

OUC Curtis H. Stanton Energy Center
ATTACHMENT C – Mitigation Plan

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Project	Impacts	Mitigation	Status	Project Completed
Mod B – Alafaya Trail Extension	First 2 Lanes: 10.78 Cypress, .3 Pond Pine, 5.75 Wet Prairie	37.31 ac wetland creation and upland enhancement or Conservation Easement with \$430,000 contribution inclusive of monitoring reports	Road constructed.	Yes
Mod E - Alafaya Trail Extension	First 2 Lanes: 10.78 Cypress, .3 Pond Pine, 5.75 Wet Prairie	37.31 ac wetland creation and upland enhancement or Conservation Easement with \$430,000 contribution inclusive of monitoring reports	Road constructed.	Yes
Mod G – Magnolia Ranch	2.6 acres of forested wetland impacts	2.6 Credits TM-Econ MB	Credits purchased	Yes
Mod H - Rail Car	5.67 acres of fill in herbaceous wetlands, 13.19 acres of clearing in forested wetlands		Project cancelled	No
Mod I - North Substation	.42 acres of isolated wetlands filled, .41 acres of forested filled, .85 acres of forested wetlands cleared	1.2 Credits TM -Econ Mitigation	Credits purchased	Yes
Mod L – Stormwater Ponds	No wetland impacts			Yes
Unit 2 Supplemental SCA – Included the Stanton to Mud Lake (Lake Nona) Transmission Line (14 miles) and alternate access road	20.3 acres of forested wetlands cleared, 3.7 acres filled for transmission lines, 2.5 acres filled for alternate access road	Joint Agency Mitigation and Monitoring Plan (June 1993)	Mitigation successful	Yes
Unit A Supplemental SCA – Included Stanton A to Stanton Switchyard Transmission Line (.6miles) and a natural gas pipeline (4.5 miles)	Impacts for the Transmission line included 0.4 acres of clearing of forested wetlands, .57 acres of herbaceous wetlands filled, .23 acres of other surface waters filled. Impacts for the gas pipeline included .23 acres of fill (temporary) in forested wetlands. No wetlands were impacted by the construction of the Stanton A power block	30.448 acres of wetlands placed under a conservation easement at the NW Boundary of SEC property	Conservation Easement has been recorded	Yes

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Unit B Supplemental SCA – Included the Stanton Unit B Transmission Line	no natural surface water systems within the proposed footprint of the Unit B project, transmission line impacts included 0.12 acre of cypress strand, 3.83 acres of hydric pine savanna, and 0.02 acre of roadside ditch (i.e., a combined wetland area of 3.97 acres	5.9 credits TM-Econ Mitigation Bank, Phases I- III	Credits Purchased	Yes
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Mods C, D, F, J, K, and M did not authorize any construction.

The proposed mitigation plan submitted to SJRWMD by OUC for the Curtis H. Stanton Energy Center, Unit 2, dated June 21, 1991, July 20, 1991, September 11, 1991, September 18, 1991, and September 19, 1991 is incorporated as a condition of this certification except where specifically superseded by certification conditions.

**Proposed Mitigation Plan for the
Curtis H. Stanton Energy Center, Unit 2**

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Table of Contents

	<u>Page</u>
Executive Summary	
1.0 Introduction	1
2.0 Methods	1
2.1 Design Phase Mitigation Methods	1
2.2 Construction Phase Mitigation Methods	2
3.0 Mitigation Areas	3
4.0 Conclusions	3

1.0 Introduction

The objective of this plan is to provide an innovative balanced conceptual approach to mitigation for compensation of limited impacts on wetlands and to provide a positive offset for any impacts associated with the supplemental certification application. The impacts associated with the Stanton Unit 2 transmission line and intermittent access roads for the poles are minimal. The enclosed plan will provide sufficient mitigation based on the criteria of avoidance, minimization, restoration, and creation.

Prior to final design for pole placement, field inspections were conducted with the assistance of South Florida Water Management District personnel to locate poles in areas to avoid wetlands. Pole design was selected to give a minimal footprint. Wherever possible, pole access roads will be located adjacent to railroad grade in order to avoid wetlands. The pole access road segments will utilize existing roadways and access wherever possible to minimize the need for new construction.

Due to the limited acreage available along the corridor, wetland creation/expansion in conjunction with existing wetlands within the transmission line corridor will be the primary objective.

2.0 Methods

A three member team including a wetland ecologist/botanist, an environmental scientist, and a wildlife biologist developed the mitigation plan. Team members conducted a site review consisting of a screening process to select areas that provided maximum mitigation potential with minimal disturbance to the area.

2.1 Design Phase Mitigation Methods

Design phase mitigation emphasized the placement of the corridor and transmission line poles in areas of least possible environmental impact. A site review was conducted in conjunction with SFWMD personnel to field-verify chosen

placement of poles. The following criteria were used to avoid or minimize impacts during the design phase:

1. Position the transmission line in the certified corridor immediately adjacent to an existing corridor (OUC railroad) to minimize edge effect impacts of clearing forested wetland.
2. Construct a discontinuous access road, to be located only in those areas necessary to guarantee access to each pole.
3. Position poles in a manner to span wetlands. Use a minimal footprint pole design.

Impacts have been kept to the minimum amount possible. Those areas which will undergo unavoidable impacts (such as access road fill and clearing of forested wetlands) are addressed in Paragraph 2.2, Construction Phase Mitigation Methods.

2.2 Construction Phase Mitigation Methods

Certain unavoidable impacts to wetlands will occur in the certified corridor during the construction of the proposed project. These impacts will be restricted to filling less than an estimated two acres of disturbed herbaceous swales and removing trees from approximately 20 acres of forested wetlands within the transmission line corridor.

In order to mitigate these impacts, mitigation team members performed a screening process to select areas within the corridor that provide a maximum mitigation potential with a minimal disturbance to the area.

The following eight overall criteria were used from an ecological perspective:

1. Create and expand wetlands immediately adjacent to areas to be filled for pole access road construction.
2. Hand clear forested wetlands in the corridor in order to maintain soil and root mat structure.
4. Hand cleared forested wetlands beneath the transmission line will be allowed to undergo natural succession into an herbaceous marsh condition. It will be maintained in this state by the Orlando Utilities Commission (OUC).
5. Silt screens or their equivalent will be used as turbidity control until herbaceous vegetation has sprouted sufficiently enough to prevent erosion.

6. Areas suitable for the expansion of wetlands are depicted on the enclosed maps.
7. Wetlands will be created with the goal of no net loss of wetland acreage.
8. Minimize impact to areas known to be utilized by sandhill cranes.

3.0 Mitigation Areas

Each mitigation/expansion area will be approached in a similar consistent fashion. Preliminary estimates (Table 6.1-1) show a total of 1.87 acres of wetlands to be filled.

Each creation/expansion area will be constructed as close as possible to an area to be filled. To accommodate a no net loss of wetland acreage, upland pasture area within the corridor will be utilized where possible. The remaining areas will be located within the railroad corridor. At the wetland creation area, topsoils will be removed and stockpiled in the immediate area. Topsoils containing natural seed stocks will be replaced in the wetland so that the natural seed bank will form the initial herbaceous wetland stock.

Subsoil for use in road fill will then be removed from the created/expanded wetland area to construct the road.

The approximately .58 acre marsh with the nesting sandhill crane will be addressed using the following procedure:

1. Transmission line poles will be positioned to span the marsh.
2. Construction will be scheduled to avoid the sandhill crane's nesting season.
3. The marsh will not be disturbed.
4. The access road will be located in the swale adjacent to the railroad rather than in the marsh.

4.0 Conclusions

The plan is based upon the mitigation criteria of avoidance, minimization, restoration, and creation. By locating wetland creation/enhancement sites adjacent to fill areas, OUC will maintain existing drainage patterns.

Poles have been placed in nonwetlands wherever possible. Several additional poles were incorporated into the design to provide spacing necessary to avoid pole placement in wetlands.

The corridor location was positioned adjacent to an existing corridor to minimize unavoidable impacts to forested areas.

Pole access roads will be built only in those areas which have no alternative access to transmission line poles.

Herbaceous wetlands will be created/enhanced to replace those existing disturbed herbaceous wetlands which will be filled for required access roads.

The mitigation plan for the Stanton Energy Center, Unit 2 provides a balanced program to maintain wetland function and provide a no net loss of wetland acreage within the SFWMD.

SFWMD JURISDICTIONAL WETLANDS WITHIN THE TRANSMISSION LINE CORRIDOR

Within SFWMD jurisdiction, the proposed transmission line/pole access road corridor contains three general types of wetlands:

(1) Forested Wetlands.

The majority of the 23 acres of cypress domes and mixed hardwood/cypress wetlands within the corridor are connected to the Crosby Island Marsh System. The dominant canopy species include the following:

<u>Taxodium ascendens:</u>	pond cypress.
<u>Gordonia lasianthus:</u>	loblolly bay.
<u>Persea palustris:</u>	swamp bay.
<u>Acer rubrum:</u>	red maple.
<u>Nyssa sylvatica:</u>	black gum.
<u>Pinus serotina:</u>	pond pine.

Subcanopy and shrub vegetation at the periphery of the forested wetlands is dominated by the following:

<u>Myrica cerifera:</u>	wax myrtle.
<u>Lyonia lucida:</u>	fetterbush.
<u>Ilex glabra:</u>	gallberry.
<u>Ilex cassine:</u>	dahoon holly.

Scattered ground cover is mainly restricted to the periphery of the forested wetlands and is dominated by the following species:

<u>Dichromena latifolia:</u>	white-top sedge.
<u>Lachnocaulon spp.:</u>	bog-buttons.
<u>Xyris spp.:</u>	yellow-eyed grass.
<u>Woodwardia virginica:</u>	Virginia chain fern.

(2) Manmade Herbaceous Wetlands Swales.

The majority of the existing railroad corridor contains manmade swales with a disturbance-tolerant herbaceous plant community dominated by the following species:

<u>Bacopa caroliniana</u> :	blue-eyed hyssop.
<u>Bidens alba</u> :	begger-ticks.
<u>Cyperus brevifolius</u> :	flat sedge.
<u>Cyperus esculentus</u> :	yellow nut grass.
<u>Hypericum</u> sp.:	St. John's wort.
<u>Juncus marginatus</u> :	rush.
<u>Juncus elliotii</u> :	rush.
<u>Rhynchospora fascicularis</u> :	horned rush.

Less than two acres of these forested wetlands function as stormwater control areas. Hand clearing of the tree canopy within the transmission line corridor will not remove this functional role. Herbaceous wetland vegetation will be allowed to colonize the cleared wetlands from nearby seed sources.

(3) Herbaceous Marshes.

A small amount of herbaceous marsh is located within the proposed transmission line corridor, primarily in pastures. These low diversity disturbed marshes contain the following herbaceous plants and low shrubs as dominants:

<u>Cyperus</u> spp.:	flat sedges.
<u>Juncus</u> spp.:	rushes.
<u>Xyris</u> spp.	yellow-eyed grass.
<u>Bacopa caroliniana</u> :	blue-eyed hyssop.
<u>Centella asiatica</u> :	coinwort.
<u>Hydrocotyl umbellata</u> :	water pennywort.
<u>Mikania scandens</u> :	climbing hempweed.

TABLE 6.1-1
ORLANDO UTILITIES COMMISSION
STANTON - MUD LAKE 230 KV TRANSMISSION LINE
SUMMARY OF DESIGN DATA AND LAND USE

LOCATION			ACCESS ROAD SUMMARY					CLEARING SUMMARY				FOUNDATION	
FROM STRUCTURE NUMBER	TO STRUCTURE NUMBER	R/W WIDTH (FT) (1)	SPAN (FT)	LENGTH (FT)	FILL (CU YDS)	WETLAND FILLING		WETLAND CLEARING		EXCAVATION			
						STATE (AC)	FEDERAL (AC)	STATE (AC) (2)	FEDERAL (AC) (2)	WETLAND (CU YDS)			
101	102	120	930	0	0.0	0.00	0.00	0.00	0.00	0.0			
102	103	120	950	0	0.0	0.00	0.00	0.00	0.00	0.0			
103	104	120	950	0	0.0	0.00	0.00	0.00	0.00	0.0			
104	105	120	950	0	0.0	0.00	0.00	0.00	0.52	0.0			
105	106	120	960	800	1866.7	0.50	0.50	1.65	1.98	0.0			
106	107	120	900	0	0.0	0.00	0.00	0.00	1.81	0.0			
107	108	120	850	0	0.0	0.00	0.00	0.00	1.76	0.0			
108	109	120	830	0	0.0	0.00	0.00	0.00	1.71	0.0			
109	110	120	800	0	0.0	0.00	0.00	0.00	0.52	0.0			
110	111	120	940	0	0.0	0.00	0.00	0.00	0.00	0.0			
111	112	120	940	0	0.0	0.00	0.00	0.00	0.00	0.0			
112	113	120	940	0	0.0	0.00	0.00	0.00	0.00	0.0			
113	114	120	940	0	0.0	0.00	0.00	0.00	0.00	0.0			
114	115	120	940	250	583.3	0.15	0.15	0.52	0.52	0.0			
115	116	120	940	220	513.3	0.14	0.14	0.45	0.45	0.0			
116	117	120	940	0	0.0	0.00	0.00	0.00	0.00	0.0			
117	118	120	940	150	350.0	0.00	0.00	0.00	0.00	0.0			
118	119	120	900	0	0.0	0.00	0.00	0.00	0.00	0.0			
119	120	120	900	0	0.0	0.00	0.00	0.00	0.00	0.0			
120	121	120	900	0	0.0	0.00	0.00	0.00	0.00	0.0			
121	122	120	900	200	466.7	0.12	0.12	0.41	0.41	0.0			
122	123	120	900	150	350.0	0.09	0.09	0.31	0.31	0.0			
123	124	120	900	0	0.0	0.00	0.00	0.00	0.00	0.0			
124	125	120	900	0	0.0	0.00	0.00	0.00	0.00	0.0			
125	126	120	900	0	0.0	0.00	0.00	0.00	0.21	0.0			
126	127	120	900	0	0.0	0.00	0.00	0.00	0.00	0.0			
127	128	120	800	0	466.7	0.12	0.12	0.00	0.00	0.0			
128	129	120	800	50	116.7	0.03	0.03	0.10	0.10	31.4			
129	130	120	900	0	0.0	0.00	0.00	1.24	1.76	0.0			
130	131	120	900	0	0.0	0.00	0.00	0.00	0.00	0.0			
131	132	120	900	0	0.0	0.00	0.00	0.41	0.83	0.0			
132	133	120	850	0	0.0	0.00	0.00	0.00	0.10	0.0			
133	134	120	850	0	0.0	0.00	0.00	0.00	0.00	0.0			
134	135	120	820	450	1050.0	0.28	0.28	1.14	1.14	0.0			

(1) TOTAL WIDTH INCLUDING PORTIONS THAT MAY EXTEND OVER OTHER RIGHTS-OF-WAY.
(2) WETLAND CLEARING ACREAGE INCLUDES ACCESS ROAD IMPACT AREA.

TABLE 6.1-1
ORLANDO UTILITIES COMMISSION
STANTON - MUD LAKE 230 KV TRANSMISSION LINE
SUMMARY OF DESIGN DATA AND LAND USE

LOCATION			ACCESS ROAD SUMMARY				CLEARING SUMMARY				FOUNDATION	
FROM STRUCTURE NUMBER	TO STRUCTURE NUMBER	R/W WIDTH (FT) (1)	SPAN (FT)	LENGTH (FT)	FILL (CUYDS)	WETLAND FILLING		WETLAND CLEARING		WETLAND (CU YDS)		
						STATE (AC)	FEDERAL (AC)	STATE (AC) (2)	FEDERAL (AC) (2)			
135	136	120	850	0	0.0	0.00	0.00	0.00	0.00	0.0		
136	137	120	850	0	0.0	0.00	0.00	0.00	0.00	0.0		
137	138	120	850	350	816.7	0.22	0.22	0.62	1.14	0.0		
138	139	120	850	0	0.0	0.00	0.00	0.56	0.72	0.0		
139	140	120	850	0	0.0	0.00	0.00	0.00	0.00	0.0		
140	141	120	910	0	0.0	0.00	0.00	0.00	0.00	0.0		
141	142	120	910	0	0.0	0.00	0.00	0.00	0.00	0.0		
142	143	120	910	0	0.0	0.00	0.00	0.00	0.00	0.0		
143	144	120	910	350	816.7	0.22	0.22	0.41	0.72	31.4		
144	145	120	910	0	0.0	0.00	0.00	1.03	1.88	31.4		
145	146	120	910	0	0.0	0.00	0.00	0.00	1.18	0.0		
146	147	120	750	0	0.0	0.00	0.00	0.62	1.14	0.0		
147	148	120	910	0	0.0	0.00	0.00	0.00	0.48	31.4		
148	149	120	910	0	0.0	0.00	0.00	0.00	1.57	0.0		
149	150	120	840	0	0.0	0.00	0.00	0.00	0.00	0.0		
150	151	120	840	0	0.0	0.00	0.00	0.00	0.00	0.0		
151	152	120	840	0	0.0	0.00	0.00	0.00	0.00	0.0		
152	153	120	830	0	0.0	0.00	0.00	0.00	0.10	0.0		
153	154	120	800	0	0.0	0.00	0.00	0.00	0.00	0.0		
SUBTOTAL			46990	3170	7396.7	1.87	1.87	9.48	23.05	125.6		
(SOUTH FLORIDA WATER MANAGEMENT DISTRICT JURISDICTION)			8.9									

- (1) TOTAL WIDTH INCLUDING PORTIONS THAT MAY EXTEND OVER OTHER RIGHTS-OF-WAY.
(2) WETLAND CLEARING ACREAGE INCLUDES ACCESS ROAD IMPACT AREA.

TABLE 6.1-1
ORLANDO UTILITIES COMMISSION
STANTON - MUD LAKE 230 KV TRANSMISSION LINE
SUMMARY OF DESIGN DATA AND LAND USE

LOCATION			ACCESS ROAD SUMMARY						FOUNDATION		
FROM STRUCTURE NUMBER	TO STRUCTURE NUMBER	R/W WIDTH (FT) (1)	SPAN (FT)	LENGTH (FT)	FILL (CUYDS)	WETLAND FILLING		CLEARING SUMMARY		WETLAND EXCAVATION (CU YDS)	
						STATE (AC)	FEDERAL (AC)	STATE (AC) (2)	FEDERAL (AC) (2)		
153	154	120	800	0	0.0	0.00	0.00	0.00	0.97	31.4	
154	155	120	950	0	0.0	0.00	0.00	0.17	1.96	31.4	
155	156	120	960	400	933.3	0.25	0.25	0.79	1.98	31.4	
156	157	120	960	0	0.0	0.00	0.00	0.54	1.01	0.0	
157	158	120	960	0	0.0	0.00	0.00	0.00	0.00	0.0	
158	159	120	960	0	0.0	0.00	0.00	0.00	0.00	0.0	
159	160	120	1000	0	0.0	0.00	0.00	0.00	0.00	0.0	
160	161	120	870	0	0.0	0.00	0.00	0.00	0.00	0.0	
161	162	120	1050	0	0.0	0.00	0.00	0.30	1.87	0.0	
162	163	120	750	0	0.0	0.00	0.00	0.91	2.48	31.4	
163	164	120	900	0	0.0	0.00	0.00	0.07	2.48	31.4	
164	165	120	900	0	0.0	0.00	0.00	1.09	2.34	0.0	
165	166	120	850	0	0.0	0.00	0.00	1.38	2.34	0.0	
166	167	120	850	0	0.0	0.00	0.00	1.24	2.34	0.0	
167	168	120	850	0	0.0	0.00	0.00	0.33	2.20	0.0	
168	169	120	800	0	0.0	0.00	0.00	0.74	2.34	0.0	
169	170	120	850	0	0.0	0.00	0.00	0.00	0.00	0.0	
170	171	100	900	0	0.0	0.00	0.00	0.00	0.00	0.0	
171	172	100	665	0	0.0	0.00	0.00	0.00	0.00	31.4	
172	173	100	665	0	0.0	0.00	0.00	0.00	0.04	0.0	
173	174	100	660	0	0.0	0.00	0.00	0.00	0.04	31.4	
174	175	100	660	0	0.0	0.00	0.00	0.00	0.08	31.4	
175	176	100	660	0	0.0	0.00	0.00	0.05	0.08	31.4	
176	177	100	660	660	415.6	0.26	0.26	0.07	0.08	31.4	
177	178	100	660	660	415.6	0.26	0.26	0.03	0.08	0.0	
178	179	100	660	660	415.6	0.26	0.26	0.12	1.00	31.4	
179	180	100	725	725	456.5	0.28	0.28	0.34	1.00	31.4	
180	181	100	725	725	456.5	0.28	0.28	0.00	0.83	31.4	
181	182	100	600	600	377.8	0.23	0.23	0.00	0.83	31.4	
182	183	100	600	600	377.8	0.23	0.23	0.00	0.72	31.4	
183	184	100	520	520	327.4	0.20	0.20	0.00	0.72	31.4	

(1) TOTAL WIDTH INCLUDING PORTIONS THAT MAY EXTEND OVER OTHER RIGHTS-OF-WAY.
(2) WETLAND CLEARING ACREAGE INCLUDES ACCESS ROAD IMPACT AREA.

TABLE 6.1-1
ORLANDO UTILITIES COMMISSION
STANTON - MUD LAKE 230 KV TRANSMISSION LINE
SUMMARY OF DESIGN DATA AND LAND USE

LOCATION		ACCESS ROAD SUMMARY										CLEARING SUMMARY				FOUNDATION	
FROM STRUCTURE NUMBER	TO STRUCTURE NUMBER	R/W WIDTH (FT) (1)	SPAN (FT)	LENGTH (FT)	FILL (CUYDS)	WETLAND FILLING		WETLAND CLEARING		EXCAVATION		WETLAND		IN			
						STATE (AC)	FEDERAL (AC)	STATE (AC) (2)	FEDERAL (AC) (2)	STATE (AC) (2)	FEDERAL (AC) (2)	WETLAND (CU YDS)		WETLAND			
184	185	100	780	780	491.1	0.30	0.30	0.00	0.00	0.00	0.00	31.4		31.4			
185	186	100	670	220	309.6	0.12	0.12	0.09	0.03			31.4		31.4			
186	187	140	650	0	0.0	0.00	0.00	0.00	1.79			31.4		31.4			
187	188	140	690	0	0.0	0.00	0.00	0.00	1.90			31.4		31.4			
188	189	140	500	0	0.0	0.00	0.00	0.00	0.55			0.0		0.0			
SUBTOTAL			27110	6550	4976.7	2.68	2.68	8.26	32.37			565.2					
(ST JOHNS WATER MANAGEMENT DISTRICT JURISDICTION)			5.1														
TOTALS			74100	9720	12373.3	4.55	4.55	17.74	55.42			690.8					
			14.0														

- (1) TOTAL WIDTH INCLUDING PORTIONS THAT MAY EXTEND OVER OTHER RIGHTS-OF-WAY.
(2) WETLAND CLEARING ACREAGE INCLUDES ACCESS ROAD IMPACT AREA.