCATION: 5100 S Alafaya Trl
Orlando, FL 32831-2005

COUNTY: Orange
OFFICE: Central District

PERMIT NUMBER: FL0681661-001-IW1S

LIMIT: Final
CLASS SIZE: MA
MONITORING GROUP NUMBER: D-004
MONITORING GROUP DESCRIPTION: Combustion Waste Liner Drainage Discharge
RE-SUBMITTED DMR: ☐
NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To: _____

REPORT FREQUENCY: Quarterly
PROGRAM: Industrial

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Cadmium, Total Recoverable	Sample Measurement										
PARM Code 01113 1 Mon. Site No. EFF-4	Permit Requirement						Report (Max.)	ug/L		Quarterly	Grab
Copper, Total Recoverable	Sample Measurement										
PARM Code 01119 1 Mon. Site No. EFF-4	Permit Requirement						Report (Max.)	ug/L		Quarterly	Grab
Lead, Total Recoverable	Sample Measurement										
PARM Code 01114 1 Mon. Site No. EFF-4	Permit Requirement						Report (Max.)	ug/L		Quarterly	Grab
Selenium, Total Recoverable	Sample Measurement										
PARM Code 00981 1 Mon. Site No. EFF-4	Permit Requirement						Report (Max.)	ug/L		Quarterly	Grab
Silver, Total Recoverable	Sample Measurement										
PARM Code 01079 1 Mon. Site No. EFF-4	Permit Requirement						Report (Max.)	ug/L		Quarterly	Grab
pH	Sample Measurement										
PARM Code 00400 1 Mon. Site No. EFF-4	Permit Requirement						Report (Max.)	s.u.		Quarterly	Grab

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

ISSUANCE/REISSUANCE DATE:

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Curtis H Stanton Energy Center

MONITORING GROUP NUMBER: D-004

PERMIT NUMBER: FL0681661-001-IW1S

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Temperature (C), Water	Sample Measurement										
PARM Code 00010 1 Mon. Site No. EFF-4	Permit Requirement						Report (Max.)	Deg C		Quarterly	Grab
Nitrogen, Total	Sample Measurement										
PARM Code 00600 1 Mon. Site No. EFF-4	Permit Requirement						Report (Max.)	mg/L		Quarterly	Grab
Nitrogen, Ammonia, Total (as N)	Sample Measurement										
PARM Code 00610 1 Mon. Site No. EFF-4	Permit Requirement						Report (Max.)	mg/L		Quarterly	Grab
Ammonia, Unionized (as NH3)	Sample Measurement										
PARM Code 00619 1 Mon. Site No. EFF-4	Permit Requirement						Report (Max.)	mg/L		Quarterly	Calculated
Nitrogen, Kjeldahl, Total (as N)	Sample Measurement										
PARM Code 00625 1 Mon. Site No. EFF-4	Permit Requirement						Report (Max.)	mg/L		Quarterly	Grab
Nitrite plus Nitrate, Total 1 det. (as N)	Sample Measurement										
PARM Code 00630 1 Mon. Site No. EFF-4	Permit Requirement						Report (Max.)	mg/L		Quarterly	Grab
Phosphorus, Total (as P)	Sample Measurement										
PARM Code 00665 1 Mon. Site No. EFF-4	Permit Requirement						Report (Max.)	mg/L		Quarterly	Grab
Phosphate, Ortho (as PO4)	Sample Measurement										
PARM Code 00660 1 Mon. Site No. EFF-4	Permit Requirement						Report (Max.)	mg/L		Quarterly	Grab

ISSUANCE/REISSUANCE DATE:

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed mail this report to: Department of Environmental Protection, Wastewater Compliance Evaluation Section, MS 3551, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

PERMITTEE NAME: Orlando Utilities Commission
MAILING ADDRESS: 5100 Alafaya Trail
Orlando, Florida 32831-

FACILITY: Curtis H Stanton Energy Center
LOCATION: 5100 S Alafaya Trl
Orlando, FL 32831-2005

COUNTY: Orange
OFFICE: Central District

PERMIT NUMBER: FL0681661-001-IW1S

LIMIT: Final
CLASS SIZE: MA
MONITORING GROUP NUMBER: I-110
MONITORING GROUP DESCRIPTION: Boiler Blowdown
RE-SUBMITTED DMR: ☐
NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To: _____

REPORT FREQUENCY: Annually
PROGRAM: Industrial

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Flow	Sample Measurement										
PARM Code 50050 P Mon. Site No. OUI-1	Permit Requirement	Report (Day.Avg.)	Report (Mo.Avg.)	MGD						Annually	Estimated
Oil and Grease	Sample Measurement										
PARM Code 00556 P Mon. Site No. OUI-1	Permit Requirement					15.0 (Mo.Avg.)	20.0 (Day.Max.)	mg/L		Annually	Grab
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 P Mon. Site No. OUI-1	Permit Requirement					30.0 (Mo.Avg.)	100.0 (Day.Max.)	mg/L		Annually	Grab
pH	Sample Measurement										
PARM Code 00400 P Mon. Site No. OUI-1	Permit Requirement				6.0 (Min.)		9.0 (Max.)	s.u.		Annually	Grab

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed mail this report to: Department of Environmental Protection, Wastewater Compliance Evaluation Section, MS 3551, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

PERMITTEE NAME: Orlando Utilities Commission
MAILING ADDRESS: 5100 Alafaya Trail
Orlando, Florida 32831-

FACILITY: Curtis H Stanton Energy Center
LOCATION: 5100 S Alafaya Trl
Orlando, FL 32831-2005

COUNTY: Orange
OFFICE: Central District

PERMIT NUMBER: FL0681661-001-IW1S

LIMIT: Final
CLASS SIZE: MA
MONITORING GROUP NUMBER: I-111
MONITORING GROUP DESCRIPTION: Brine Concentrator Distillate
RE-SUBMITTED DMR: ☐
NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To: _____

REPORT FREQUENCY: Annually
PROGRAM: Industrial

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Flow	Sample Measurement										
PARM Code 50050 P Mon. Site No. OUI-2	Permit Requirement	Report (Day.Avg.)	Report (Mo.Avg.)	MGD						Annually	Estimated
Oil and Grease	Sample Measurement										
PARM Code 00556 P Mon. Site No. OUI-2	Permit Requirement					15.0 (Mo.Avg.)	20.0 (Day.Max.)	mg/L		Annually	Grab
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 P Mon. Site No. OUI-2	Permit Requirement					30.0 (Mo.Avg.)	100.0 (Day.Max.)	mg/L		Annually	Grab
pH	Sample Measurement										
PARM Code 00400 P Mon. Site No. OUI-2	Permit Requirement				6.0 (Min.)		9.0 (Max.)	s.u.		Annually	Grab

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

ISSUANCE/REISSUANCE DATE:

INSTRUCTIONS FOR COMPLETING THE WASTEWATER DISCHARGE MONITORING REPORT

Read these instructions before completing the DMR. Hard copies and/or electronic copies of the required parts of the DMR were provided with the permit. All required information shall be completed in full and typed or printed in ink. A signed, original DMR shall be mailed to the address printed on the DMR by the 28th of the month following the monitoring period. The DMR shall not be submitted before the end of the monitoring period.

The DMR consists of three parts--A, B, and D--all of which may or may not be applicable to every facility. Facilities may have one or more Part A's for reporting effluent or reclaimed water data. All domestic wastewater facilities will have a Part B for reporting daily sample results. Part D is used for reporting ground water monitoring well data.

When results are not available, the following codes should be used on parts A and D of the DMR and an explanation provided where appropriate. Note: Codes used on Part B for raw data are different.

CODE	DESCRIPTION/INSTRUCTIONS
ANC	Analysis not conducted.
DRY	Dry Well
FLD	Flood disaster.
IFS	Insufficient flow for sampling.
LS	Lost sample.
MNR	Monitoring not required this period.

CODE	DESCRIPTION/INSTRUCTIONS
NOD	No discharge from/to site.
OPS	Operations were shutdown so no sample could be taken.
OTH	Other. Please enter an explanation of why monitoring data were not available.
SEF	Sampling equipment failure.

When reporting analytical results that fall below a laboratory's reported method detection limits or practical quantification limits, the following instructions should be used:

1. Results greater than or equal to the PQL shall be reported as the measured quantity.
2. Results less than the PQL and greater than or equal to the MDL shall be reported as the laboratory's MDL value. These values shall be deemed equal to the MDL when necessary to calculate an average for that parameter and when determining compliance with permit limits.
3. Results less than the MDL shall be reported by entering a less than sign ("<") followed by the laboratory's MDL value, e.g. < 0.001. A value of one-half the MDL or one-half the effluent limit, whichever is lower, shall be used for that sample when necessary to calculate an average for that parameter. Values less than the MDL are considered to demonstrate compliance with an effluent limitation.

PART A -DISCHARGE MONITORING REPORT (DMR)

Part A of the DMR is comprised of one or more sections, each having its own header information. Facility information is preprinted in the header as well as the monitoring group number, whether the limits and monitoring requirements are interim or final, and the required submittal frequency (e.g. monthly, annually, quarterly, etc.). Submit Part A based on the required reporting frequency in the header and the instructions shown in the permit. The following should be completed by the permittee or authorized representative:

Resubmitted DMR: Check this box if this DMR is being re-submitted because there was information missing from or information that needed correction on a previously submitted DMR. The information that is being revised should be clearly noted on the re-submitted DMR (e.g. highlight, circle, etc.)
No Discharge From Site: Check this box if no discharge occurs and, as a result, there are no data or codes to be entered for all of the parameters on the DMR for the entire monitoring group number; however, if the monitoring group includes other monitoring locations (e.g., influent sampling), the "NOD" code should be used to individually denote those parameters for which there was no discharge.
Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.
Sample Measurement: Before filling in sample measurements in the table, check to see that the data collected correspond to the limit indicated on the DMR (i.e. interim or final) and that the data correspond to the monitoring group number in the header. Enter the data or calculated results for each parameter on this row in the non-shaded area above the limit. Be sure the result being entered corresponds to the appropriate statistical base code (e.g. annual average, monthly average, single sample maximum, etc.) and units.
No. Ex.: Enter the number of sample measurements during the monitoring period that exceeded the permit limit for each parameter in the non-shaded area. If none, enter zero.
Frequency of Analysis: The shaded areas in this column contain the minimum number of times the measurement is required to be made according to the permit. Enter the actual number of times the measurement was made in the space above the shaded area.
Sample Type: The shaded areas in this column contain the type of sample (e.g. grab, composite, continuous) required by the permit. Enter the actual sample type that was taken in the space above the shaded area.
Signature: This report must be signed in accordance with Rule 62-620.305, F.A.C. Type or print the name and title of the signing official. Include the telephone number where the official may be reached in the event there are questions concerning this report. Enter the date when the report is signed.
Comment and Explanation of Any Violations: Use this area to explain any exceedances, any upset or by-pass events, or other items which require explanation. If more space is needed, reference all attachments in this area.

PART B - DAILY SAMPLE RESULTS

Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.
Daily Monitoring Results: Transfer all analytical data from your facility's laboratory or a contract laboratory's data sheets for all day(s) that samples were collected. Record the data in the units indicated. Table 1 in Chapter 62-160, F.A.C., contains a complete list of all the data qualifier codes that your laboratory may use when reporting analytical results. However, when transferring numerical results onto Part B of the DMR, only the following data qualifier codes should be used and an explanation provided where appropriate.

CODE	DESCRIPTION/INSTRUCTIONS
<	The compound was analyzed for but not detected.
A	Value reported is the mean (average) of two or more determinations.
J	Estimated value, value not accurate.
Q	Sample held beyond the actual holding time.
Y	Laboratory analysis was from an unpreserved or improperly preserved sample.

To calculate the monthly average, add each reported value to get a total. For flow, divide this total by the number of days in the month. For all other parameters, divide the total by the number of observations.
Plant Staffing: List the name, certificate number, and class of all state certified operators operating the facility during the monitoring period. Use additional sheets as necessary.

PART D - GROUND WATER MONITORING REPORT

Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.
Date Sample Obtained: Enter the date the sample was taken. Also, check whether or not the well was purged before sampling.
Time Sample Obtained: Enter the time the sample was taken.
Sample Measurement: Record the results of the analysis. If the result was below the minimum detection limit, indicate that.
Detection Limits: Record the detection limits of the analytical methods used.
Analysis Method: Indicate the analytical method used. Record the method number from Chapter 62-160 or Chapter 62-601, F.A.C., or from other sources.
Sampling Equipment Used: Indicate the procedure used to collect the sample (e.g. airlift, bucket/bailer, centrifugal pump, etc.)
Samples Filtered: Indicate whether the sample obtained was filtered by laboratory (L), filtered in field (F), or unfiltered (N).
Signature: This report must be signed in accordance with Rule 62-620.305, F.A.C. Type or print the name and title of the signing official. Include the telephone number where the official may be reached in the event there are questions concerning this report. Enter the date when the report is signed.
Comments and Explanation: Use this space to make any comments on or explanations of results that are unexpected. If more space is needed, reference all attachments in this area.

SPECIAL INSTRUCTIONS FOR LIMITED WET WEATHER DISCHARGES

Flow (Limited Wet Weather Discharge): Enter the measured average flow rate during the period of discharge or divide gallons discharged by duration of discharge (converted into days). Record in million gallons per day (MGD).
Flow (Upstream): Enter the average flow rate in the receiving stream upstream from the point of discharge for the period of discharge. The average flow rate can be calculated based on two measurements; one made at the start and one made at the end of the discharge period. Measurements are to be made at the upstream gauging station described in the permit.
Actual Stream Dilution Ratio: To calculate the Actual Stream Dilution Ratio, divide the average upstream flow rate by the average discharge flow rate. Enter the Actual Stream Dilution Ratio accurate to the nearest 0.1.
No. of Days the SDF > Stream Dilution Ratio: For each day of discharge, compare the minimum Stream Dilution Factor (SDF) from the permit to the calculated Stream Dilution Ratio. On Part B of the DMR, enter an asterisk (*) if the SDF is greater than the Stream Dilution Ratio on any day of discharge. On Part A of the DMR, add up the days with an "*" and record the total number of days the Stream Dilution Factor was greater than the Stream Dilution Ratio.
$CBOD_5$: Enter the average $CBOD_5$ of the reclaimed water discharged during the period shown in duration of discharge.
TKN: Enter the average TKN of the reclaimed water discharged during the period shown in duration of discharge.
Actual Rainfall: Enter the actual rainfall for each day on Part B. Enter the actual cumulative rainfall to date for this calendar year and the actual total monthly rainfall on Part A. The cumulative rainfall to date for this calendar year is the total amount of rain, in inches, that has been recorded since January 1 of the current year through the month for which this DMR contains data.
Rainfall During Average Rainfall Year: On Part A, enter the total monthly rainfall during the average rainfall year and the cumulative rainfall for the average rainfall year. The cumulative rainfall for the average rainfall year is the amount of rain, in inches, which fell during the average rainfall year from January through the month for which this DMR contains data.
No. of Days LWWD Activated During Calendar Year: Enter the cumulative number of days that the limited wet weather discharge was activated since January 1 of the current year.
Reason for Discharge: Attach to the DMR a brief explanation of the factors contributing to the need to activate the limited wet weather discharge.