

**SOUTHERN NATURAL GAS COMPANY
CYPRESS PROJECT**

WETLAND MITIGATION PLAN

April 28, 2006

CYPRESS PROJECT

MITIGATION PLAN

1.0 IMPACTS AND MITIGATION

The environmental project planning and review process typically involves three steps with regard to wetlands and environmental impacts: 1) avoidance, 2) minimization, and 3) mitigation. Identification of major stream and wetland ecosystems played a major role in identifying system alternatives for the Cypress Project, and Southern has sited the Cypress pipeline route to avoid wetlands and waterbodies to the maximum extent possible.

In its route analysis, Southern identified three major route alternatives: an offshore route in the Atlantic Ocean, an onshore route that parallels an abandoned railroad for a significant portion of its distance, and the preferred route, which parallels existing utility corridors for more than 90% of its distance. Once major route alternatives were identified that met the project objectives, Southern utilized USGS topographic quadrangles, National Wetlands Inventory (NWI) maps, soil surveys and hydric soils information, aerial photographs, and selected site visits to facilitate its final route selection. Upon selection of a preferred route (based on results of the detailed environmental analyses evaluating a multitude of environmental variables by Southern, FERC, and other agencies and reviewers), further evaluations were accomplished using overflights, aerial photographs, and field investigations by environmental scientists and engineers. The route was modified to avoid wetland ecosystems or traverse them at the narrowest crossing location to the extent practical. Wetland impacts could not be completely avoided due to the extent of the proposed project, its linear configuration, and the fact that many wetland systems traversed are linear riparian wetlands and perpendicular to the proposed route.

Construction, operation, and maintenance of the Cypress Project will result in two types of environmental impacts, temporary and permanent, based on the type of wetland vegetation. FERC has further separated these into four types of impacts: temporary (only during the construction period); short-term (3 years); long-term (more than 3 years); and permanent. Temporary impacts occur during the construction period and will be mitigated by erosion and sedimentation controls, revegetation methods, and construction procedures as described in the following discussion and in other project documents. In non-forested wetlands, the construction impacts will be relatively short-term, as herbaceous and scrub-shrub vegetation regenerates within 1 to 2 growing seasons in the project area. In forested wetlands, the impacts will be long-term or permanent due to the longer recovery period of the vegetation types and restrictions on woody vegetation within the permanently maintained right-of-way. The temporary right-of-way will be allowed to revert through succession, using the existing root stock and seed bank, to naturally occurring forested communities after the completion of primary restoration work. The permanent right-of-way will be restored and maintained in non-forested vegetation through manual clearing performed during periodic (typically every 3 years) operation and maintenance activities. Southern will maintain a 10-foot strip centered over the pipe as herbaceous wetland. In addition, trees within 15 feet of the pipeline greater than 15 feet in height may be selectively cut and removed from the permanent right-of-way. Therefore, permanent impacts will occur on the permanent right-of-way areas that are currently forested, particularly forested wetlands and natural forests that are not plantations. However, forested wetlands will be transformed to, and maintained as, herbaceous and/or scrub-shrub wetlands within the permanent right-of-way. These wetland impacts can be summarized based on the change of palustrine forested habitat (PFO) to palustrine emergent (PEM) and palustrine scrub-shrub (PSS) in a 30-foot corridor centered over the pipe within the permanent easement. Cumulative impacts on forested wetlands resulting from pipeline construction and maintenance can best be seen as a ratio change in wetland type, while possibly contributing to habitat fragmentation at the landscape scale.

(Johnston 1994) in some areas, without proper planning.

Permanent rights-of-way will be maintained as previously described unless used for agricultural purposes. All temporary workspace areas will revert to the landowner and will be restored in accordance with the FERC guidelines and the right-of-way and temporary workspace agreement with the landowner. Southern will permit uses that are consistent with the maintenance of the pipeline within the entirety of the permanently maintained right-of-way. Examples of such uses are gardens, agricultural activities, and recreational uses. Types of uses not consistent with maintenance requirements include planting of trees and large shrubs, and the construction of permanent structures, such as garages, barns, utility buildings, ponds, and in-ground swimming pools.

Construction of the proposed pipeline may involve short-term impacts on soil and hydrology in both forested and non-forested areas resulting from vegetation clearing and excavation activities. Major concerns typically associated with construction across wetlands include:

- Potential erosion due to water and/or wind;
- Potential increased siltation and turbidity in inundated wetlands from trenching activities;
- Potential compaction and rutting of soils along the right-of-way caused by the temporary stockpiling of soils and heavy construction equipment;
- Potential top-soil mixing resulting in a decrease in soil fertility and, hence, in the long-term productivity of the land;
- Potential alteration of surface drainage patterns during construction resulting from stockpiling of topsoil and subsoil, and trenching activities; and
- Potential invasion by exotic or nuisance plant species, particularly vines.

Potential disturbance to wetland communities along the proposed pipeline route will be minimized by locating the construction right-of-way within or adjacent to existing rights-of-way to the extent possible. In addition, potential impacts will be minimized by implementing proper erosion and sediment control and topsoil segregation measures as outlined in Southern's Upland Erosion Control, Revegetation, and Maintenance Plan (Plan) and Wetland and Waterbody Construction and Mitigation Procedures (Procedures) (Appendix A). Southern will apply project-specific wetland and waterbody construction and mitigation procedures developed to minimize construction impacts on surface water resources. These procedures incorporate all waterbody construction and mitigation measures developed by the FERC. Construction measures apply to any stream or river with perceptible flow at the time of construction and permanent water bodies such as ponds, lakes, and wetlands.

Soils in the construction right-of-way could also be adversely impacted by contamination from equipment leaks. Soil impacts will be minimized and controlled by construction supervision and inspection, and cleanup by removal if necessary. Southern has developed a project – specific Spill Prevention, Containment, and Countermeasures (SPCC) Plan for the Cypress Project.

Southern will assign craft inspectors and environmental inspectors during construction of the proposed project facilities. These inspectors will ensure that construction contractors adhere to and implement all applicable environmental mitigation measures. Inspectors will have stop work authority and will be present at all times during construction. In addition, Southern has incorporated all environmental information into the contract bid documents, and will give appropriate instruction and/or training to the selected contractor(s) and inspectors involved in the implementation of said guidelines.

Floodplain impacts will be temporary and not significant with regard to flooding. Major

waterbodies on the Cypress route will be traversed by horizontal directional drill (HDD) to minimize impacts. Construction areas will be minimized in wetland areas and protected by implementing erosion and sediment controls. Work will cease in floodplain areas prior to any expected flood events. Land surface contours will be restored to existing conditions and exposed soils revegetated once the pipeline is buried.

For the purposes of this mitigation plan, short- and long-term impacts on forested wetlands along the Cypress Project will be evaluated using information obtained during the field surveys. A discussion of the specific wetland impacts resulting from construction of the Cypress Project follows.

1.1 Wetlands

Pipeline Facilities

Although there will be no loss of wetland area resulting from the construction of the Cypress Project pipeline, there will be a change in wetland vegetation and function in some wetlands. Forested wetlands that will become part of the permanent right-of-way will be maintained in an herbaceous or scrub-shrub state. Forested wetlands and scrub-shrub wetlands cleared for temporary workspace will be allowed to revert to their pre-construction condition. Scrub-shrub and herbaceous wetlands will be allowed to revert to their pre-construction condition on the permanent right-of-way. These wetlands will be marked in order to prevent maintenance activities such as mowing from disturbing the vegetation. As outlined in Southern's Procedures, wetland revegetation efforts will be continued until successful. Consultations between Southern and the appropriate regulatory agencies will determine any restoration efforts necessary for wetland impacts. As a result of changes to wetland vegetation, habitats within the wetland will change. Therefore, some animal species will emigrate from the wetland to other areas while other species will migrate into the new wetland habitat. Permanent impacts that may occur, such as the change in wetland type, will be mitigated for under the terms and conditions set forth by state and federal regulatory agencies during the permitting process.

Construction of the proposed pipeline project across wetlands will result in short-term disturbances to wetland hydrology and water quality. However, construction through wetlands will be expedited to reduce the duration of disturbance. In addition, all attempts will be made to maintain existing drainage patterns by following procedures outlined in Southern's Procedures.

In some areas, Southern will co-locate its pipeline with existing utilities, and in other areas, utilize a portion of the utility corridors it abuts as part of the temporary workspace required for construction. This will reduce the amount of clearing required during construction; thereby reducing the amount of wetland impact.

Efforts will be made before, during, and after pipeline construction to minimize the extent and duration of project-related disturbance to wetland resources. A detailed outline of the Cypress Project's construction and mitigation measures for wetlands is provided in Southern's Procedures. Table 1.1-1 shows the types of wetlands that would be affected by construction and operation of the Cypress Project.

TABLE 1.1-1

WETLAND TYPES AFFECTED BY CONSTRUCTION AND OPERATION OF THE CYPRESS PROJECT

	PFO			PEM			PSS		
	Construction ^a	Operation	Additional Corps Permitted Acreage ^b	Construction ^a	Operation	Additional Corps Permitted Acreage ^b	Construction ^a	Operation	Additional Corps Permitted Acreage ^b
Pipeline									
Georgia (30-inch)	16.6 (3.9)	0.1	N/A	62.6	0.0	10.2	1.3	0.0	N/A
Georgia (24-inch)	306.5 (23.3)	143.7 (12.7)	N/A	117.0	0.0	90.4	39.0	0.0	N/A
Florida (24-inch)	64.2 (31.5)	33.0 (14.8)	N/A	47.7	0.0	23.9	7.0	0.0	N/A
Total	387.3 (58.7)	176.8 (27.5)	N/A	227.3	0.0	124.5	47.3	0.0	N/A
Above Ground Facilities									
Georgia									
Port Wentworth	0.3	0.0	N/A	0.0	0.0	N/A	0.0	0.0	N/A
Rincon Gate	0.9	0.7	N/A	2.0	0.8	N/A	0.0	0.0	N/A
Totals	1.2	0.7	N/A	2.0	0.8	N/A	0.0	0.0	N/A

a/ Construction acreages include the entire construction workspace, including the permanent easement area and ATWS.

b/ All additional Corps permitted acreage is within the existing cleared and maintained rights-of-way.

Key:

PFO – Palustrine Forested (Acreages shown in parentheses indicate the portion of PFO that is hydric pine plantation)

PEM – Palustrine Emergent

PSS – Palustrine Scrub/Shrub

Aboveground Facilities

Compressor Station #1: Compressor Station #1 is proposed for construction at approximate MP 40.6 in Liberty County, at State Highway 119. Four 30-acre quadrants at the intersection of the proposed corridor with State Highway 119 were evaluated prior to selecting the northwest quadrant, which is currently in silvicultural production. The northeast, southeast, and southwest quadrants contain large forested wetlands characterized by standing water.

Approximately 32.6 acres will be acquired to construct Compressor Station #1. Approximately 13.5 acres of the site would be impacted during construction. The actual footprint of the compressor facilities would require approximately 5.5 acres, which would be fenced, while the remainder of the site would be used as buffer.

Compressor Station #2: Compressor Station #2 is proposed for construction at approximate MP 84.6 in Glynn County, Georgia, at the intersection of the pipeline with Sand Hill Road. This site was selected when it was determined that Southern's original preferred site was unavailable. Southern will acquire approximately 30 acres at this location, but has not determined which quadrant would be best suited for a compressor site. The area is currently used for commercial timber production. No wetlands have been identified at this location by environmental field teams investigating the pipeline corridor. Additional surveys will be conducted when Southern reaches a purchase agreement with the owner for the property.

The site will require clearing and grading to accommodate construction of the compressor station and entry road. All construction activities will be conducted within the limits of the proposed station boundaries. Southern will impact approximately 15.6 acres of the site for construction of the compressor station and appurtenances. Approximately 5.9 acres will be permanently converted to commercial use. The remainder of the site will remain undisturbed and utilized as a buffer area to reduce visual and noise impacts.

Compressor Station #3: The preferred site for Compressor Station #3 is located at approximate MP 126.6, in Nassau County, Florida. All four quadrants were evaluated at this location, and the southwest quadrant was selected as being the most suitable. This site is dominated by planted pine and is adjacent to County Road 108. There are no wetlands associated with the Compressor Station #3 site.

The Atlanta Gas Light Meter Station, South Georgia Meter Station, Brandy Branch Meter Station, and FGT Meter Station will be located in upland areas; therefore, there will be no wetland impacts as a result of their construction and no mitigation will be required.

The Port Wentworth site is an existing facility. Construction activities associated with the tie-ins with the 30-inch Loop will impact approximately 0.3 acre of PFO during Phase III of the Project. These impacts are included in Table 1.1-1.

Construction of facilities near the Rincon Gate site will permanently impact 1.2 acres of wetlands. Wetland impacts for construction of these new facilities are included in the Cypress mitigation calculations for Phase I of the Project.

Warehouse Sites and Access Roads

Wetlands which exist at the Cypress warehouse sites are listed in Table 1.1-2. To avoid impacting wetlands within the warehouse sites, Southern will use silt fence or other erosion control devices as appropriate to isolate wetland portions of the site. These areas will not be used during construction, and access to these areas will be restricted. Southern will use erosion control techniques, as outlined in its Plan and Procedures, to prevent adverse impacts to wetlands at warehouse sites.

TABLE 1.1-2

PROPOSED WAREHOUSES AND PIPEYARDS FOR THE CYPRESS PROJECT

Facility Name		Location	Associated Wetlands/ Waterbodies	Comments
Number	Common Name			
Pipeyards				
CM-2	Savannah Transflo	Chatham County, GA	None	Paved site with rail siding
CM-2 Alt.	McKinney Storage Yard	Chatham County, GA	None	Prepared industrial site
	Thalman Wood Yard	S Hwy.32, Glynn County, GA	None	Existing industrial site (timber storage yard)
WH-9	Post Road Site	Post Rd./US Hwy 82 Glynn County, GA	None	Upland site
CH-1 /WH-11	Folkston Pipeyard	Hwy 1/301 and Hwy 40 E, Folkston, GA	None	Old RR Storage yard
Rail Yards				
	CSX Track 7 Rail Yard	SR 303, Glynn County, GA	None	Industrial Site
	CSX / Rail Link – Gross Siding	Hwy 17 & I-95 Nassau County, FL	None	Paved upland site – RR siding
Warehouses				
WH-2	Warehouse 2 / Midway Warehouse	Hwy 84/Charlie Butler Rd., Liberty County, GA	AWH1001, AWH1002	Area maintained in grassy state. Two disturbed, low quality wetlands on site.
WH-3	McIntosh Warehouse	US Hwy 84, Liberty County, GA	None	Disturbed site with rock ballast underlayment
WH-7	Townsend Warehouse	Seaboard Rd. McIntosh County, GA	none	Grass meadow.
WH-8/MC-2	Darien Warehouse	Hwy. 251/McIntosh Industrial Blvd. McIntosh County, GA	AWH8-001 WF1AMC001	Area is mostly open, cleared pasture with small PFO at edge of site – PFO will not be impacted during use. Proper BMPs will be maintained.

TABLE 1.1-2**PROPOSED WAREHOUSES AND PIPEYARDS FOR THE CYPRESS PROJECT**

Facility Name		Location	Associated Wetlands/ Waterbodies	Comments
Number	Common Name			
WH-10	Rice Pond Rd.	US 1/23 – SR4	None	Barren land. No issues.
WH-12	Crawford Site	Nassau County, FL	None	Pasture/former RR Storage Yard
DU-1	New Baldwin Warehouse	Hwy. 301, Baldwin, FL	WF1ADU001	Low quality PEM wetland (tilled) – will not be impacted during use. Proper BMPs will be maintained.
	Scarpalezos	New Jesup Hwy. Brunswick, GA	SF4AGL001 SF4AGL002 SF4AGL003 W4AGL002	All wetlands/waterbodies have been channelized within site boundary during previous development activities. Proper BMPs will be maintained.

No improvements to access roads with adjacent wetlands are anticipated. Southern will use BMPs outlined in its Plan and Procedures to minimize impacts if it is determined that improvements will be needed in certain areas. Southern will also contact the appropriate regulatory agencies to obtain authorization to construct if improvements to access roads in wetlands are required.

Conservation Easements

The Cypress Project will cross areas on the Coldbrook Plantation subdivision along Southern's existing corridor in Chatham/Effingham counties, Georgia. Coldbrook Plantation properties begin approximately one-half mile north of Georgia State Hwy 30 (Piedmont Ave.) and end approximately 0.75 miles south of Goshen Rd. from MPs 99.3 to 100.6. A restrictive covenant was placed on the undeveloped wetland areas within the subdivision by the developer to mitigate for dredge and fill activities associated with road construction. The existing pipeline corridor transects the covenanted properties; therefore, loop line construction is unavoidable through this area. Southern will require temporary workspace through this area to construct its 30-inch loop. Covenant wetland impacts would involve clearing of approximately 3.07 acres of forested wetland and disturbance of approximately 0.02 acres of scrub-shrub wetland and 5.71 acres of emergent wetland along a 25-foot temporary easement for approximately one mile. The entire area would be re-graded to pre-existing conditions and re-planted or otherwise allowed to revegetate to its pre-construction condition. There would be no loss of wetland and no permanent change in habitat types. The areas impacted would remain within the restrictive covenant. Southern plans to negotiate a waiver to the restrictive covenant with affected landowners and regulatory agencies prior to Phase III construction in this corridor in 2009. Mitigation for impacts in this area has been included in Table 1.1-1.

The Georgia Department of Natural Resources (GDNR) manages a 300-foot easement corridor along the banks of the Altamaha River at MP 62.8, at the boundary of McIntosh and Glynn counties, Georgia. This easement is within the area proposed for the HDD crossing of the Altamaha River and will not be visually affected. Southern has negotiated a permanent easement

through the Altamaha River Scenic Easement with GDNR, which has been approved by the State Legislature.

The Cypress pipeline route will traverse a tract of land in Glynn County, Georgia (GL-196.1, MP 68.5) that has been placed under a conservation easement by the owner in consultation with the USACE. The owner uses the mitigation credits available on the property to offset impacts from the owner's development activities. Southern is working with the owner and the USACE Savannah District to amend the conservation easement to allow a pipeline easement across the property.

In Nassau County, Florida, the Cypress pipeline traverses the Longleaf Mitigation Bank (NA-309, 311, MP 136.7), a commercial bank providing mitigation credits for wetland impacts. Southern is negotiating with Longleaf and the agencies regulating the bank to obtain an easement and temporary work area across these tracts. Southern also has agreed to purchase mitigation credits from this bank as compensatory mitigation for its forested wetland impacts in Florida.

The Cypress Project effectively routed around an additional wetland conservation easement in Duval County, Florida at approximate MP 149.7. The easement encompassed the creation of 4.4 acres of cypress wetlands and 1.4 acres of herbaceous wetlands for mitigation of fill of 2.2 acres of forested cypress wetlands by the Jacksonville Electric Authority in Duval County, Florida. During consultations with the Jacksonville District of the U. S. Army Corps of Engineers and the Florida Department of Environmental protection Division, Southern determined that it would be prudent to avoid the conservation easement and any additional forested wetland impacts. The re-route (05-04) in this area avoided both concerns by routing between the conservation easement to the east and a small forested wetland to the west in a southwesterly direction before rejoining the original route at MP149.9.

The Cypress pipeline route traverses a tract in Duval County (DU-339.1) owned by the City of Jacksonville and managed by Loblolly Mitigation Preserve as a commercial mitigation bank. Southern currently is negotiating with the City of Jacksonville and the regulatory agencies for an easement across this tract.

**TABLE 1.1-3
WETLAND CONSERVATION EASEMENTS TRAVERSED BY THE CYPRESS PIPELINE**

State	Name	Tract ID No.	MP	Owner	Length (feet)	Wetlands Affected	Acres			
							PFO	PSS	PEM	Total
Georgia										
30-inch Loop	Coldbrook Plantation	278	99.0	Mc Cartney	348	W2AEF003	0.19	0.0	0.41	0.60
		278.2	99.4	Scholl	88	W2AEF002	0.0	0.0	0.11	0.11
		278.5	99.5	Spivey	66	W2AEF001	0.32	0.0	0.72	1.04
		278.6	99.6	JACP Properties & Capallo Family	144	W2AEF001	0.63	0.0	0.98	1.61
		278.7	99.7	Evans	937	W2AEF001	0.29	0.0	0.16	0.45
		278.8	99.9	Bradley	916	W2AEF001	0.36	0.0	0.77	1.13
		278.9	100.0	JACP Properties & Capallo Family	394	W2AEF001	0.21	0.0	0.46	0.67
						W1ACM017				
		278.10	100.1	Capallo	1,849	W1ACM017	1.07	0.02	2.10	3.19
						W1ACM016				
				W1ACM015						
				W1ACM014						

**TABLE 1.1-3
WETLAND CONSERVATION EASEMENTS TRAVERSED BY THE CYPRESS PIPELINE**

State	Name	Tract ID No.	MP	Owner	Length (feet)	Wetlands Affected	Acres			
							PFO	PSS	PEM	Total
24-inch	Coastal Industries	GL-196.1	68.5	Coastal Industries Contracting	567	W1ABGL015	5.09	0.0	5.35	10.44
						W1ABGL016				
Florida										
	Longleaf Mitigation Bank	NA-309/311	136.7/ 138.1	Bryceville Timber, LLC	15,375	A1BNA009	3.43	0.0	1.93	5.36
						A1BNA010				
						A1BNA011				
						A1BNA012				
	Loblolly Mitigation Preserve, LLC	DU-339.1	154.0	City of Jacksonville (Real Estate Division)	893	Yellow Water Creek	0.0	0.0	0.0	0.0

1.2 Waterbodies

The greatest potential impact on surface waters may result from suspension of sediments caused by in-stream construction or by erosion of cleared stream banks and adjacent rights-of-way. The extent of any impacts will depend on sediment loads, flow, velocity, turbulence, stream bank and stream bed composition, sediment particle size, and the duration of disturbances. A short-term increase in water column turbidity also may occur as a result of runoff associated with pipeline construction activities in upland areas, underwater excavation, and backfilling of the pipeline trench.

Construction may cause temporary emigration of fish populations from the immediate area, and fish movements and migrations upstream or downstream may be temporarily disrupted by construction activities. However, it is unlikely that relocation or disrupted migration will significantly affect fish populations because construction activities are short term.

Although stream crossing construction activities increase in-stream turbidity for a short-time and for a short-distance downstream, this effect may be minimized by scheduling stream crossing activities during low flow conditions. Therefore, if practicable, construction of stream crossings will be scheduled during low flow conditions and will be completed as quickly as possible. Furthermore, significant turbidity will be caused only during the actual installation of the pipe and will therefore be temporary. The construction method utilized for a particular stream crossing will be compatible, to the greatest extent practicable, with the environmental sensitivity of the stream and the type of bottom or bank sediments. In consideration of the results of the biological surveys, and in consultation with appropriate regulatory agencies, Southern is proposing thirteen HDDs along the proposed route, in part to minimize impacts to environmental features. Depending upon site conditions at the time of construction, dry crossing methods may be utilized at some waterbodies crossed by the pipeline, minimizing temporary in-stream impacts.

Construction and mitigation for the perennial and intermittent waterbodies crossed by the proposed Project will follow procedures outlined in Southern's Plan and Procedures. These methods will be used to prevent turbidity from erosion of adjacent areas during and after construction and will be implemented to minimize siltation, sedimentation, and other impacts that may temporarily affect stream vegetation and wildlife. In addition to implementing guidelines in its Plan and Procedures, the Cypress Project pipeline will parallel existing utility corridors to the extent possible to minimize impacts to undisturbed areas.

Southern will protect and minimize potential adverse impacts to streams by implementing the following:

- expediting construction and limiting the amount of equipment and activities in waterbodies;
- reducing the clearing of trees and leaving in place as many trees as possible on stream banks;
- constructing waterbody crossings as perpendicular to the axis of the waterbody channel as engineering and routing conditions allow;
- maintaining ambient downstream flow rates;
- removing all construction material and structures from the waterbody after construction;
- restoring stream channels and bottoms to their original configurations and contours;
- permanently stabilizing stream banks and adjacent upland areas after construction; and
- inspecting rights-of-way periodically during and after construction and repairing any erosion controls and/or performing restoration, as needed, in a timely manner.

The proposed pipeline crossings of the three Nationwide Inventory Rivers (Altamaha River, Satilla River, and St. Marys River) are detailed on site - specific crossing drawings prepared for the project. Southern will implement HDDs at these river crossings in order to protect the “Outstanding Remarkable Values” that each possesses. Southern will continue to coordinate these crossings with all appropriate agencies and will receive the necessary permits and approvals to conduct this work, including those required from the USACE, GDNR, and FDEP.

1.3 Proposed Mitigation

Mitigation is variously defined by regulatory agencies as the process by which wetland impacts are offset by some activity aimed at providing wetland functions similar to those affected by a permitted project. Mitigation options include and are usually prioritized as follows: 1) enhancement of degraded wetlands or restoration of historic wetlands; 2) preservation of other wetlands; or 3) creation of wetlands. The Section 404(b) (1) guidelines under the Clean Water Act, prepared by the USEPA and administered by the USACE, also define mitigation as a tiered process. The first tier is avoidance of wetland impacts. If wetland impacts cannot be avoided, the project purpose and need is evaluated. Once purpose and need has been accepted, a project alternative analysis is conducted. Wetland impacts are then minimized along the selected project site(s). Finally, compensation for wetland impacts is designed with the following preference: 1) restoration; 2) enhancement; 3) banking or preservation; and 4) creation. The Section 404(b) (1) mitigation process has been followed throughout the Cypress Project as described in this report and further detailed in other project documents.

Each project brings with it a set of unique circumstances that should dictate the type of mitigation implemented. For the specific case of the Cypress Project, there are both long- and short-term wetland impacts associated with construction of the pipeline. Long-term impacts to wetland vegetation within the temporary and permanent right-of-way will vary depending on wetland type. No long-term impacts to emergent or scrub-shrub wetlands are anticipated as the right-of-way will be restored and allowed to revegetate with herbaceous vegetation and smaller diameter woody plants after construction is completed. Southern will monitor these wetlands until it is determined that revegetation efforts have been successful. Therefore, Southern does not propose any off-site mitigation for the temporary impacts to emergent and scrub-shrub wetlands. However, because growth of trees within the permanent right-of-way will not be allowed,

forested wetlands will not revert to their natural state; instead, they will be converted to emergent or scrub-shrub wetlands.

Southern believes that mitigation for impacts to forested wetlands would be most successful via purchasing credits from a wetland mitigation bank, or as an alternative, funding of a restoration project approved by the regulatory agencies with jurisdiction over the Project. The mitigation bank should be located in the watersheds that the Project will traverse. The reasons are as follows: 1) lack of public land affected by construction or adjacent to the proposed right-of-way; 2) ownership of the right-of-way is by private entities in many areas; and 3) the fragmented nature of forested wetlands affected by construction in the individual counties. Forested wetlands are the only wetland type affected by long-term impacts. Thus, Southern is proposing the purchasing of credits in a mitigation bank managing a single large area of existing forested wetland or a single large area with potential to restore forested wetland.

On-Site Wetland Restoration

Natural revegetation of various wetland plant communities has been proven to be a successful, cost-effective method of restoring wetland vegetation in pipeline and power line rights-of-way (Long and Ellis 1984, Brown 1987, Baca and Lankford 1989, Buchanan and Zagata 1991, Rury and Little 1991). Studies indicate that a naturally regenerated forest is often more desirable because the component species plants are distributed according to the site environmental gradients and microsites to which they are best adapted. The literature reviewed concluded that wetlands allowed to regenerate naturally recover more quickly than if established from seed or installed plants.

According to the literature, site preparation was determined to be crucial to successful revegetation (Clewell and Lea 1990, Honig and Rury 1991). These studies emphasized the importance of preserving the original topography, soil profiles, and hydrology of vegetated wetlands during pipeline construction and maintenance in order to benefit from the inherent, regenerative capabilities of seed banks and vegetative reproduction (Schneider and Sharitz 1986, University of Florida 1988, Wester 1990, Willard and Hiller 1990). However, it is cautioned that natural regeneration may attract numerous noxious species, particularly vines.

Restoration of the natural hydrology, soil profiles, and topography are critical to promote natural regeneration, and for developing and maintaining a successful wetland ecological system. Where the original contours are reestablished within a right-of-way and no other impediments to the natural hydrology occur, natural revegetation of a right-of-way through a wetland approximates the adjacent natural wetland plant community usually within one or two growing seasons in emergent and scrub-shrub wetland systems. These studies revealed that naturally revegetated rights-of-way exhibit similar wetland species, number, and diversity as the adjacent wetland, and the original predominance of obligate and facultative-wet wetland species was maintained (Thibodeau and Nickerson 1986, Rury and Little 1991, Zimmerman et al. 1991).

Techniques to minimize construction impacts on wetland soil profiles and hydrological function include topsoil segregation, implementing proper erosion control techniques, reducing compaction, and construction/restoration timing. The literature concluded that an inversion of the soil profiles and a slightly higher soil elevation prevented the emergence of wetland plants (Farnworth 1981, Clewell and Lea 1990, Honig and Rury 1991, Zimmermann et al. 1991, Mitsch and Gosselink 1993).

Topsoil segregation is a construction method of particular importance in preventing soil layer mixing and minimizing long-term impacts. This method involves removal, segregation, and storage of the topsoil horizon, ground cover, organic matter, and the viable seed bank of a wetland. Topsoil segregation has been used to provide recently disturbed wetlands with a ready source of native vegetation, which quickly can recover to a point where pre- and post-

construction community structure is virtually the same (Farnworth 1981, Long and Ellis 1984, Montgomery and Murray 1987, Buchanan and Zagata 1991, Honig and Rury 1991).

Several studies recommend various methods to control erosion, such as silt/sediment barriers, silt fences, slope breakers, and temporary vegetation cover. Several methods to prevent soil compaction are also recommended, including using rip-rap, timber mats, maintenance of organic mulch or residue on the soil surface, and restrictions on vehicular traffic and load placements within the work area. Construction methods that limit heavy equipment or other activities in the wetland (e.g., push/pull, drainage and scoop) are considered a valuable strategy in order to minimize impacts on soils and promote successful natural restoration of wetlands (Clewell and Lea 1990, Gartman 1991, Honig and Rury 1991, Steenberg 1991, Zellmer et al. 1991).

The literature reviewed also discusses the significance of the seed bank for natural site revegetation, the importance of preserving viability of the seed bank, and methods for preserving the seed bank. Mulching with wetland topsoil instead of planting is a common revegetation technique that works well, provided that final elevations are correct with regard to the water table; mulch is not stockpiled for long periods; and the wetland is monitored and/or maintained to ensure that nuisance species do not become established (Farnworth 1981, Schneider and Sharitz 1986, Thibodeau and Nickerson 1986, Buchanan and Zagata 1991, Honig and Rury 1991, Isaacson et al. 1992). Minimizing the time between ditching and backfilling allows propagules of native species to survive in the right-of-way and pipe-ditch soil (Zellmer et al. 1991). Use of wetland mulch as a revegetation technique in freshwater marshes is well documented and wetlands recover more quickly than if established from seed or installed plants (Farnworth 1981, Dunn and Best 1983, Erwin 1990, Rury and Little 1991).

Clewell and Lea (1990) suggested that natural regeneration is more successful at narrow sites (no greater than a distance of two tree heights from the seed bank or forest line) since they are exposed to flood waters bearing seeds and have little or no alteration of the original soil and hydrologic regime. These characteristics for successful natural revegetation are found among the wetlands traversed by the proposed Cypress Project. Construction techniques proposed at wetland crossings are designed to minimize wetland area impacts and corridors will be narrow.

In conclusion, the majority of natural gas pipeline projects do not result in significant long-term impacts on wetlands. Impacts are short-term and localized due to the nature of the project (i.e., a linear underground utility). Trench line excavation can be conducted carefully enough to preserve wetland topography, hydrology, and the innate regenerative capacity of its flora. Construction techniques can be used to minimize workspace requirements, preserve the seed bank, and ensure germination, and thus enhance recovery through restoration procedures. Successful revegetation of wetlands is expected because Southern will fully restore hydrologic conditions and soil profiles during construction, and use the existing seed bank for restoration of wetlands adjacent to the permanent right-of-way. Southern believes that natural revegetation, in conjunction with exotic/nuisance weed monitoring and control, is the most cost-efficient method of restoring wetlands in the pipeline right-of-way.

Off-Site Mitigation

Correspondence with the USACE and FDEP indicate that mitigation for impacts to forested wetlands will be required as a condition for issuance of Project permits. Based on early correspondence with the USACE, the agency preferred method of mitigation is restoration of degraded wetlands within watersheds affected by the Project, preferably adjacent to the area of impact.

For permanent impacts to moderate and high quality forested wetlands, typically the agency preferred method of mitigation for impacts is restoration of degraded wetlands adjacent to the existing right-of-way. However, Southern does not own the property on the right-of-way or

adjacent to it. Southern's FERC Certificate does not grant it eminent domain rights for mitigation of the right-of-way, let alone adjacent to it. Therefore, Southern can not "force" such a program on landowners for adjacent properties.

There is no guarantee that any enhancement or restoration work performed adjacent to the existing right-of-way will remain undisturbed because much of the land is not publicly owned. The only restrictions on private entities with respect to right-of-way disturbances are: 1) structures that obscure an aerial view of the pipeline are banned; and 2) in-ground work must be coordinated with Southern. This does not restrict crop planting, livestock grazing, or development of lands adjacent to the pipeline right-of-way. As with the previous point, no land use guaranties are required of private entities. Restoration, enhancement, or creation projects could be deemed incompatible with future development plans of individual landowners along the right-of-way. To ensure success of any wetland restoration, enhancement, or creation project, long-term land use consistency and societal support must be guaranteed as well as extensive scientific analysis of results to permit feedback and model adjustment (Cairns 1993, Pickett and Parker 1994).

Although the Cypress Project will impact forested wetlands, for the most part, these impacts occur in fragmented parcels, often less than an acre per site. Enhancement, restoration, or creation of small parcels of wetlands in each county is not considered to be a practical use of mitigation. In fact, the discipline of restoration ecology is primarily concerned with the fragmentation and degradation of landscapes (Pickett and Parker 1994). Restoration success is better ensured through consideration of long-term, large-scale interaction (Cairns 1993).

1.3.1 Summary of Wetland Mitigation Banks

The Clean Water Act Section 404 and Farm Bill Swampbuster (7 CFR 12.5) programs encourage the establishment and appropriate use of mitigation banks. The guidance defines mitigation banks as wetland restoration, creation, and enhancement for the purpose of compensating for unavoidable wetland losses during development actions, when compensation cannot be achieved at the development site or would not be as environmentally beneficial.

The Cypress Project will temporarily affect forested wetlands in nine Georgia counties (Chatham, Effingham, Bryan, Liberty, Long, McIntosh, Glynn, Camden, and Charlton). Temporary impacts will result in no net change in function or value of affected wetlands. To compensate for long-term or permanent impacts to forested wetlands due to construction of the Cypress Project, Southern proposes to purchase credits from wetland mitigation banks in the affected watershed areas. Compensatory mitigation requirements for the Project will be satisfied prior to each phase of construction (i.e., credits or equivalent mitigation requirements will be satisfied for Phase I activities prior to construction in 2006, Phase II requirements will be satisfied in 2007, and Phase III requirements will be satisfied in 2009).

Southern consulted with the United States Army Corps of Engineers (USACE) Savannah District in Georgia to determine their preferred mitigation option. The USACE preferred that Southern buy credits from a wetland mitigation bank offering credits in the watershed area of the pipeline project, or to compensate for wetland impacts through funding of an agency-sponsored restoration project. Southern was directed to the USACE web site (www.sas.usace.army.mil) to obtain the Savannah District's Standard Operating Procedures manual for compensatory mitigation, which is useful for determining credits necessary for permanent loss of wetlands. The worksheet has a built-in acre mitigation range of approximately 12:1 to 1.4:1 depending on adverse impact factors. For compensation for temporary impacts or change in wetland function, Southern has calculated necessary credits based on required compensation from previous pipeline

projects in the Southeast region: 1:1 for conversion of forested wetlands to emergent habitat, and 1/2:1 for long-term temporary impacts.

Southern consulted with the St. John’s River Water Management District (SJRWMD) of the Florida Department of Environmental Protection (FDEP) regarding wetland mitigation in Florida. SJRWMD informed Southern that ratios for mitigation from pipeline construction are from less than 1:1 to 2 1/2:1, depending on the wetland type impacted and whether it was inside or outside the mitigation bank watershed area. The District stated further that overall quality of the wetland impacted should also be taken into consideration. In consultation with USACE Jacksonville and FDEP, Southern has signed an agreement with an approved mitigation bank to purchase 45.6 credits for impacts from the Cypress Project in Florida.

Table 1.3.1-1 summarizes the temporary and permanent wetland impacts due to the construction and operation of the Cypress Project. Table 1.3.1-2 summarizes the required mitigation credits for the permanent fill of associated aboveground facilities utilizing the USACE Savannah District’s Standard Operating Procedures for Compensatory Mitigation. Table 1.3.-3 shows calculations used to determine credits for permanent facilities.

TABLE 1.3.1-1					
WETLAND IMPACTS FOR THE CYPRESS PROJECT BY WATERSHED					
Wetland Type	Acres Impacted ^a			Proposed Credits	
	Long-Term Temporary	PFO Conversion	Permanent	Additional Corps Permitted Acreage ^b	
GEORGIA					
30” Pipeline					
Savannah Watershed	PFO	12.6	0.1	0.3	0.0
	Hydric Pine	0.0	0.0	0.0	0.0
	PEM	0.0	0.0	0.0	10.2
	PSS	0.0	0.0	0.0	0.0
30” Total	12.6	0.1	0.3	10.2	8.4 (6.3+0.1+2.0)
24” Pipeline					
Savannah Watershed	PFO	13.4	8.5	0.7	0.0
	Hydric Pine	3.1	2.1	0.0	0.0
	PEM	0.0	0.0	0.8	7.5
	Subtotal	16.5	10.6	1.5	7.5
Ogeechee Watershed	PFO	76.7	56.9	0.0	0.0
	Hydric Pine	6.3	3.1	0.0	0.0

TABLE 1.3.1-1						
WETLAND IMPACTS FOR THE CYPRESS PROJECT BY WATERSHED						
Wetland Type	Acres Impacted ^a				Proposed Credits	
	Long-Term Temporary	PFO Conversion	Permanent	Additional Corps Permitted Acreage ^b		
PEM	0.0	0.0	0.0	38.1		
Subtotal	83.0	60.0	0.0	38.1	101.5 (41.5+60.0)	
Altamaha Watershed	PFO	16.1	13.4	0.0	0.0	
	Hydric Pine	2.2	2.7	0.0	0.0	
	PEM	0.0	0.0	0.0	10.5	
	Subtotal	18.3	16.1	0.0	10.5	25.2 (9.1+16.1)
Satilla Watershed	PFO	38.7	42.7	0.0	0.0	
	Hydric Pine	4.8	6.4	0.0	0.0	
	PEM	0.0	0.0	0.0	31.1	
	Subtotal	43.5	49.1	0.0	31.1	70.9 (21.8+49.1)
St. Marys Watershed	PFO	4.1	4.7	0.0	0.0	
	Hydric Pine	0.4	0.5	0.0	0.0	
	PEM	0.0	0.0	0.0	3.2	
	Subtotal	4.5	5.2	0.0	3.2	7.5 (2.3+5.2)
24" Totals	PFO	149.0	126.2	0.7	0.0	
	Hydric Pine	16.8	14.8	0.0	0.0	
	PEM	0.0	0.0	0.8	90.4	
	Total	165.8	141.0	1.5	90.4	232.9 (83.0+141.0+8.9)
FLORIDA						
	PFO	14.5	18.2	0.0	0.0	
	Hydric Pine	16.7	14.8	0.0	0.0	
	PEM	0.0	0.0	0.0	23.9	
	Total	31.2	33.0	0.0	23.9	45.6 (15.6+33.0)
^a /Includes temporary impacts from pipeline construction and permanent impacts from meter and compressor stations. ^b /All additional Corps permitted acreage is within the existing cleared and maintained rights-of-way.						

TABLE 1.3.1-2

WETLAND IMPACTS FOR THE CYPRESS PROJECT

PHASE I					
Wetland Type	Acres Impacted^a				Proposed Credits
	Long-Term Temporary	PFO Conversion	Permanent	Additional Corps Permitted Acreage^b	
GEORGIA					
Palustrine Forested	149.0	126.2	0.7	0.0	75.3/131.6/4.0
Hydric Pine	16.8	14.8	0.0	0.0	5.3/6.4/0.0
Emergent	0.0	0.0	0.8	90.4	0.0/0.0/4.9
Total:	165.8	141.0	1.5	90.4	232.9 (83.0/141.0/8.9)
FLORIDA					
Emergent	0.0	0.0	0.0	23.9	0.0/0.0/0.0
Palustrine Forested	14.5	18.2	0.0	0.0	7.5/20.5/0.0
Hydric Pine	16.7	14.8	0.0	0.0	8.1/7.1/0.0
Total:	31.2	33.0	0.0	23.9	45.6 (15.6/33.0)
PHASE II-GEORGIA					
Compressor Station #2	TBD	0.0		0.0	TBD
PHASE III- GEORGIA					
30-Inch Loop	15.0 (3.9)	0.1	0.0	0.0	7.6 (7.5/0.1/0.0)
Port Wentworth	0.3	0.0	0.0	0.0	2.0
Total:	15.3 (3.9)	0.1			9.6 (7.5/0.1/2.0)
a/ Includes temporary impacts from pipeline construction and permanent impacts from meter and compressor stations. b/ All additional Corps permitted acreage is within the existing cleared and maintained rights-of-way.					

**TABLE 1.3.1-3
USACE-SAVANNAH DISTRICT REQUIRED MITIGATION
CREDITS WORKSHEET**

Factor	Compressor Station #2 (Phase II Construction)	Port Wentworth Meter Station	Rincon Meter Station (PFO)	Rincon Meter Station (PEM)
Dominant Effect	TBD	2	2	2
Duration of Effect	TBD	2	2	2
Existing Condition	TBD	0.5	0.1	0.5
Lost Kind	TBD	1.5	1	1
Preventability	TBD	0.5	0.5	0.5
Rarity Ranking	TBD	0.1	0.1	0.1
Sum of r Factors	TBD	6.6	5.7	6.1
Impacted Area	TBD	AA1=0.3	AA2 = 0.7	AA3 = 0.8
R x AA =	TBD	1.98	3.99	4.88
Total Required Credits = $\sum (R \times AA) = 1.98$ (Port Wentworth) + 8.87 (Rincon) = 10.85 (Total)				

Southern proposes to compensate for wetland impacts prior to each construction phase of the Project. Impacts from each phase and proposed compensation are as follows:

Phase I – 166.9 miles of 24-inch pipeline;

- conversion of PFO/hydric pine to PEM/PSS habitat;
 - Georgia – 141.0 acres (126.2 acres of PFO/14.8 acres of hydric pine)
 - Florida – 33.0 acres (18.2 acres of PFO/14.8 acres of hydric pine)
 - Total credits = 174.0 (1:1 ratio)
- long-term temporary impacts to construction workspaces;
 - Georgia – 165.8 acres (83.0 credits = ½:1)
 - Florida - 31.2 acres (15.6 credits = ½:1)
 - Total credits = 98.6
- permanent impacts for construction of metering facilities at Rincon Meter Station;
 - Georgia - 1.5 acres (8.9 credits = SOP-Compensatory Mitigation)

Total Phase I proposed mitigation --- Georgia – 232.9

Florida – 45.6

Total – 278.5 credits

Phase II – construction of Compressor Station #2, Glynn County, Georgia.

Final site selection for Compressor Station #2 has not been completed. The Sand Hill Road site that Southern has identified as its preferred site is currently in timber production. Southern will determine the types and amount of wetlands (if any) located at the site during acquisition prior to construction of Phase II of the Project in 2007.

Total Phase II proposed mitigation --- TBD

Phase III – construction of 9.8 miles of 30-inch Loop and modifications to Port Wentworth Station, Chatham and Effingham Counties, Georgia;

- conversion of PFO/hydric pine to PEM/PSS habitat - 0.1 acres (0.1 credits = 1:1)
- long-term temporary impacts to construction workspaces – 12.6 acres (6.3 credits = ½:1)
- permanent impacts at Port Wentworth meter station – 0.3 acres (2.0 credits)

Total Phase III proposed mitigation --- 8.4 credits

Table 1.3.1-4 summarizes the available wetland mitigation banks contacted for the purchase of mitigation credits.

TABLE 1.3.1-4								
WETLAND MITIGATION BANKS SERVICING THE CYPRESS PROJECT AREA								
Watershed	Credits Needed	Mitigation Bank	Service Area	Credits Available	Credits Acquired	Cost per Credit	Total Cost	Comments
Georgia								
Savannah	27.8	Old Thorn Pond Wetland Mitigation Bank	Portions of Chatham and Effingham Counties (Service Area 3)	70*		\$2,500		Available credits will be determined upon issuance of Corps Permit
		Millhaven Mitigation Bank	Savannah Watershed	170		\$5,000		Millhaven will provide necessary credits or establish new project to provide necessary compensation

TABLE 1.3.1-4

WETLAND MITIGATION BANKS SERVICING THE CYPRESS PROJECT AREA

Watershed	Credits Needed	Mitigation Bank	Service Area	Credits Available	Credits Acquired	Cost per Credit	Total Cost	Comments
Ogeechee	101.5	Ogeechee River Mitigation Bank	Entire Ogeechee River Watershed within the lower coastal plain ecoregion	95		\$2,300		
		Old Thorn Pond Wetland Mitigation Bank	Bryan and Liberty Counties (Service Area 1)	70*		\$2,300		Available credits will be determined upon issuance of Corps Permit
Altamaha	25.2	Broxton Rocks Mitigation Bank	Altamaha Watershed	9		\$2,800		9 credits currently available for sale
		Old Thorn Pond Wetland Mitigation Bank	Long and McIntosh Counties (Service Area 3)	70*		\$2,500		Available credits will be determined upon issuance of Corps Permit
Satilla	70.9	Satilla River Wetland Mitigation Bank	Camden County (Service Area 1)	64		\$2,400		
		Old Thorn Pond Wetland Mitigation Bank	Glynn County (Service Area 3)	70		\$2,500		
St. Marys	7.5	Satilla River Wetland Mitigation Bank	Charlton County (Service Area 3)	64		\$2,400		
Florida								
St. Marys – Nassau Rivers and Upper St. Johns River	45.6	Longleaf Mitigation Bank	Nassau County		45.6	\$40,000	\$1,824,000	Southern has contracted with Longleaf Mitigation Bank to purchase necessary Florida credits
		Loblolly Mitigation Bank	Duval County			\$45,000		

*Credits shown are remaining credits in the bank, which covers this watershed, but not specifically for the watershed

Broxton Rocks Mitigation Bank – Broxton Rocks Mitigation Bank is a 1,591-acre property on the southeastern bank of the Ocmulgee River. The property is managed by Mitigation Connection, LLC and services the Altamaha River watershed basin including Long, Glynn, and portions of McIntosh and Camden counties.

Millhaven Mitigation Bank - This mitigation bank is operated by Wetland Environmental Technologies and has a number of credits available for withdrawal to offset unavoidable impacts to wetlands in the Georgia coastal counties of Chatham, Liberty and Bryan. The mitigation site is located on a 25,000 acre plantation located in the Savannah River basin and is the first permitted private mitigation bank in the United States. Credits purchased for mitigation within the Millhaven Mitigation Bank service area are \$5,000 per credit.

Ogeechee River Mitigation Bank – This private, commercial mitigation bank is a 294-acre property located in Chatham County, Georgia and is managed by Sligh Engineering, Inc. The Ogeechee River Mitigation Bank has several service areas with credit values dependent upon the service area.

Old Thorn Pond Wetland Mitigation Bank – This private, commercial mitigation bank is a 495-acre property located in Bulloch County, Georgia and is managed by Newkirk Environmental, Inc. Old Thorn Pond Wetland Mitigation Bank has several service areas with credit values dependent upon the service area.

Satilla River Wetland Mitigation Bank – This private, commercial mitigation bank is an 88-acre property located in Camden County, Georgia and is managed by Spivey Mitigation Technologies. The Satilla River Mitigation Bank has a primary service area which includes the entire Satilla River watershed within the lower coastal plain ecoregion and a secondary service area which includes all the area extending from the primary service area across all watersheds within the lower coastal plain ecoregion. Credit values are dependent upon the service area.

Loblolly Mitigation Bank – This mitigation bank, located in Duval County, has been permitted to sell credits in the St. Johns River Water Management District (Permit No. 4-031-84706-1). The bank is comprised of 6,247.00 acres and has 2,034.00 freshwater credits available. The price is \$45,000 per credit. Volume discounts are available. This bank uses WRAP to calculate mitigation ratios (<http://www.dep.state.fl.us/water/wetlands/mitigation/mitbanks.htm>).

Longleaf Mitigation Bank – This mitigation bank, located in Nassau County, has been permitted to sell credits in the St. Johns River Water Management District (Permit No. 4-089-88607-1). The bank is comprised of 3,020.70 acres and has 813.80 freshwater credits available. The price is \$45,000 per credit for up to one credit, \$42,000 per credit for up to five credits, with further discounts for larger areas. This bank uses WRAP to calculate mitigation ratios (<http://www.dep.state.fl.us/water/wetlands/mitigation/mitbanks.htm>).

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APPENDIX A